Research on the Path of Improving College Students' Sense of Gain in Professional Theoretical Courses Based on Deep Learning

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Abstract: The main tasks of higher education include teaching, research and social services. Among them, curriculum is the core part of education, and the core of curriculum is the specific teaching process. With the vigorous development of education in China, classroom activities should also keep pace with the times. Each class activity with limited time condenses the teaching content of essence, and students receive relevant knowledge in the interactive process of teaching and learning. Nowadays, the construction process of university information teaching system is accelerating, which puts forward new requirements for college students' professional ability, and deep learning can effectively strengthen college students' innovation, practice and learning ability. Not only that, in-depth learning is also the future development trend of higher education. The introduction of problem-based and project-based learning mode in the actual teaching process can effectively mobilize students' enthusiasm and bring them a sense of gain. The article first outlines the meaning of deep learning, briefly summarizes the sense of gain, and discusses the generation logic of sense of gain from both internal and external aspects. Then, from the perspective of deep learning, it analyzes the current situation of professional theory teaching in contemporary colleges and universities, and takes mathematics professional courses as an example to explore the way to improve the sense of gain of college students' professional theory courses based on deep learning, which has certain inspiration for the study and further study of college students' professional theory courses, At the same time, it has certain reference value for promoting the construction of university curriculum and style of study.

1. Introduction

Generally speaking, college students' sense of gain in professional theory courses refers to the positive psychological emotion generated by college students from the subjective and objective aspects during or after the study of professional theory courses, including subjective perception and objective gain. The relationship between the two is causal and progressive. Only practical gain can

fully stimulate the subjective experience. Among them, college students' sense of gain in professional theory courses includes the sense of achievement, sense of growth, sense of ownership and other elements. It is the traction of college students' self-evaluation, the key indicator to judge the professional level of teachers, and the touchstone to test the teaching effectiveness of colleges and universities. The main purpose of cultivating and strengthening college students' sense of acquisition of professional theoretical courses is to enable them to gain, apply and value what they have learned, and promote their comprehensive and healthy development. However, college students' current sense of acquisition of professional theoretical courses is generally low, and it is difficult to build a complete professional system in classroom activities. There are few gains in the classroom, and weariness and loss are frequent. Some college students lack interest in learning their own professional courses, and the phenomenon of professional transfer is serious, and they cannot devote themselves to the study of professional courses, resulting in a low sense of acquisition. In view of this, in order to effectively strengthen the teaching effect of professional courses in colleges and universities, promote college students to better adapt to the study of professional theory courses, and strengthen their sense of gain, this paper conducts in-depth analysis and discussion on how to improve the sense of gain of professional theory courses of college students under the mode of in-depth learning.

2. Analysis of the Meaning of Deep Learning and the Characteristics of Sense of Gain

Deep learning mainly refers to a learning concept and learning mode oriented to complex technological environment and real social situations. Deep learning advocates actively building individual knowledge systems through in-depth analysis of internal meaning, understanding of complex concepts and processing of knowledge content, and transferring them to real situations to effectively solve relevant complex problems, and ultimately promoting the steady development of high-level thinking ability and the comprehensive realization of learning objectives [1]. In recent years, the concept of deep learning has attracted the attention of educators and students. It is a new learning mode. The learning process of this learning mode is roughly as follows: under the guidance of the teacher, students focus on some challenging learning content, devote themselves, experience the harvest, and achieve development. Deep learning mainly includes reflective learning, integrated learning and high-level learning. Reflective learning is the key to the realization of deep learning [2]. The process of deep learning based on reflection is essentially deep learning around reflective learning. The core content of reflective deep learning includes two parts: "the actual promotion effect of reflective deep learning" and "how to use reflection to further strengthen the effect of deep learning".

In addition, deep learning is also recognized as learning in qualitative change, learning in experience and learning in teaching. Among them, learning in qualitative change mainly emphasizes the transfer of learning. The so-called learning transfer refers to the impact of skills or knowledge acquired during a learning activity on other learning activities or the practical application in other situations. It not only emphasizes the accumulation of professional knowledge, but also pays more attention to the internalization and qualitative change of professional knowledge. In the process of deep learning, students acquire certain skills and knowledge, gradually internalize unstructured relevant skills and knowledge under the guidance of teachers, and can apply these skills and knowledge to new situations to achieve the purpose of learning by analogy, and promote the realization of the teaching goal of "teachers do not teach". Learning in experience mainly emphasizes students' input. Learning experience is not only shallow knowledge reading and simple physical activities, but also a meaningful learning experience under the careful organization of teachers. In the actual process of in-depth learning, students are no longer a single body of

knowledge. In the targeted and diversified teaching activities of teachers, students can independently discover, explore and expand knowledge content, and experience the value and significance of knowledge content in depth [3]. Learning in teaching mainly emphasizes the guidance of teachers. Deep learning does not only refer to students' autonomous learning, but also includes teachers' guidance and help. When conducting in-depth learning, students need to receive knowledge content rich in logic and system, rather than knowledge content without rules, which requires the guidance of teachers. In addition, based on the guidance of teachers, students associate the existing knowledge content, fully activate the individual experience system, organically integrate their actual needs and knowledge content, and absorb and optimize them, finally forming a personalized knowledge structure.

The so-called sense of gain is mainly emphasized in the following two aspects: on the one hand, it emphasizes the "gain" and "feeling" in the sense of gain. Among them, "acquisition" refers to the acquisition at the objective level, while "feeling" refers to the sensory experience at the subjective level. Wu Manyi and Huang Dongxia believe that the relationship between the two is causal, the former is the prerequisite of the latter, and the latter is the internal drive of the former. In addition, Jiang Yongmu and other scholars also hold a similar view that the so-called sense of gain refers to the positive psychology formed by people because of gain, and the subjective experience is the criterion of evaluation. Some scholars divide the word "sense of gain" into "sense of concrete gain" and "sense of meaning gain" from the subjective and objective dual attributes of "gain", claiming that the sense of gain is to implement the happiness experience, emphasizing the specific gain. In general, most scholars believe that "sense of gain" is divided into two parts: subjective experience and objective gain [4]. On the other hand, it emphasizes that the essence of sense of gain is "psychological state" or "psychological feeling". The former tends to the specific formation process and source of the sense of gain, and believes that the sense of gain refers to the individual's efforts to meet the actual needs and achieve the expected psychology, based on the effective use of existing resources and conditions. Dong Hongjie and other scholars believe that the sense of gain is mainly composed of five aspects: experience, environment, content, way and sharing. "The basic cognitive evaluation of individuals on the content, way and condition of obtaining their own satisfaction, as well as the specific psychological experience during this period". This definition concept presents dynamic characteristics, and its shortcomings are reflected in the neglect of the substantive characteristics of college students' individual sense of gain, which makes it difficult to explain the relationship between college students' individual satisfaction, sense of participation and other related sense of gain and other psychological states [5]. The latter pays more attention to the description of the structure of sense of gain. For example, Zhang Fangyu, Yang Weirong and other scholars pointed out that sense of gain refers to the specific psychological feeling formed after the individual gains the dual benefits of material and spiritual, which includes individual sense of achievement, individual sense of happiness, individual sense of participation and other contents, and demonstrated from the sense of satisfaction, sense of achievement, sense of identity and sense of participation. This view often ignores the actual needs and expectations of college students as the main body. In summary, the above opinions have their own focus and shortcomings, and can complement each other. According to the above contents, college students' sense of acquisition of professional theory courses can be divided into two parts: subjective and objective, namely psychological feelings and psychological states.

3. Sense of Gain Mainly Generates Logic

The main generation logic of sense of gain includes internal generation logic and external generation logic.

3.1. Internal Generation Logic

The internal generation logic here mainly refers to the professional cognitive ability of college students, that is, college students have a clear understanding of the specific learning content, requirements, training objectives, relevant professional work content, characteristics, development direction, etc. of their majors. The learning level, quality and direction of professional courses are closely related to professional cognition, and are prerequisites for college students' individual career aspirations and employment choices. In the teaching of professional courses in colleges and universities, it is particularly important to cultivate students' individual professional cognition. Professional cognition is an important way to effectively enhance the learning effect, learning emotion, learning attitude and career development cognition of individual professional courses of college students [6]. In addition, the professional cognition also includes the learning and research module, that is, the behavior and effort of individual college students in the specific learning activities for the knowledge content of the professional course, which is the actual state of individual college students' participation in teaching activities, question discussion, and question answering. According to the survey, the energy invested by college students in specific learning activities is directly proportional to the time and learning results. Not only that, but also closely related to the individual learning behavior of college students. If students study independently and strive to create in the learning process, the sense of gain generated will be even stronger.

3.2. External Generation Logic

First of all, teachers' academic guidance and classroom teaching. As one of the main inheritors and disseminators of human cultural knowledge, teachers are not only the shapers of students' individual personality, but also the developers of students' individual intelligence. The cultivation and strengthening of college students' sense of acquisition of individual professional theory courses is closely related to teachers. On the one hand, teachers should give full play to the role of their own curriculum construction and build efficient classrooms; On the other hand, teachers should give full play to their role as guides, provide guidance for the core and professional qualities of college students, promote the further development of college students, and effectively strengthen the sense of acquisition of professional theory courses.

The second is professional talent cultivation and employment prospects. The professional talent cultivation plan belongs to the top design and blueprint of talent cultivation in colleges and universities, and is the embodiment of the overall thinking of talent cultivation in colleges and universities, which determines the final quality of talent cultivation. The top-level, progressiveness and universal characteristics of the talent cultivation program itself will affect the evaluation of college students' individual professional strength [7]. The prospect of professional employment includes the salary level, talent demand and social recognition of college students in this major after employment. The degree of social recognition determines the future talent demand of this major and the individual employment competitiveness of college students. The higher the individual college students' expectation of the future of their major, the more employment opportunities they will have, the higher the salary, and the higher the sense of professional gain.

4. Analysis of the Current Situation of Professional Theory Teaching in Colleges and Universities under the Background of Deep Learning

Through investigation, we can generally find that the current situation of professional theory teaching in colleges and universities has some deficiencies and deficiencies at both the school level and the student level.

4.1. School Level: Teaching Facilities are not Perfect, and a Good Teaching Atmosphere is not Built

The primary guarantee for teachers to carry out teaching reform is the support of schools. The country attaches great importance to the construction of first-class courses, online courses, high-quality courses and other courses. Most colleges and universities have established laboratories, smart classrooms, virtual simulation classrooms, and multimedia classrooms that can basically be fully covered. The construction of these hardware facilities is the basic material guarantee for in-depth teaching and learning to be carried out between teachers and students. However, as far as the current application is concerned, there are some problems. First of all, the school's hardware facilities and equipment are not perfect. For example, most colleges and universities are equipped with smart classrooms, but most of them are concentrated in a specific teaching building and managed by designated departments. In this way, if you need to use it, you must contact the management department and go through the process, which causes a lot of inconvenience to other departments. In order to avoid trouble, teachers will try to reduce the use, and even avoid the use of smart classroom. Not only that, because the smart classroom is not built under the teacher's "eyes", many teachers do not know its existence at all, which makes the use of smart classroom less frequent. This is obviously quite detrimental to the in-depth implementation of teaching. Secondly, the promotion of school hardware facilities and equipment is insufficient. After the hardware facilities and equipment are built, most teachers still "don't understand", and because the training is often not in place. So even if some teachers applied for laboratory teaching, they did not really let the laboratory play a real role, and there was a phenomenon of "overuse of talents". Finally, the laboratory of the school is basically open during the teaching period, and it is necessary to apply in advance for non-teaching time. No matter teachers or students, especially students, the school will not allow students to apply for the use of the laboratory. All of these will affect the enthusiasm of teachers to use the advanced hardware facilities of the school, which is not conducive to in-depth teaching and learning between teachers and students, and thus form a good atmosphere for teaching reform within the school.

4.2. Student Level: Lack of Awareness of Autonomous Learning Due to the Deviation of Learning Goal Positioning

With the birth of Internet plus, the teaching mode has also been innovated. The introduction of big data, artificial intelligence and other information technologies has made the traditional classroom teaching mode "fashionable", and the channels for students to obtain information are diverse and convenient. However, there are also many disadvantages, such as the fragmentation and one-sidedness of information acquisition, and the shallow understanding of knowledge content, which leads to the students' lack of thorough and profound understanding and the inability to achieve in-depth learning effect [8]. In addition, most parents and high school teachers are influenced by the exam-oriented education and instill the idea of "you can play freely after you enter college" into students, which leads to some college students have always been enjoying, comfortable and relaxed after entering school, and lack the consciousness of hard work. The enjoyment mentality and "orientation" derived from this: they can only passively accept the classroom knowledge, lack the awareness of pre-class review, in-class questioning and communication, and off-class summary, only have a simple memory of the knowledge points spoken by the teacher, lack the desire to learn actively, and will not transfer and transform the theoretical knowledge they have learned. Deep learning requires students to "learn critically", transfer existing knowledge into new situations, and actively use theoretical knowledge to solve practical problems. However, the lack of investment in learning, the rote copying of knowledge

points, the shallow learning and the lack of self-reflection awareness are not conducive to students' deep learning and the cultivation of students' awareness of autonomous learning.

4.3. Teacher Level: the Teaching Mode is Outdated and Backward, and the Teaching Method is Single and Boring

On the one hand, there is a widespread problem of teaching model in professional theoretical courses in colleges and universities. First of all, teachers have the phenomenon of "cramming" and "reading from the book" during classroom teaching, and students can hardly have a "sense of gain" when learning in this atmosphere. Secondly, students' participation in the teaching of professional theory courses is low. The new curriculum reform emphasizes the main position of students. Teachers should follow the student-oriented teaching philosophy, fully mobilize students' awareness of autonomous learning and subjective initiative, to ensure the overall teaching effect. However, in the current professional theory classroom teaching, students' participation in the classroom is extremely low. Some teachers blindly catch up with the teaching progress and ignore the students' main position, lacking classroom interaction and communication. Finally, the professional theory course is not connected with the reality of life. The teaching of professional theory courses should be combined with the reality of life, but the teaching materials are lagging behind [9]. If the teacher does not organically combine the actual life in the actual course teaching, it will lead to a rigid phenomenon in the course teaching.

On the other hand, there is a single and boring problem in the teaching methods of professional theory courses in colleges and universities, which is mainly reflected in the following aspects. First, teachers still use the traditional teaching mode of "textbook+PPT". In short, the teacher arranges the teaching knowledge according to the content of the textbook in combination with the teaching objectives, and performs PPT demonstration on the key content, which plays an auxiliary role in classroom teaching. During the teaching period, the "teaching method", which mainly focuses on knowledge explanation, is widely adopted by teachers. Students listen passively and their ideas are completely mastered by teachers. Students' personalized development and personalized needs cannot be met, which also causes students to lack motivation to continue learning. Secondly, teachers lack modern information means to organize classroom teaching and are not good at using big data technology [10]. Many teachers of professional courses are lazy about the use of new technology and new equipment and are unwilling to actively explore new forms of education. Today's society has entered the era of information. Big data technology, mobile internet, WeChat client, etc. have provided a broader development space for in-depth teaching, and the information-based teaching of professional theoretical courses in colleges and universities has obviously lagged behind. Third, "cooperative inquiry teaching", "online+offline hybrid teaching", "heuristic teaching", "flipped classroom" and other new teaching models have not been widely used in professional theory classes in colleges and universities [11]. In order to achieve good results of applied research, teachers need to spend a lot of time and energy to explore various new teaching models independently without the strong support and guarantee of the school. At this level, schools should play an indispensable role. Schools should encourage teachers to actively improve teaching methods, and give full support in terms of hardware and teaching environment, so as to lay a solid foundation for the teaching effectiveness of professional theoretical courses and promote the generation and improvement of students' sense of gain.

5. The Way to Improve the Sense of Gain of College Students' individual Professional Theory Courses Based on Deep Learning

Taking the specialized courses of mathematics as an example, this paper discusses the path to

improve the sense of acquisition of the specialized theoretical courses of college students based on in-depth learning, which has certain inspiration for the study and further study of the specialized theoretical courses of college students, and has certain reference value for promoting the construction of the curriculum and style of study in colleges and universities.

5.1. Introduce Situational Teaching Based on Deep Learning and Promote the Individual Development of College Students through Stimulating Interest

In the early stage of teaching activities in colleges and universities, they mainly focused on the teaching of professional knowledge content and the transmission of professional information, and paid less attention to the cultivation of individual professional knowledge practical application ability and whether their mental and comprehensive quality can be effectively improved in the actual learning process. Obviously, for teachers, although such teaching process can better complete the teaching task of imparting knowledge, it is not very helpful for the cultivation of students' abilities in all aspects, the development and innovation of knowledge, especially for the ability to use the knowledge learned to solve increasingly complex practical problems. Generally speaking, learning is training around a specific goal in order to trigger the change of individual thoughts or behaviors. Therefore, the complete learning process is usually a process consisting of several iterations and cycles, including goal creation, module disassembly, specific training, and assessment and adjustment. At present, with the proposal of the theory of deep learning, exploring how college teachers can teach college students to achieve efficient learning is of great significance for enhancing the effectiveness of classroom teaching [12].

In the specific teaching process of mathematics courses in colleges and universities, teachers should fully restore the individual subject status of college students, fully stimulate their enthusiasm and enthusiasm for learning mathematics professional knowledge, so as to fully activate their mathematical thinking and creative thinking. In addition, learning interest is a powerful engine to promote the individual learning activities of college students. During the actual teaching of mathematics courses in colleges and universities, teachers should combine the actual teaching environment to create a relaxed, pleasant, cooperative, safe and equal learning environment. Students can fully stimulate their interest in learning mathematics knowledge and thirst for knowledge. They can also fully and actively participate in deep learning. To think, explore and practice in a deeply enlightening learning situation, teachers lay a solid foundation for the further development and improvement of the teaching activities of mathematics majors in colleges and universities, and effectively improve the sense of acquisition of individual professional theoretical courses of college students. For example, when teaching the course of calculus, teachers cannot blindly explain the text, which will only aggravate the dull and boring classroom atmosphere, which will not only greatly weaken the enthusiasm and interest of individual college students in learning, but also increase the difficulty of their learning process, seriously affecting the overall effect of course teaching. In view of this, teachers can combine some relevant examples and introduce relevant props to create a real situation. In this way, they can stimulate their interest, arouse their thirst for calculus learning, and then guide them to immerse themselves in mathematics knowledge learning independently and deeply, so as to strengthen their learning effectiveness.

5.2. Carry out Independent Exploration Based on Deep Learning and Promote the Individual Development of College Students through Research

In the process of deep learning, classroom research is an important part. In view of this, college teachers should fully consider the relevant problems in daily life, set up independent exploration activities, and guide college students to conduct in-depth learning in the actual classroom teaching

process. In this way, college students can give full play to their subjective initiative, promote themselves to stimulate their thinking more actively, construct and improve their individual thinking system, and promote their all-round development. Learning activities essentially refer to the process of acquiring knowledge with individuation and vividness, while independent thinking, active exploration, communication and cooperation, and practical application are all effective ways to improve the learning effect of mathematical knowledge. In the process of specific teaching practice, college teachers should fully combine the specific teaching content and the actual development needs of college students to create efficient and high-quality teaching activities, guide students to fully activate their own mathematical thinking, expand their imagination and creativity, organically combine the use of individual knowledge content, practical operation practice and carefully observe things, and carry out learning activities in an all-round, in-depth and independent manner.

College teachers should first fully understand the individual cognitive level and knowledge structure of college students, and do a good job of pre-school situation analysis and investigation. How to make college students devote their limited attention to specific knowledge learning within the limited teaching time is an urgent problem to be paid attention to and solved in the current situation of information explosion but lack of attention [13]. Among a series of solutions, priority allocation of resources based on college students' individual cognitive level is the most basic principle. In fact, different levels of information will be constructed into different information blocks in the long-term memory of the brain, forming a knowledge system that can be independently screened and filtered, so that the brain has the ability of redundant screening during specific thinking. In view of this, when college teachers integrate the available learning resources, they can not make subjective judgments on the actual value of these knowledge only by personal experience, but should more consider the actual needs and experience of individual students, so as to establish the learning task of "students feel that the relevant knowledge content taught by teachers is valuable" [14]. However, information about students' individual knowledge structure, cognitive level and other aspects can be obtained through private inquiries or questionnaires and pre-school tests. In the actual teaching process of mathematics courses, college teachers can guide them to think independently by creating enlightening questions, so that their mathematical thinking can be fully tempered, so that they can have more confidence in carrying out relevant practical activities in the future, and have a deeper understanding and mastery of the essence of things behind knowledge. In the long run, it will not only promote students' individual mastery of professional knowledge, but also positively promote the specific development of college students in society in the future.

5.3. Expand Application Internalization Based on Deep Learning and Promote Individual Development of College Students through Practice

In the actual learning process, the combination of theory and practice is particularly critical. Through teaching practice, college students can effectively strengthen their understanding of professional knowledge, enhance their practical ability, and significantly improve their sense of acquisition. In today's era, information technology is changing with each passing day, countries and ethnic groups are increasingly frequent, and social trends of thought also show the characteristics of multiple convergence [15]. The reference and absorption of foreign advanced ideas can better promote the development of China's ideology and culture. However, in this process, college students are vulnerable to the erosion of bad ideas due to their unstable beliefs and immature minds. To this end, teachers should be sensitive to the hot topics that students are interested in and guide them to actively participate in social practice.

Most of the knowledge content in the teaching of mathematics courses in colleges and universities is derived from the actual life of human beings, and some of the knowledge is also widely used in real life. Therefore, mathematics professional knowledge helps us to better study, work and live. Therefore, applying the knowledge obtained in the course of mathematics learning to our real life can effectively strengthen students' individual professional quality and learning level, and promote the smooth realization of the course teaching objectives. Therefore, during the actual teaching practice of mathematics courses, college teachers should fully contact the actual social environment and the actual learning situation of students to organize students to carry out targeted and reasonably difficult hierarchical training activities, and strive to create a platform for students to acquire new knowledge and apply the acquired knowledge in real life, in the learning process and in real life, Guide them to use the knowledge they have learned to solve the problems they encounter [16]. For example, during the course of mathematics teaching activities, college teachers can flexibly adopt diversified teaching methods, guide students to practice independently, and let them have a variety of ways to understand and master the knowledge they have learned. In the same way, it also leads students to apply the knowledge they have learned to practical life in a variety of ways, thus improving students' hands-on ability, promoting students' diversified development, and promoting students to have stronger professional skills, so as to have stronger competitiveness and further development in the future social career.

5.4. Carry out Mixed Teaching Activities Based on In-depth Learning and Promote the Individual Development of College Students through Teacher-student Interaction

In the current information age, the reform of mathematics teaching in colleges and universities pays particular attention to the organic integration of curriculum resources and information technology, and explores new teaching models in combination with information teaching forms and specific teaching contents.

During the preview process, teachers need to control the actual preview effect of students, make appropriate adjustments based on the actual learning situation, timely evaluate and feedback the classroom teaching effect, and use information technology to check the preview effect of students. Advanced mathematics is both theoretical learning and practical teaching, both of which are indispensable. We can effectively consolidate our theoretical knowledge through mathematical experiments and exercises. For different majors, university teachers can push some math learning software or platforms with strong practical nature and easy operation to students in the mixed topic, such as Mathematica and Matlab, and upload the operation video and introduction of relevant software in the platform storage box. With the help of these software, students will have some image support, and can turn abstract algebraic formulas into vivid geometric figures. Especially when it comes to concepts such as space curves, surfaces, limits, definite integrals, students can more intuitively understand relevant knowledge. In addition, different contest-type experimental plates can be set up to enable students to contact with mathematical problems in real life, help students build their abilities, and use mathematical models and methods to solve practical problems. We should do a good job in the training of teachers' online teaching business, strengthen the communication, guidance and exploration of the mixed teaching mode, encourage teachers to participate in the teaching informatization teaching skills competition through the way of promoting teaching and learning through competition, improve teachers' teaching ability and improve the effectiveness of mixed teaching [17].

In the teaching platform, the interactive information exchange zone between teachers and students is a highly personalized section. It mainly includes online interactive Q&A, learning experience, bullet screen records, learning discussion and research, homework answers, etc. The

information exchange area covers a wide range [18]. Students have more ways to strengthen and consolidate their knowledge. Online homework and correction, learning questions, interactive answers and so on are all very effective ways. These are also the personalized communication methods preferred by contemporary college students. In the process of teacher-student interaction, the evaluation of contemporary college students' learning satisfaction with a certain course shows two aspects of teachers' image and knowledge cultivation. Teachers and students tend to choose WeChat and QQ, which are the development and application of daily mobile social software. In the mixed-type topic discussion and inquiry, the communication area can be sent by voice and video. The effective response of teachers and ladder guidance can make the communication atmosphere active, and help improve the participation of students through the way of points and reward red packets. The teaching and research group should build a good exercise library. Teachers should arrange exercises according to students' learning level, and build a knowledge point exercise area on the network teaching platform. The highlight of the problem bank construction is to build the corresponding problem solution, especially the solution process of the calculation problem, which is not lack of the problem type of multiple solutions to one problem. These platforms can also be released intelligently after students finish their exercises while giving evaluations based on students' answers. Feedback the students' work on the platform for communication, and change the traditional practice of completely correcting the work by the teacher. In the interaction, the leading role of teachers is also to collect teaching resources, design mathematical history and mathematical cultural knowledge related to the learning content, expand students' understanding of knowledge, let students understand the context of knowledge, have an in-depth understanding of the acquisition process of mathematical knowledge, and have a good role in promoting thirst for knowledge [19].

5.5. Based on In-depth Learning, Penetrate and Extend Cultural Connotation, and Promote the Individual Development of College Students through Knowledge Expansion

Mathematics originally belongs to a unique cultural field, which can help people better understand and understand their own world, and make people better adapt to the surrounding environment. Therefore, college teachers should try to infiltrate various mathematical cultures related to new knowledge into all aspects of learning and life in the actual teaching process of mathematics courses, and guide students to apply all kinds of knowledge learned in the teaching process of advanced mathematics class to their own life bit by bit in real life [20]. Let students feel the unique charm of the cultural field of mathematics and the joy of applying theoretical knowledge to practice. In the process of teaching in the advanced mathematics class, we apply all kinds of knowledge we have learned to the reality of life bit by bit, and successfully combine the advanced mathematics class with the reality of life organically, so that students can receive good education under the influence of mathematical culture, and good learning habits can be formed. In addition, making use of rich and colorful real life scenes to close the distance between students and higher mathematics classes will not only help students improve their mathematical literacy, but also help students develop in the future, so that students have a broader space for development; It is not only beneficial for students to improve their mathematical literacy, but also beneficial for students to strengthen in-depth learning and improve their thinking ability and practical ability. Interest and expansibility can also strengthen the innovative consciousness and aesthetic ability of college students.

6. Conclusions

The traditional teaching paradigm in colleges and universities is more focused on teachers' imparting knowledge to students, and the development space of classroom quality is more limited to

teachers' self-practice and experience accumulation. The teaching models among various teaching paradigms are mutually integrated and promoted. By comparison, the teaching concept corresponding to the teaching paradigm of in-depth teaching is more to advocate teachers to actively play their role of guiding learning, thinking and practicing, but this undoubtedly requires professional course teachers in colleges and universities to re-plan the classroom teaching process, and fully follow the principles of top-level design on the basis of personal experience. In the new era, the requirements of the whole society for college education have not been reduced, the requirements for college educators have not been reduced, and the high-level learning and deep thinking of individual students have not been eliminated. Therefore, college teachers should actively change their own teaching concepts, strengthen their control over the classroom and the students' learning process, and keep pace with the times and take deep learning as the theoretical guidance. Efforts should be made to explore the implementation ways and methods of applying the deep learning theory to boost the sense of gain of college students' professional theoretical courses, refine the implementation elements and strategic guidance. This will form a scientific and effective path to improve the sense of gain of college students' individual professional theoretical courses, and provide impetus for the all-round development and healthy growth of college students.

Acknowledgements

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