

The Learning Ability of Higher Vocational Students in the Post-Epidemic Period

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Abstract: The widespread application of offline teaching in the post-epidemic period poses a new challenge to the learning ability of higher vocational students. The lack of learning ability of higher vocational students has become a common problem in the learning ability of higher vocational students in China. This phenomenon has attracted scholars' attention and started research on this topic. The main purpose of this paper is to discuss the improvement of learning ability of higher vocational students in China in the post-epidemic period through the investigation of existing literature in the database.

Keywords: Post-epidemic Period; Higher Vocational Students; Learning Ability; Promotion Strategy.

1. Introduction

The Covid-19 epidemic has had a profound impact on global education, greatly changing the traditional teaching methods. With the application of online teaching methods, it not only broke the traditional face-to-face teaching methods, but also brought challenges to students' learning ability. This change has a particularly obvious impact on higher vocational students. In his research, Yang (2023) pointed out that higher vocational students have the characteristics of poor self-control, lack of clear career planning, low interest in professional learning, weak learning motivation and poor ability to deal with self-feelings [1].

In 2022, the People's Republic of China (PRC) Vocational Education Law was revised and came into effect on May 1. The new vocational education law requires the vigorous development of vocational education, and defines vocational education and general higher education as two different types of higher education. Vocational education and general higher education are equally important. However, Ma (2021) pointed out in his research that the high-quality development of vocational education has entered a bottleneck period. The investment in teaching reform has not been matched with the output of high-quality development, and the improvement of teaching quality is inseparable from students' learning ability. Therefore, it is very necessary to improve the learning ability of higher vocational students according to their characteristics[2]. Educators began to reflect on students' learning behavior after entering the post-epidemic period, and reconstructed the relationship between teaching and learning in the post-epidemic period, so as to improve students' learning ability.

Based on Zimmerman's autonomous learning theory, Lu (2022) put forward that setting clear learning objectives, stimulating students' motivation, innovating teaching methods and creating a good environment are helpful to improve the autonomous learning ability of higher vocational students[3]. Zong (2023) believes that improving the learning ability of higher vocational students requires the joint efforts of students, teachers, schools, parents and enterprises in order to receive practical results [4]. Abu and Kribushi (2022) advocated using technical tools, digital educational activities

and learning software to stimulate students' curiosity and improve their mathematics learning ability[5]. Wang and Wan (2022) pointed out that self-motivation, self-management, metacognition, information literacy and informal courses are the influencing factors of higher vocational students' learning ability. According to this, it is proposed that measures such as strengthening career planning guidance, developing metacognitive ability, attaching importance to improving information literacy ability and attaching importance to and strengthening the construction of informal courses can help higher vocational students improve their learning ability[6].

2. Study Objectives

On the basis of combing the existing research, this paper discusses the research contents and results of improving the learning ability of higher vocational students at present, and puts forward some suggestions for future research, so as to provide reference for implementing teaching reform and improving the learning ability of higher vocational students in the future.

3. Review of Related Literature

3.1. Study on the Concept of Learning Ability

Up to now, the academic definition of learning ability is not uniform. In his research, Li (2023) pointed out that "learning ability" was first put forward by Forrester, a system dynamics expert, in the article "A New Type of Company Design". He explained the organizational form of future enterprises with the principle of system dynamics, making learning ability a hot word in the management field[7]. After entering the 21st century, learning ability has migrated to the field of education. The educational circles define learning ability from the dimensions of energy, character, quality and ability, and think that learning ability is a life energy that cares about people's growth and development, or a dynamic ability system that promotes the continuous improvement of learning character (for the concept of "learning ability", https://reader.gmw.cn/2023-07/21/content_36713020). Many scholars agree with Baidu's explanation of the term "learning ability", that is, learning ability is the psychological characteristics of

individuals engaged in learning activities and the sum of various abilities and potentials that individuals can learn (<https://baike.baidu.com/item/%E5%ad%a6%E4%B9%A0%E8%83%BD%E5%>). For example, Wang (2022) pointed out in his research that some psychologists equate learning ability with intelligence, and think that intelligence is a comprehensive ability about learning ability, and learning ability is the ability of people to learn, do and develop independently in a certain learning environment[8]. Usmonov (2022) thinks that students' learning ability is influenced by age, personality characteristics, learning motivation, teachers' and parents' attitudes towards education, parents' intelligence level, educational motivation, optimism and pessimism[9]. Li and Xiang (2023) pointed out that learning ability is a complex, which will adjust the internal factors according to the changes of social needs. For example, Kirby, a scholar at Harvard University, believes that learning ability is a combination of learning motivation, learning attitude, learning methods, learning efficiency, innovative thinking and creativity[10].

3.2. Study on Influencing Factors of Learning Ability

3.2.1. Internal Factors Affecting Learning Ability

Zhang (2023) studied the learning ability of more than 13,000 primary school students in 9 provinces by questionnaire, and found that the internal driving force of learning (willingness to learn), the subjective initiative of learning (ability to learn), the ability to adjust learning (ability to learn) and the ability to support learning (ability to learn) are the influencing factors of primary school students' learning ability[11]. Li (2021) thinks that the online and offline mixed teaching mode can better highlight learners' autonomous learning ability. Taking 120 nursing students as the research object, through multiple regression analysis, it is found that perceptual intelligence factors, resilience factors and critical thinking tendency will affect students' autonomous learning ability[12].

3.2.2. External Factors Affecting Learning Ability

Atolagbe, Ojo and Omosidi (2021) think that educational resources and facilities are two factors that affect students' learning ability in distance education[13]. Musengimana (2021) thinks that in addition to students' interests, teachers' teaching methods, teaching AIDS used by teachers, availability of school infrastructure, classroom learning environment, students' gender characteristics, students' grade level, teachers' behaviors or characteristics, social factors and environmental factors (including parents, peers, friends, socio-economic class and socio-cultural background) will have an impact on students' learning ability[14]. Song and Yang (2020) pointed out in his research that teaching methods and means have an important influence on cultivating students' learning ability. Mobile technology can effectively promote students' ability to practice and apply English words, and help students remember English words[15].

3.2.3. External Factors and External Factors Affecting Learning Ability

Tokan (2019) conducted a correlation study with intrinsic motivation, extrinsic motivation, and learning behavior as independent variables and academic performance as the dependent variable. The research sample was 229 students from the Department of Biological Education. It was finally found that intrinsic motivation (interest, desire and ability)

and extrinsic motivation (parental support, teacher ability and social interaction) indirectly affect students' academic performance, and learning behavior directly affects students' academic performance[16]. Wang (2022) took middle school students in the central and western regions as the research objects, designed a questionnaire from four dimensions: autonomous learning awareness, autonomous learning content, autonomous learning process and autonomous learning methods. Through analysis, it was concluded that the learning ability of middle school students is closely related to whether students have clear learning goals, the degree of attention the school pays to students' autonomous learning, the degree of attention the teacher pays to students' autonomous learning, the attention parents pay to students' autonomous learning, self-management ability, the influence of peers, and the degree of recognition of the school[17]. Meşe and Sevilen (2021) also believed in their research that the COVID-19 pandemic has brought great uncertainty to students' physical health, and the impact of students' learning motivation on their learning ability in online education has become prominent. Taking English language learning as an example, she used qualitative research methods to discover internal and external factors that affect students' learning motivation[18]. Xie and Gan (2021) conducted a questionnaire survey on 690 college students from four universities in Fujian Province and found that the factors affecting college students' learning ability are not only related to gender and grade, but also affected by the learning environment, learning resources, and learning subjects[19]. Tang and Osman (2022) used quantitative research methods to find that there is a significant correlation between students' gender, learning field, family structure, learning motivation and students' learning ability[20]. Wawan and Retnawati (2022) studied the factors affecting students' learning ability from the perspective of discipline. The results showed that teachers' teaching content, teaching methods, students' classroom participation, students' learning initiative, students' learning strategies, learning concentration and whether there are learning goals will have an impact on students' learning ability[21].

3.3. Research on Strategies to Improve Students' Learning Ability

3.3.1. Improve Learning Ability Through Effective Teaching Aids or Innovative Teaching Methods

Some scholars believe that the use of teaching tools or the innovation of teaching methods will promote students' learning ability. For example, Dong(2023), guided by the Unicom principle that everyone is connected, connected all the time, connected everywhere and shared openly, proposed that the teaching environment should be optimized and the online learning atmosphere should be built at the macro level; At the micro level, it is necessary to set course standards and teaching objectives, adjust teaching contents and methods, carry out teaching evaluation from multiple angles, and establish online learning feedback mechanism to help higher vocational students improve their online learning ability[22]. Zhou(2022) proposed that in order to improve students' learning ability, it is necessary to change the traditional teaching mode and the separation of teaching and learning. In class, students should take the initiative to ask questions, dare to question and express their opinions, and teachers should actively guide students and mobilize their learning enthusiasm[23]. Abu, Kribushi(2022) also put forward

similar suggestions, advocating the use of technical tools, digital education activities and learning software to stimulate students' curiosity and improve their learning ability[5].

3.3.2. Specific Strategies to Improve Students' Learning Ability in a Certain Aspect

Yang(2023) focuses on the improvement of students' self-management ability in his research, and puts forward eight suggestions on improving students' self-learning management ability in higher vocational colleges from both subjective and objective aspects, emphasizing both theory and practice and cultivating good interpersonal relationships[1]. Srisopha (2022) shows that students' English learning ability can be improved by taking the following measures: 1) Students should have a correct attitude towards learning English language courses; 2) Teachers should pay attention to teaching methods; 3) Create a good classroom environment and family environment[24]. Chen(2023) studied the characteristics of online autonomous learning of analytical chemistry for higher vocational students, and found that the ability of students to learn analytical chemistry independently can be improved by establishing online chemistry learning community by means of time and space compensation, increasing the interest of chemistry learning, flexibly applying and updating the learning platform by teachers, and praising and encouraging teachers[25].

3.3.3. Study the Strategies to Improve Learning Ability Through Actual Cases

Zhu and Lei (2021) taking college students in a school in Anhui Province as the research object, aiming at the problem of insufficient learning ability of students in online courses, this paper puts forward some measures to improve their online autonomous learning ability, such as stimulating their learning motivation, creating online learning environment, perfecting online learning platform and enriching online communication and interaction[26]. Meşe and Sevilen (2021) pointed out that students' learning ability can be further improved by improving students' satisfaction with the teaching content and teaching materials of online courses and enhancing their internal driving force[18]. Lu and Li(2021) Taking a vocational school as an example, by analyzing the related factors that affect students' learning ability, this paper puts forward three suggestions to improve students' learning ability. First of all, it is necessary to build a "trinity" education management linkage mechanism among family, middle school and university, and form a tripartite joint force to improve students' learning ability; Secondly, it is necessary to build a "trinity" mechanism of work exchange and mutual visits among families, middle schools and colleges, so as to promote the positive transfer of educational effects; Thirdly, it is necessary to build a "trinity" academic guidance coherence mechanism for families, middle schools and colleges to eliminate the negative transfer of educational effects[27].

3.4. Students' Learning Ability in the Post-epidemic Period

Through searching the existing database, the author found that there are few studies on students' learning ability in the post-epidemic period. Although the research contents are different, they are all about how to improve students' learning ability in the post-epidemic period. For example, Meng (2020) thinks that the teaching method has changed from face-to-face teaching to online teaching in COVID-19 epidemic, and the

strength of students' learning ability has become very important for their individual development. In order to solve the problem of students' lack of learning ability, the strategy of cultivating students' learning ability is put forward[28]. Xi (2020) pointed out the necessity and concrete measures to improve students' learning ability in the post-epidemic period [29]. Wang (2021) takes 705 primary school students as the research object, evaluates the current situation of primary school students' learning ability through questionnaire survey, and puts forward solutions from three dimensions: school, parents and students[30]. Lan (2023) conducted a cross-sectional online questionnaire survey among 190 nursing undergraduates, and studied the correlation between online learning ability and learning engagement of nursing undergraduates in different grades by quantitative research, and put forward online teaching suggestions according to the research results[31].

4. Conclusion

4.1. Review of Existing Studies

To sum up, scholars' research on students' learning ability covers the connotation of learning ability, factors influencing learning ability, strategies for improving learning ability, and learning ability under the background of post-epidemic period. Although these studies are different in research content and research direction, the foothold of the research is almost the same. Researchers are all aiming at improving students' learning ability and providing reference for school teaching reform. The research trends are as follows.

With the deepening of the research on students' learning ability, scholars have a more comprehensive understanding of the concept of learning ability, which is no longer confined to the scope of management, pedagogy or psychology. More scholars agree that the concept of learning ability is comprehensive and multidimensional. Scholars tend to focus their attention on the combination of internal factors and external factors in order to have a more accurate grasp of the influencing factors. For the strategy of improving learning ability, different researchers put forward their own solutions in combination with their own research priorities and research directions, but the effectiveness of the solutions is lacking. Faced with the normalized influence of the global COVID-19 epidemic on education, more scholars began to pay attention to students' learning ability, and scholars studied how to improve students' learning ability from different angles.

4.2. Research Gaps

4.2.1. Methodological Gap

Through the investigation of existing literature, most scholars use quantitative research method to discuss students' learning ability. For example, Li (2021) uses multiple regression analysis to explore the influencing factors of nursing students' learning ability[12]. Trung (2021) established a MapReduce model based on Bayes classification algorithm to predict the learning ability of middle school students[32]. Ma (2021) used exploratory factor analysis and confirmatory factor analysis to study learning ability. Few researchers use quantitative analysis to discuss learning ability[2], while Wang and Wan (2022) use qualitative research method based on grounded theory to discuss the influencing factors of autonomous learning ability of higher vocational students. In the existing research, few scholars use the method of combining qualitative research

with quantitative research to study learning ability[6].

4.2.2. Population Gap

The research objects on learning ability include primary education, secondary education and higher education, but the research on higher education is basically focused on ordinary higher education objects. For example, by searching China How Net with "students' learning ability" as the key word, 50,700 related studies can be found, of which 2,370 are related to higher education, while only 858 are related to higher vocational students (only 147 in the last five years), even more so in the epidemic era. As Ma (2021) pointed out in his research, the development speed and quality improvement of higher vocational colleges in China are out of line, and researchers pay insufficient attention to the individual learning ability of higher vocational college students. Therefore, under the background of post-epidemic period, in view of the problems existing in the learning ability of higher vocational students, it is very necessary and far-reaching to carry out the research on improving the learning ability of higher vocational students.

4.3. Research Limitations and Future Research Perspectives

4.3.1. Research Limitations

In this paper, the discussion on the learning ability of higher vocational students depends on the investigation of existing related research, and the information compiled may be different from the actual information obtained through questionnaire survey and interview to some extent. In addition, the searched existing literature was screened out, and the literature with low correlation was removed, which may lead to the incomplete literature data of the investigation. These can be further improved in future research.

4.3.2. Future Research Perspectives

In the post-epidemic period, the improvement of higher vocational students' learning ability is the key to improve the quality of talent training in higher vocational colleges. The author believes that the future research on this topic should focus on the following points. First, we can try to combine quantitative research and qualitative research in research methods, which complement each other and make the research results more effective; Secondly, the study of students' learning ability in higher vocational colleges from more angles means that theoretical research keeps pace with the rapid development of higher vocational education in China. Thirdly, the research on the improvement of students' learning ability strategies in higher vocational colleges should pay more attention to implementation and popularization.

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