



Research on Learning Enthusiasm of College Students in China

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The learning enthusiasm of college students is related to their learning efficiency, their knowledge and skills mastery, and the formation and development of their good psychological quality and moral quality. Analyzing the influencing factors of the learning enthusiasm of college students is of great practical significance to fully mobilize the learning enthusiasm of college students and improve the quality of university teaching. In recent years, many scholars have conducted research on the learning enthusiasm of college students, but no literature summarizes and composes this aspect. We use the method of literature research to review and organize the literature related to the learning enthusiasm of college students and draw the following conclusions: (1) At present, scholars' research on the learning enthusiasm of college students mainly contains three aspects, which are the current situation of learning enthusiasm of college students, the influencing factors of learning enthusiasm of college students, and the suggestions and strategies to improve learning enthusiasm of college students. (2) As for the influencing factors, the conclusions obtained from the existing literature are generally broad and wide, but the major influencing factors are not founded now. (3) Most of the scholars have given the influencing factors by literature analysis and discursive methods without the support of realistic survey data, and no scholars have yet analyzed the relationship between the influencing factors and the degree of learning enthusiasm of each sample, so the reliability of the conclusions needs to be further improved. (4) The existing studies are

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carried out for a broad group of college students, but the research on the enthusiasm of mathematics majors in their major courses is still blank. In addition, scholars have given suggestions and countermeasures mainly involving four aspects--school, society, family, and students themselves, but the shortcoming is that most of the suggestions and strategies are rather broad and general, lacking relevance to mathematics majors.

Keywords: College students; learning; enthusiasm; mathematics.

1. INTRODUCTION

Learning enthusiasm of college students is a conscious and active psychological state of college students in learning activities, which is the driving force that stimulates learning, maintains learning, and directs learning to a certain defined goal [1]. The enthusiasm of university students is related to their learning efficiency, the mastery of their knowledge and skills, and the formation and development of their good psychological and moral qualities. How to improve the learning enthusiasm of college students has always been a real problem that colleges and universities are trying to crack [2]. To be more specific, for mathematics majors, finding the main factors affecting the motivation of mathematics college students to learn professional courses can more accurately guide the teaching work of professional teachers in order to help mathematics majors develop motivation to learn professional courses. For mathematics majors, helping them find the main root causes affecting their learning motivation can enable them to learn mathematics expertise more actively and help cultivate mathematical talents. Therefore, analyzing the influencing factors of the learning enthusiasm of college students is of great practical significance to fully mobilize the learning enthusiasm of college students and improve the quality of university teaching [3]. To date, there are many relevant studies on the learning enthusiasm of college students, but there is no complete overview and organized literature in this regard. Therefore, this paper intends to review and sort out these current studies, systematically analyze the current research status of the learning enthusiasm of college students, and provide different perspectives for the study of the main influencing factors of learning enthusiasm of college students in mathematics major courses, help improve the quality of university teaching and help cultivate mathematical talents. More importantly, identifying the deficiencies and gaps among them can promote scholars to conduct further in-depth research.

The research question in this paper is: What is the current status of the research on the learning enthusiasm of college students? The following specific questions will be included: (1) What aspects have scholars studied about the learning enthusiasm of college students? (2) What are the main research methods used? (3) Which aspects have been studied more and less, and are there any gaps?

2. LITERATURE SOURCES

2.1 Source of Materials

This paper adopts the literature analysis method, and all the literature comes from China National Knowledge Infrastructure (CNKI). China National Knowledge Infrastructure is the most authoritative literature search tool for national academic journals in China, containing all the contents of journals and dissertations in China. The selection of this database can ensure the persuasiveness and reliability of the research in this paper.

2.2 Data Collection

To avoid the omission of literature, we entered four different keywords of "learning enthusiasm of college students", "learning burnout of college students", "current situation survey", "influencing factors" and "countermeasures research" in the process of data review, and finally screened out 29 papers that met the research criteria.

2.3 Data Sorting

Reading the literature carefully and taking notes, we summarized and sorted out the research results, research methods, and the information of samples with the method of coding.

3. RESULTS

The existing research results on the "learning enthusiasm of college students" in China can be found to be focused on three levels: investigation

of the current situation, influencing factors, and countermeasure research. These three types of research are not separated from each other, and most of them are combined.

3.1 Survey on the Current Situation of Learning Enthusiasm of College Students

At present, many scholars have studied the current situation of learning enthusiasms of college students from different perspectives. Scholars have found that the current situation of learning is that college students are generally not highly motivated to learn. Among them, Cheng believes that the current situation of learning enthusiasm of college students is characterized by biased learning cognition, insufficient learning emotion, weak learning will, and dysfunctional learning behavior [4].

Scholars such as Zhang and Liu conducted a study on the current situation of the learning enthusiasm of college students through a questionnaire survey, while scholars such as Cheng directly elaborated on the current learning enthusiasm of college students through theoretical reflection. Zhang analyzed the responses to 12 questions, including the attitude to teachers' questions, discussing homework, making study plans, and so on, concluded that college students are generally not highly motivated, and then proposed four measures to improve college students' enthusiasm from the school, teachers, families and college students themselves Suggestions [5]. Liu surveyed by preparing questionnaires from six aspects, including learning goal, learning enthusiasm, learning interest, learning attitude, learning discipline, and independence of learning [2]. Xu and Song's research on this issue is based on five items: students' attendance rate, seriousness in class, learning enthusiasm, enthusiasm to complete homework, and self-evaluation of students' learning enthusiasm level to measure the learning enthusiasm of college students [6].

3.2 Research on Factors Influencing Learning Enthusiasm of College Students

The influencing factors included in the current research on the learning enthusiasm of college students are mainly divided into two aspects: subjective factors and objective factors. Most

scholars such as Shi, She, Gao, Bai, Zhao, Yang, and Zhang have conducted their research through theoretical thinking or literature compilation, while a few scholars such as Zhang, Wang, Xu, and Yan have conducted their research through questionnaire surveys.

3.2.1 Subjective factors

The subjective factors affecting the learning enthusiasm of college students mentioned by scholars mainly include learning interest, learning attitude, learning enthusiasm, learning goals, learning methods, self-efficacy, self-management, stress, and professional perception. Among them, 10 scholars, including Zhang, Gao, et al, proposed that learning or professional interest is a subjective factor influencing the learning enthusiasm of college students [7,8,9,10,11,12,13,14,15], Shi, Zhang, and Lv mentioned learning attitude [7,10,13]. 5 scholars, including Zhang, Wang, et al., mentioned learning enthusiasms [6,8,11,12,13]. 5 scholars, including Zhang, et al., mentioned learning goals [6,7,8,10]. Ye and Chen, Zhang et al., mentioned learning methods [10,16,14]. Zhao, Zhang, and other 4 scholars mentioned self-efficacy [17,16,12,15]. She, Gao, and other 4 scholars mentioned self-management [18,19,20,15]. Wang, Yang, and Zhang mentioned stress factors [21,11]. Gao, Xu, and Song mentioned professional perception [6,15]. In addition, Zhang et al. believe that personal goal orientation and learning rewards have a greater impact on the learning enthusiasm of college students [22]. Moreover, considering learning burnout, which is the antithesis of learning positivity, Bai points out that factors such as academic performance, personality traits, independent learning ability, self-control, and psychological quality all have impacts on college students' learning burnout [23].

3.2.2 Objective factors

3.2.2.1 School

According to scholars, the teaching level and teaching style of teachers, the relationship between teachers and students, the teaching management system, the cultivation mechanism, the evaluation mechanism related to the education and teaching system, the learning atmosphere, and other related school factors influence the learning enthusiasm of college students. Among them, 12 scholars, including Shi, She et al., believe that teachers' teaching level

and teaching style will influence the learning enthusiasm of college students [7,18,8,19,23,11,16,13]. Shi and Kang believe that the relationship between teachers and students influences the learning enthusiasm of college students [7,24]. She, Xu, and other 6 scholars believe that the teaching management system, cultivation mechanism, and evaluation mechanism can influence the learning enthusiasm of college students [6,18,23,9,11]. Zhang, Wang, and other 4 scholars believe that the learning atmosphere affects the learning enthusiasm of college students [6,8,11,13].

3.2.2.2 Social

Xu believes that the influence of social values and the pressure of the employment situation have an impact on college students' enthusiasm to study [9]. Peng and Li believe that the imperfect education system and the unsound employment system have an impact on the enthusiasm of college students [12]. Lv et al. believe that the career selection mechanism and treatment, the "public examination" fever, and society's emphasis on ability rather than achievement also have an impact on students' enthusiasm to study [13]. Bai pointed out that factors such as the standards of employers for college students and the current employment situation can affect college students' enthusiasm to study [23]. Zhang and Liu pointed out that the distortion of value orientation in modern society, the blind comparison of students' pursuit of enjoyment, the "shortcut" of employment, and the employment situation of grabbing rice bowls with migrant workers after graduation have seriously affected students' study enthusiasm [10].

3.2.2.3 Family

Shi, Gao, and other 5 scholars believe that family factors also influence college students' enthusiasm to study [6,7,19,17,15]. According to Bai, the way parents help their children to solve problems, parents' expectations of their children, and family education methods influence college students' enthusiasm to study [23]. According to Lv et al., some students that have good family conditions do not have much pressure to earn money to support their families after graduation. There are also students who have no idea and no goal in the near future, who think that employment or career choice is a matter for their parents to solve, and who study only to obtain a diploma for their career. Therefore, they show the phenomenon of study burnout and lack of enthusiasm to study [13].

3.2.3 Other factors

Wang mentioned the blocking factor, which refers to the inertia, love, internet, excessive entertainment, and working outside the home that does not form the enthusiasm for students to study and have a negative impact on learning [11]. Peng and Li believe that the impact of information networking also has an impact on the learning enthusiasm of college students [12].

3.3 Countermeasures to Improve Learning Enthusiasm of College Students

Scholars have given suggestions and strategies from different perspectives based on the findings of their studies. The scholars' strategies were broadly presented from four perspectives: school, society, family, and the students themselves.

3.3.1 School

Scholars generally agree that schools are the main driving force in helping college students become more motivated to learn. She believes that it is necessary to cultivate students' interest, set reasonable learning goals, create an ideal learning environment, give timely feedback, improve teachers' teaching skills, and communicate with parents in a timely manner [7]. Gao, Zhang, and Li believe that it is necessary to strengthen the ideological education of students, change the previous guidance method, encourage students to engage in mutual help learning, strengthen the construction of school hardware facilities and software services, adjust the management of study courses and change the examination system, strengthen professional guidance and pay attention to the future career planning and development of students [19]. Cai, and Wang believe that we should strengthen the education of college students' ideals, emotions, and learning methods [25]. Su and Xu believe that the university should improve and perfect the education and teaching management system [9]. Zhang and Liu think that teachers should give full play to their leading role, create a good learning environment for students, cultivate students' interest in learning, stimulate students' enthusiasm and enthusiasm to learn, and also strengthen their own cultivation, establish a harmonious teacher-student relationship with students, and improve the quality of education and teaching [10]. Wei and He believe that it is necessary to increase students' sense of crisis

and build a good academic style, provide opportunities to change majors and lower the threshold of changing majors, increase students' sense of professional identity and develop reasonable study plans, increase various competitions related to majors, improve teachers' personality and professionalism [20]. In addition, Wang, Wang, and Ruan mentioned the cultivation of interest in the study of professional courses, to make students fundamentally aware of the importance of this professional course, to correct the study attitude of students in the examination, and avoid blindness. The course should be arranged in a reasonable manner and introduce cutting-edge knowledge of the subject [26].

3.3.2 Social

Xu thinks that society should strengthen the correct guidance of public opinion and actively provide a platform for college students to choose their careers and employment [9]. Peng and Li believe that the education system, employment mechanism, and talent training plan of universities should be adjusted dynamically according to the needs of the times [12]. Xu believes that the state and governments at all levels should pay attention to talents, change the phenomenon of "brain-body inversion", respect knowledge and talents, and make students believe that knowledge can change their fate. In addition, some unreasonable employment mechanisms in the current society should be changed to create a relatively fair and just social environment for college students' employment [6]. Cheng believes that it is necessary to promote economic development, optimize the social environment, and correct the learning perception of college students [4]. Zhang thinks it is necessary to further optimize the social environment and promote the change in college students' learning perception [27].

3.3.3 Family

In order to improve college students' enthusiasm to study, Cheng believes that it is necessary to play the role of the family, pay attention to responsibility for education, and strengthen students' will to study [4]. Zhang thinks it is necessary to pay attention to family education [27]. Gao believes that effective communication between parents needs to be established to enhance the role of the family in improving college students' enthusiasm to study [15].

3.3.4 Students themselves

Zhang and Liu propose that the main body of students' learning enthusiasm is the students themselves and that students should play an active, conscious and positive enthusiasm, correct their learning attitudes, set clear learning goals, adjust their learning methods and approaches, and organize their own learning interest groups, rather than blindly following the trend and getting by [10]. Zhang believes that students themselves need to clarify their personal goals, the enthusiasm to work hard for the purpose is an important factor to improve learning enthusiasm; and they need to enhance practical skills, theory, and practice [27]. Kang and Wang believe that students themselves should first establish a correct learning awareness and improve their self-regulation and control ability [24].

4. DISCUSSION

Through the search and analysis of the above literature, we can find that scholars have carried out studies on the learning enthusiasm of college students in different aspects and to different degrees, and the current research content of scholars mainly focuses on three levels: investigation of the current situation, the study of influencing factors and countermeasure research, and these three types of research are not distinctly separated, and most of them are combined together. Among them, the study of the influencing factors and countermeasures of learning enthusiasms of college students has been the focus of domestic research. However, the existing studies have focused on the overall learning situation of a broad group of college students, while the learning of professional courses is more important to college students, and the research on the enthusiasm of professional courses for college students majoring in mathematics is still blank [28,29].

Regarding the research on the current situation of learning enthusiasms of college students, scholars have mainly investigated the attendance rate of classes, the status of classes, learning enthusiasms, enthusiasm to complete homework, self-evaluation of learning enthusiasms, etc. The research is more comprehensive, but the results obtained are the current situation of the learning enthusiasm of college students as a whole, and no scholars have yet conducted a comprehensive analysis of the influencing factors and the results of each sample's current situation.

No scholars have analyzed the relationship between the influencing factors and each sample's study enthusiasm. And no scholars have investigated and studied the current situation of the enthusiasm of mathematics majors in their major courses.

As for the influencing factors of the learning enthusiasm of college students, the subjective factors affecting the learning enthusiasm of college students mentioned by scholars mainly include learning interest, learning attitude, learning enthusiasm, learning goal, learning method, self-efficacy, self-management, stress, professional cognition, etc. These influencing factors cover a wide range, but the major influencing factors are not founded now. Moreover, most of the researchers give the influencing factors directly by the methods of literary analysis or discursive method, and few scholars use the questionnaire method, and the reliability of the existing conclusions needs to be improved.

The suggestions and strategies given by scholars to improve college students' enthusiasm are generally related to four aspects -- school, society, family, and students themselves. The shortcomings are that the suggestions and strategies given by scholars are broad and general, and lack relevance to the characteristics of mathematics subjects.

5. CONCLUSION

By compiling and analyzing the literature related to the factors influencing college students' enthusiasm to study, the following conclusions were drawn:

(1) At present, scholars' research on the learning enthusiasm of college students mainly contains three aspects, which are the current situation of learning enthusiasm of college students, the influencing factors of learning enthusiasm of college students, and the suggestions and strategies to improve learning enthusiasm of college students.

(2) As for the influencing factors, the conclusions obtained from the existing literature are generally broad and wide, but the major influencing factors are not founded now.

(3) Most of the scholars have given the influencing factors by literature analysis and discursive methods without the support of

realistic survey data, and no scholars have yet analyzed the relationship between the influencing factors and the degree of learning enthusiasm of each sample, so the reliability of the conclusions needs to be further improved.

(4) The existing studies are carried out for a broad group of college students, but the research on the enthusiasm of mathematics majors in their major courses is still blank. In addition, scholars have given suggestions and countermeasures mainly involving four aspects--school, society, family, and students themselves, but the shortcoming is that most of the suggestions and strategies are rather broad and general, lacking relevance to mathematics majors.

Therefore, it is necessary to conduct further research on the main factors influencing the enthusiasm of mathematics majors in their major courses, analyze the current situation of the enthusiasm of mathematics majors in their major courses and find out the main influencing factors behind it, so as to promote experts and scholars to put forward more effective and targeted countermeasures and suggestions, and finally be able to improve the enthusiasm of mathematics majors in their major courses.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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