



# Research on Educational Innovation of Retired College Students Based on Big Data Analysis

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**Abstract.** At present, retired college students have become a special group of college students. With the strengthening of military recruitment in Colleges and universities, college students' soldiers are increasing year by year. Facing the new tasks and requirements put forward in the new era, the education of retired college students should constantly explore new ideas, new paths and new methods to further enhance the pertinence and effectiveness of the work, to meet the needs of retired college students to grow into talents and the development needs of the party and the country. At present, with the rapid development, comprehensive integration and wide application of the new generation of network information technology represented by mobile Internet, Internet of things, cloud computing and artificial intelligence, mankind has gradually entered the "big data era" of large-scale data mining, application and innovation. Combined with the intelligent system, this paper strengthens the cross analysis of data, uses the network system to carry out the whole process investigation, and fully understands the characteristics and laws of retired college students in the new era. The results show that the scale of retired college students is gradually increasing, facing difficulties such as learning difficulties, high employment pressure and complex interpersonal relationships. It is proposed to integrate into national defense education, carry out military activities Strengthening ideological and political education and other measures and methods can further standardize management and improve the sense of mission, responsibility and belonging of retired college students.

**Keywords:** Retired College Students · National Defense Education · Information Management · Big Data Analysis · Colleges and Universities

## 1 Introduction

Retired college students are college students who, according to the provisions of the military service law, join the army with a pen from overseas students of Rongbao and return to their colleges and universities after the expiration of their military service. With the continuous improvement and strengthening of the national preferential policies for college students to join the army, the number of college students joining the army is increasing year by year. Therefore, the number of college students returning from retirement is also increasing, becoming a special group in Colleges and universities.

They are not only students, but also veterans of various services with different skills. They shuttle in different classes, but they have good military quality [3]. Strengthening the management of retired college students, making this special group complete the transformation from a soldier to a qualified college student in Colleges and universities, and giving full play to its advantages is an important topic that colleges and universities urgently need to explore. The author, as a retired college student, combined with his own reality, designed and released a more comprehensive questionnaire with Tian Hui Zhi's official website. He investigated the retired college students in more than 10 universities in China, and carried out field visits and research, and obtained more abundant data, which provided data support for this research.

## **2 Analysis on the Current Situation of Retired College Students**

### **2.1 Disadvantages of Retired College Students**

#### **2.1.1 The Number of Retired College Students is Increasing Year by Year, and Management Needs to Be Strengthened**

With the continuous increase of national conscription work, the cultural level of conscription requirements is also continuously improved. College students and freshmen have naturally become key targets. In recent years, the number of retired college students who retain their student status has gradually increased. Through incomplete statistics, there were 24 retired college students in Guangxi University for Nationalities in 2018 and 37 retired college students in 2020; Guangxi University has 29 retired college students in 2018 and 31 retired college students in 2020; Guilin University of Electronic Science and technology has 27 retired college students in 2019, There will be 34 retired college students in 2020 and 53 retired college students in 2021. Nanning Branch of Guilin University of Technology (hereinafter referred to as "our university") has successively enlisted college students in the army since 2010. By 2018, a total of 500 college students had joined the army, with an average of 80 joining the army every year, and a total of 300 retired college students returned to school. At present, the number of retired college students returning to school has been stable at 110 for a long time and has an upward trend.

Since 2018, with the introduction of the national tuition compensation and compensation policies for retired college students, the policy of upgrading from junior college to college and the policy of the special plan for the postgraduate entrance examination of retired college students, local governments and colleges and universities have also issued a series of preferential incentive policies, making young college students enthusiastic about joining the army, and the number of retired college students in Colleges and universities has gradually increased, There is an urgent need to strengthen the management of this special group.

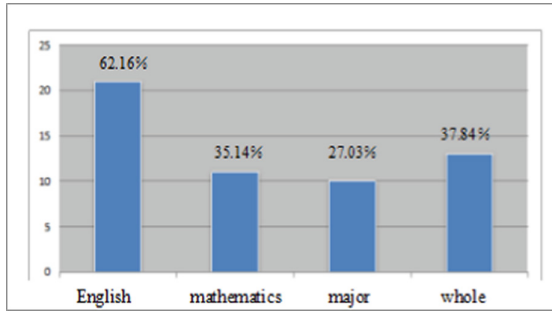
#### **2.1.2 Retired College Students Have Certain Pressure and Need to Pay More Attention**

The pressure of retired college students is multifaceted. One is older than students of the same grade. At present, college students joining the army are basically concentrated

in the freshman and sophomore semesters of the University. As a result, they return to school to repeat their studies after two years of joining the army, which is generally 2–3 years older than the students in the class. Some of them have a age difference of 4–5 years due to the late time of going to school and changing to noncommissioned officers during their military service, which virtually creates pressure. Second, learning pressure. After two or more years of military life, the main reason is that the academic performance can not keep up. The survey found that 70.6% of the students said they couldn't keep up with their study, were tired of learning and had great pressure. Third, the pressure of life. In particular, due to the age gap, some students can not integrate and communicate with each other, and there are certain differences in interests and hobbies. After investigation, 52.9% of the students will be under pressure because of their age, while 61.8% of the students will be under pressure from life because they have no

**Table 1.** Cross analysis statistics of learning status and pressure of retired College Students

Research content		total	After you return to school, which course do you have difficulties with?			
			English	mathematics	Professional courses	There are difficulties
After you return to school, you are about to complete the transformation from soldiers to students. Is there any pressure and discomfort? Where does the pressure come from?	Age pressure, incompatible with class students, there is a generation gap	52.9%	20.0%	18.5%	9.1%	20.0%
	Learning pressure, academic performance can not keep up, tired of learning	70.6%	30.9%	37.0%	31.8%	25.0%
	Employment pressure, worried that it is difficult to find a job	58.8%	21.8%	14.8%	22.7%	22.5%
	Life pressure, no income, life difficulties	61.8%	18.2%	22.2%	31.8%	22.5%
	There is pressure to communicate with others and poor communication	23.5%	9.1%	7.4%	4.5%	10.0%



**Fig. 1.** Investigation and statistics of academic performance of retired College Students

income. This situation reflects the real dilemma of retired college students in school, it greatly restricts the development of retired college students, which needs to be solved through system and mechanism (Table 1).

### 2.1.3 Retired College Students' Learning is not Ideal

College students should be enlisted in the army at the stage of higher education and study for a period of two or five years. These college students go to military service as soon as they enter school, and they are just ordinary soldiers in the army. In this process, their studies in Colleges and universities are terminated, and their training time in the army is tight, so they have little time to learn external academic knowledge. After returning to school after retirement, there is a gap between its original knowledge structure and the current knowledge system. After returning to school, it starts learning again. The learning method of high school itself has a big jump with that of University, which is a big challenge for ordinary freshmen, not to mention the college students who retire and return to school after learning (see Fig. 1). According to the survey data, 29.03% of the students expressed dissatisfaction with their academic performance. Only 19.35% of the students were satisfied with their grades. In particular, the pressure on English learning is high, accounting for 62.16%, and mathematics and professional learning account for 35.14% and 27.03% respectively. 37.84% of the students said that there were problems in all courses. It can be seen that learning is the biggest difficulty faced by retired college students. We should focus on it, guide them to quickly adapt to the learning environment and solve the dilemma of learning behind.

### 2.1.4 The Living Conditions of Retired College Students and Soldiers are Worrying

When college students live in the army, their communication objects are mainly comrades in arms and leaders. Activities such as training and learning are often collective actions. Everyone takes collective interests as the common goal and obeys orders as their bounden duty. Therefore, there are fewer conflicts and simple interpersonal relationships. However, after college soldiers return to campus, the free campus atmosphere, colorful campus life and college students with strong personality will make retired college students who lack interpersonal experience feel the complexity of interpersonal

relationships. Moreover, the classmates and friends of retired college students before joining the army have been two times higher than them, and even have a job. In the new class, we need to re-establish new interpersonal relationships with new students. If you are a sophomore after retirement, and the interpersonal relationship of this class has been basically stable, it will be difficult for retired college students to integrate into this new collective. The survey found that 21.62% of the students had pressure to communicate with others, and 51.35% of the students had a generation gap with other students, had no common topic and could not communicate harmoniously. Differences in age and life experience make it difficult to establish new interpersonal relationships [2].

## **2.2 Advantages of Retired College Students**

### **2.2.1 Retired College Students Have Excellent Military Skills**

College student soldiers are distributed in different units such as land, sea and air. Through the training of the school and the training of the army, they not only learned professional military skills, but also had high political awareness, strong sense of discipline and good execution. Their physical quality is far stronger than that of ordinary college students. They have strong willpower in the face of difficult conditions. Both the students in the class and the teachers in each class are the objects of their special attention.

### **2.2.2 Retired College Students Have Excellent Style**

After two years of hard work in the army, he has developed a good military style. From the one-day living system, he can develop a good work and rest law, and the concept of time will be strengthened. The high standard and strict requirements in the execution of tasks can further improve his rigorous style of work. "Obeying orders and obeying commands" is the bounden duty of soldiers and the prerequisite for achieving achievements and improving combat effectiveness, Retired college students in the army through the education and guidance of squad leaders, platoon leaders and leaders at all levels, and strengthen and practice in the implementation of various tasks, so as to form an excellent style. After returning to school after retirement, in a collective like the school, we also continue to maintain a good style, which has great advantages for doing well, studying well and dealing with people.

Research and analysis show that, first of all, retired college students have lofty aspirations to admit defeat. 72% of the junior college students are very satisfied with the life of the army and have the desire to be promoted to the primary level, 75% of the students have the desire to study for graduate students, and half of the students said they would have the opportunity to study for doctoral students. It is precisely this part of the students who are very satisfied with the life of students in the army and maintain the fighting style as always. Secondly, retired college students have the good quality of hard work. 75% of the students choose to start their own businesses and be their own boss, 77% choose state-owned enterprises, and 60% choose to be admitted to public institutions and civil servants. Another part of the students chose "if you have the opportunity, you want to join the army again", which shows that retired college students have a strong sense of family and country. It can be seen from the survey data in Table 2

**Table 2.** Cross analysis statistics of retired college students' satisfaction with joining the army and employment

Research content	Summary	What is your employment intention after graduation?				What is your intention to apply for a job?					
		Shengben	Postgraduate entrance examination	Bo reading	Continue to take the postgraduate entrance examination after upgrading	Work after graduation	Civil servant examination	Examination institutions	state-owned enterprise	Start a business and be your own boss	Whatever the nature of the job, as long as you can make money
Are you satisfied with your two-year military life and exercise?	62.9%	72.2%	80.0%	50.0%	75.0%	58.8%	58.8%	64.3%	76.9%	75.0%	50.0%
	14.3%	16.7%	20.0%	0.0%	25.0%	17.6%	14.3%	14.3%	0.0%	16.7%	22.2%
	22.9%	11.1%	0.0%	0.0%	41.2%	23.5%	21.4%	21.4%	23.1%	8.3%	27.8%

that after the training and edification of the army, the potential and advantages of retired college students are great. It is necessary to strengthen management and give targeted counseling, which is of great significance to the growth and success of retired college students (Table 2).

### 3 Innovation and Development Trend of Retired College Students

#### 3.1 Promote National Defense Education

National defense and military education has also become a top priority. Only a strong army can ensure national security. National defense and military education has also become an indispensable course for college students. Retired college students have congenital advantages for national defense and security both in thought and action. Whether in daily life or in classroom performance, it can actively promote students to better understand and pay attention to national defense. The personality charm radiated by retired college students affects the students around them all the time, making the knowledge of national defense education more real and cordial. Retired college students unknowingly become a huge potential force in national defense military education and an important link in promoting the innovative practice of national defense military education. The author adopted the online and offline mixed teaching practice in Colleges and universities to integrate retired college students into teaching. Through many years of experimental data, the teaching effect is very good (Table 3).

From the data, the students' satisfaction with teachers' military theory courses accounts for more than 90%. The teaching process, teaching forms and teaching methods of many military courses are relatively recognized. The survey shows that the teaching assistant demonstration has a good driving effect, which is recognized by most students. They think that the teaching assistant sets an example, which shows that the teaching

**Table 3.** Statistical table of course teaching effect investigation

Options	Respondents
The course content is quite good	60.56%
Teachers have good teaching methods and novel forms	70.42%
Teachers are serious and responsible in teaching and strict in requirements	66.20%
Good classroom effect and atmosphere	56.34%
Good practical teaching process and strong sense of experience	63.38%
The clothes are neat and have the characteristics of national defense education	60.56%
Class is tired and changing clothes is troublesome	7.04%
I'm not interested in the classroom content and like practical teaching	7.04%
The teacher is too strict to stand	1.41%
Although the teacher is strict, he is quite reasonable	15.49%
Teaching assistants set an example and demonstrate to drive good teaching	40.85%

assistant affects the students' words and deeds with his own performance, Played a subtle educational role. The shortage of national defense education teachers is the difficulty faced by colleges and universities at present. From the research results, continuously strengthening the management of retired college students and making rational use of their advantages to participate in education and teaching is not only a powerful supplement to the teaching staff, but also an effective way to build a full-time and part-time teaching staff.

### **3.2 Form an Emergency Force**

After two or even five years of training in military life, retired college students have not only greatly improved their ideological awareness and sense of responsibility, but also few military skills and emergency skills. For retired college students, they come from the three major military services of the sea, land and air force and the armed police force. Most of them have experienced various emergency forces such as earthquake relief, flood fighting and rescue, stability maintenance in Tibetan areas, camp gate emergency response, anti-terrorism riots and international peacekeeping. Some retired college students were even notified and praised by the units at that time for their outstanding work in the process of performing their tasks. Retired college students not only have this ability, but also have this responsibility, and can shoulder the task of this emergency force. If we can integrate this force, this force can play a very important role not only in schools but also in society.

### **3.3 Boost Recruitment Publicity**

Both the local armed forces and the Armed Forces Department in Colleges and universities have greatly improved the publicity of conscription work. However, there has been no significant change in the number of conscripts. In particular, the number of double first-class colleges and universities is very small, and the enthusiasm of college students in double first-class colleges and universities is not high enough. The main reason is that there is no power of example and some practical sense of national defense and security. There is not much specific understanding of the preferential policies given by the state, and many people have not found the practical value of being a soldier. He is also at a loss about his influence and help in the future. Retired college students, as practitioners and beneficiaries of military recruitment, have the most right to speak. Retired college students themselves are such an example and have inherent persuasion. Their own experiences and stories have a strong influence and driving role. Retired college students themselves have the role of special identity. Both as an ordinary college student and as an experienced veteran, college students can experience the charm of being a soldier all the time.

From 2020 to 2021, the author's College explored the pilot of military training "self-training". In order to evaluate the quality of military training, relevant research was carried out in time. According to the survey of "military training" "self-training" mode, 85% of the students believed that after military training, their will quality had been tempered, and nearly 70% of the students learned military skills, military knowledge and national defense awareness from the process of military training. Yes, "after military



training, everyone has certain military literacy. Are you willing to join the army?" On this issue, nearly half of the students interviewed chose "willing, duty bound". A few students need further consideration because of physical reasons.

According to the data, the mainstream consciousness is good, and the worries and uncertainties of students can be understood. For college students who have just entered the school, the expected effect has been achieved through "military training" to improve their national defense consciousness. At the same time, in the investigation of military theoretical knowledge, we can clearly perceive the students' strong expectations for military knowledge, especially the knowledge of national security, military thought and information equipment. Through the cross analysis of data, the students who are treated negatively in military training are not active enough in the treatment of military theoretical knowledge. 6% of the students think that military training "learned nothing except fatigue", but 2% of them still express their willingness to join the army, which shows that "fatigue" in military training is also a harvest. Through military training, military knowledge has also been transferred imperceptibly, and the will quality and physical quality have been improved.

## **4 Major Initiatives**

### **4.1 Strengthen the Application of Network Information Technology in Management**

In the information age, college students in the new era live in the era of information explosion. The network connects everything. How to use the advantages of network information in retired college students to improve management efficiency and effectiveness is an important research topic. After exploration, the author has achieved some successful experience in his unit. It is mainly reflected in the following aspects: first, establish a perfect information platform, bring retired college students into the system dynamic management, register relevant information after returning to school, and ensure the authenticity and accuracy of data entry, so as to facilitate targeted guidance and management according to everyone's characteristics and specialties after returning to school. Secondly, establish personnel management organization. In the selection of leading groups among college students, due to the scattered personnel, managers are required to carry out online activities regularly through QQ software, wechat platform and conference software to ensure that the personnel are controllable and supervised at all times. In this process, smooth, timely, accurate, fast and convenient information is the key problem in management.

### **4.2 Strengthen the Application of Retired College Students in Information Teaching**

We should integrate retired college students into teaching, from the perspective of their peers, use their own experience to affect the hearts of college students, so as to make the classroom more infectious and enrich the classroom content. Especially in the practical teaching link, we should use intelligent simulation venues to let college students act

as teaching assistants, guide young college students to participate in them and improve the teaching quality. Two years of practice has proved that 80% of the students are very satisfied with the performance of retired college students as teaching assistants. Mobile phone is a necessary tool for them to carry out information-based teaching, which has played a very good teaching effect. For example, in the process of using the micro teaching assistant platform, under the unified command of the teaching assistant, students carried out signature, question answering and discussion, which not only made learning “free”, but also expanded the “depth” and “breadth” of learning [1].

### 4.3 Promote the Effect of Curriculum Education with Innovative New Models as the Driving Force

In recent years, while strengthening the management of retired college students, the author’s University has constantly played its unique role with the help of the advantages of veterans, changed the traditional teaching methods such as single form and old-fashioned methods, combined with the actual innovation of methods and working system, and achieved good results [5]. Specifically reflected in the following aspects:

**Table 4.** Cross analysis of comprehensive education effect of retired college students integrated into national defense education

Research content		Summary	After military training, we all have certain military literacy. Are you willing to join the army?				After the military training, which aspect of military theory do you want to learn most?				
			Yes, no hesitation	Yes, but I’m worried that my body can’t bear it	I’m not sure. I need to think about it slowly	unwilling	China’s national defense	national security	military concept	Modern Warfare	Information equipment
What do you think is the biggest gain from military training?	Number of respondents (person)	2401	1466	1276	766	169	1116	638	390	618	1028
	Exercise of will	85.0%	48.9%	56.0%	59.7%	55.0%	51.0%	54.5%	57.4%	53.9%	55.1%
	The awareness of national defense has been greatly improved	33.3%	24.5%	19.7%	18.3%	9.5%	24.1%	22.6%	19.7%	19.4%	18.5%
	Learned a lot of military skills	33.5%	24.6%	21.2%	17.9%	9.5%	22.7%	19.4%	21.0%	20.1%	21.6%
	I learned nothing but tiredness	6.0%	2.0%	3.1%	4.2%	26.0%	2.2%	3.4%	1.8%	6.6%	4.9%

First, the innovation of teaching mode. Taking “one yuan, three-dimensional and four body” as the main content, this paper explores the chain teaching mode of “guiding ideology+problems+topics+topics”, integrates local national defense education resources, follows the teaching laws and requirements, follows the characteristics and acceptance laws of college students in the new era, realizes the supply side reform of national defense education, and improves the sense of acquisition of national defense education of higher vocational students [4].

The second is the innovation of teaching practice. It explores the education and teaching mode of “retired college student management+military course teaching+conscripted publicity”. Make rational use of the resources of the veterans regiment to carry out teaching. Each class of the face-to-face course is equipped with a teaching assistant (instructor) of the old Corps. In the teaching process, the content of the elements of veterans is involved, talking about military life, telling military stories, demonstrating military skills, carrying out teaching activities in strict accordance with the military teaching mode, allowing students to experience the daily cultivation of soldiers with military literacy, imperceptibly immersing students and feeling military culture (Table 4).

## 5 Conclusions

As a special group, retired college students have great potential in management and innovation. In order to make retired college students play a role in the school, we need to strengthen management, further improve the organization, strengthen system construction, jointly build military and civilian cooperation, tap more resources, build a platform, carry out rich activities, and integrate the education system into the study, life and work of retired College students with the fundamental requirement of “Building Morality and cultivating people”. We will continue to explore new models of education and form a new pattern of joint management and everyone paying attention to retired college students. Strengthen the practical research of teaching reform, make teaching and scientific research work in the same direction, promote the innovative management of retired college students, reflect the value of retired college students, and further promote the development of various work of the school, so as to better serve the society and make due contributions to the cause of national defense.

## Appendix

The 2021 research topic of university security science of the professional committee of security science of China Association of higher education “Research on the innovative model of” one body, two wings, three-dimensional and four integration “of national security education in Colleges and universities” (21bwby017).

## References

1. J. Liu, and Wang, Z. 2021. Research on the path of strengthening the cultural construction of national defense education in the new era. *Journal of Kaifeng Vocational College of culture and Art* 41 (04): 102–105.

2. L. Lu, and Chao, W. 2020. School adaptation of retired college students: research progress and review. *Journal of Shijiazhuang University* 22 (05): 36–42.
3. C. Wang, Wang, Y., Bai, Y., and Xie, K, 2021. Wang Xuan. Analysis and Research on the evaluation methods of academic achievements of college students joining the Army. *Education and Teaching Forum* 17: 152–155.
4. Y. Zheng, and Liu, Z. 2022. Difficulties and Countermeasures Faced by retired college students returning to school. *School Party Construction and Ideological Education* 06: 76–78. <https://doi.org/10.19865/j.cnki.xdj.2022.06.023>.
5. Y. Zhou, and Cui, W. 2021. Analysis on the path of veterans embedded in grass-roots social governance. *Journal of Yunnan University of Administration* 23 (02): 77–86.

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