Cultivation Strategy of Higher Vocational Students' Autonomous Learning Ability under the Background of "Internet +"

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Abstract. Autonomous learning ability is an essential ability for outstanding talents. The future society under the background of the "Internet +" is a learning society that requires everyone to have the ability to learn autonomously. The learning status, career development, and social environment of higher vocational students require them to have a certain degree of autonomous learning ability. In the process of education, emphasis should be placed on cultivating students' autonomous learning ability, enabling them to develop good learning habits, master correct learning methods, and improve effective learning efficiency. All of these will promote students to autonomous learning, active learning, and exploring Learning. The research team applied the learning theories of humanism and constructivism, as well as social cognitive theory, to systematically explore three guiding strategies for higher vocational students to autonomous learning, including updating the concept of autonomous learning for students and educators, stimulating students' motivation for autonomous learning, and creating a good environment for college students to autonomous learning, enhance students' ability to use internet resources and platforms correctly for autonomous learning.

Keywords: Higher vocational students; Autonomous learning ability; Cultivation strategy.

1. Introduction

The application of the Internet is profoundly changing the habits and ways of learning, working, and living. In the process of digital transformation, the Internet has driven the rapid development of society and reconstructed a new social structure in the era of the Internet. "Internet +" means "Internet + all traditional industries", using information and communication technology and Internet platform, the Internet and traditional industries will be deeply integrated to create new development ecology. In the field of education, "Internet + education" refers to a new form of education formed by the deep integration of Internet information technology and education. This new form of education is conducive to improving students' ability to learn and communicate online, helping them gain knowledge and broaden their horizons. It can also more effectively stimulate students' thirst for knowledge and curiosity, and cultivate good behavioral habits of independent thinking, autonomous learning learning, and courage to explore. Autonomous learning refers to using students as the main body of learning, and achieving learning goals through independent analysis, exploration, practice, questioning, creation, and other methods. It is a modern learning method that corresponds to traditional receptive learning.

Under the background of "Internet +", students' learning has the characteristics of digitalization and diversification of learning resources, personalization of learning patterns, autonomy of learning time, etc., which determines that students' learning style should change from "passive learning" to "autonomous learning", so that they can quickly adapt to the lifestyle of the information society and constantly improve themselves in the future work. The research team fully understands the current situation of autonomous learning of higher vocational students through investigation, and puts forward feasible opinions and suggestions for the problems of autonomous learning of higher vocational students in the "Internet +" era to meet the needs of the development of the times and

provide theoretical support for improving the autonomous learning ability of higher vocational students.

2. Questionnaire Survey and Results

The research team conducted a questionnaire survey on the understanding of internet resources among higher vocational students, the frequency of higher vocational students using internet resources for autonomous learning, the adaptability of higher vocational students to autonomous learning, the current situation of online learning among higher vocational students, and the effectiveness of autonomous learning among higher vocational students under the internet. The results are shown in Tables 1-5.

Table 1. The level of understanding of online resources among higher vocational students

Familiarity	Basic Understanding	No
45.80%	51.00%	3.20%

Table 2. Frequency of higher vocational students utilizing online resources for autonomous learning

Frequently	Occasionally	Never
52.50%	40.10%	7.40%

Table 3. Higher vocational students' adaptability of autonomous learning

Fully	Commonly	No
27.50%	30.00%	42.50%

Table 4. Current situation of online learning for higher vocational students

Within 1 hour	1-2 hours	2-4 hours	Over 4 hours
6.50%	39.20%	30.50%	23.80%

Table 5. The effect of autonomous learning for higher vocational students

Rich and convenient learning resources	Convenient learning time and space	not in-depth reading	Lack of rigorous thinking	Knowledge fragmentation
60.7%	43.7%	23.7%	23.5%	40.2%

3. Research Theory on Strategies for Cultivating Autonomous Learning Abilities

The research team applies humanistic and constructivist learning theories to explore strategies for cultivating autonomous learning abilities. Using humanistic learning theory to discuss how to create a favorable environment for learners, allowing them to perceive the world from their own perspective, develop the understanding of the world, and achieve the realm of self realization. Using constructivist learning theory to study the meaning of learning (i.e. "what is learning") and the methods of learning (i.e. "how to learn"), in order to explain the occurrence of learning, the construction of meaning, the formation of concepts, and the ideal learning environment factors. Based on the team's previous research and investigation results, the research team systematically explore three guiding strategies for higher vocational students to autonomous learning, including updating the concept of autonomous learning for students and educators, stimulating students' motivation for autonomous learning, and creating a good environment for college students to autonomous learning. enhance students' ability to use internet resources and platforms correctly for autonomous learning.

4. Update the Concept of Autonomous Learning for Students and Educators

The current internet technology has made an undeniable impact on the education environment and system. The channels for education to obtain learning resources under the Internet have been expanded, but at the same time, it has also brought unavoidable problems. There are significant differences between the education dissemination environment under the Internet and the traditional education environment. Therefore, to learn effectively under the background of "Internet + education", it is necessary to first require students and educators to update their concept of autonomous learning.

4.1 The Concept of Cultivating Students' Lifelong Autonomous Learning

The concept of cultivating lifelong autonomous learning in students means that in the learning process, the students not only should demand themselves with a sense of ownership, but also always approach learning with a positive and proactive attitude, inspiring them to have a strong desire and pursuit of knowledge deep in their hearts. Cultivating students' concept of autonomous learning requires them to be good at cooperating with teachers to carry out efficient autonomous learning.

Enhancing awareness of autonomous learning is a prerequisite for effective autonomous learning. Higher vocational students should clearly understand that first of all, they need to establish a sense of autonomous learning to stand out in the fierce social competition, and constantly self motivate and encourage themselves during the learning process, maintaining firm confidence in themselves, in order to effectively overcome the difficulties encountered in learning. Secondly, higher vocational students should refine and decompose their learning objectives layer by layer during the process of autonomous learning, and formulate a detailed learning plan, which should be presented in written form in order to urge themselves to better carry out autonomous learning according to the predetermined plan.

4.2 Update the Teacher's Educational Philosophy of Autonomous Learning

In teaching activities, it is better for teachers to impart methods of learning knowledge to students than to impart knowledge to students, so that they can benefit for a lifetime. Updating the educational philosophy of autonomous learning for teachers is an effective way to improve the efficiency of autonomous learning for college students. Therefore, teachers must transform the traditional thinking of textbook as the foundation and teachers as the center in order to truly adhere to the educational goal of comprehensive development of students.

In the era of the Internet, teachers are not only the authority of knowledge, but also play the role of guides for students. Teachers should adapt to this role positioning and effectively guide college students in autonomous learning. The modern information society requires education to cultivate students into independent, autonomous, and efficient learners.Therefore, teachers should change traditional educational concepts, truly take students as the main body in teaching, pay attention to the cultivation of their independent thinking and autonomous learning abilities, so that college students can truly become the masters of learning in interactive exploration, and further help students establish a belief in autonomous learning.

4.3 Establishing the Educational Philosophy of Lifelong Learning in Schools

The ultimate goal of learning is application. When most students leave campus and move towards real social situations, the knowledge system in their minds cannot be flexibly applied to practical operations. When the knowledge subject is detached from practical needs, learners often appear at a loss and their ability to learn independently in social practice is often not recognized. When students enter society and constantly face new challenges, the ability of autonomous learning becomes very important for individuals. Individuals need to have strong autonomous learning

ability to absorb advanced concepts and knowledge, and continuously engage in autonomous learning to meet the high standardization requirements of society for individuals.

5. Stimulating the Motivation of Higher Vocational Students for Autonomous Learning

The motivation for autonomous learning among college students comes from their interest in learning, which can guide them to explore and take action. In the traditional learning process, the dominant position of teachers is extremely evident, resulting in the suppression of students' awareness of autonomous learning and the inability to stimulate their intrinsic interest in autonomous learning. Carrying out autonomous learning under the Internet requires effective guidance from teachers to enhance student subjectivity. This requires teachers to take students as the main body, transform the traditional exam oriented education model, and continuously stimulate students' intrinsic autonomous learning motivation.

5.1 Clarify Learning Objectives and Correct Learning Motivation

Correct learning motivation and clear learning goals can not only help students create a positive learning attitude, but also improve the effectiveness of autonomous learning. Strengthening the motivation of students towards internal goals can not only stabilize their learning motivation, but also promote active action towards their own learning process. During the learning process, college students should pay attention to expanding their avenues of autonomous learning, familiarize themselves with various methods, effectively screen target resources, actively communicate and interact with teachers and classmates, and fully utilize internet resources to better serve autonomous learning. In the current era of information explosion, obtaining knowledge in the ocean of information is an urgent learning need for contemporary college students. Therefore, clarifying learning goals and correcting learning motivation are the foundation for carrying out effective autonomous learning activities.

5.2 Stimulating Learning Interest and Improving Incentive Mechanisms

Teachers play a leading role in the teaching process and need to constantly stimulate students' interest in learning, cultivate their active exploration, and achieve self innovation as the goal. Secondly, teachers should provide purposeful education to help students clarify their learning goals and better stimulate their intrinsic learning motivation. Purposeful education refers to helping students understand why they need to learn, closely integrating their current learning with future work and social needs, and making students aware of the significance of autonomous learning. To achieve the expected effect of autonomous learning, teachers should consider individual differences among students when selecting educational content and methods, and make every effort to balance their individual differences, so that all students can achieve comprehensive development. Therefore, the research team believes that teachers should timely stimulate students' intrinsic interest in autonomous learning, continuously implement incentive mechanisms to encourage them, further clarify the significance of autonomous learning, and truly become active autonomous learners.

6. Creating a Favorable Environment for Autonomous Learning among Higher Vocational Students

Vocational colleges should provide an environment for independent learning for higher vocational students, including venues, facilities, materials, and other aspects. Encouraging students to seek guidance from teachers not only helps stimulate the motivation of higher vocational students to learn autonomously, but also helps higher vocational students gain more things that cannot be learned in the classroom. In addition, each vocational college should develop and utilize online

resources to build a strategic platform for higher vocational students to engage in autonomous learning efficiently.

6.1 Developing Online Resources for Autonomous Learning of Higher Vocational Students

Currently, students are no longer just recipients of information, but also need to know how to screen, obtain, process and disseminate effective information. Therefore, it is necessary to fully develop online learning resources in order to more effectively carry out autonomous learning, and higher vocational students can better identify effective learning resources if they have good information literacy. Information literacy is an important aspect of cultivating the autonomous learning ability of contemporary college students, and it is also an essential ability in educational communication. Therefore, in order to quickly and effectively access online autonomous learning resources, it is necessary to cultivate the information literacy of higher vocational students themselves.

6.1.1 Cultivate students' information acquisition ability

Students should effectively collect and screen learning materials and related information according to their own needs, and learn to use the obtained information resources for autonomous learning. Teachers should focus on cultivating students' habits of thinking exploration and information acquisition abilities, and enable them to establish good learning qualities in applying knowledge and disseminating information.

6.1.2 Cultivate students' information recognition ability

Information is the driving force of the economy and society, playing a significant role in the process of economic growth. Information dissemination activities are essentially a process of information exchange, and information recognition awareness is students' preliminary understanding and exploration of the status, value, function, and role of information in dissemination. The strength of information recognition awareness will directly affect students' ability to utilize information. The stronger students' awareness of information recognition, the better they are at collecting effective information resources. To establish a good awareness of information recognition, it is necessary to advocate and cultivate students' independence, autonomous learning ability, and creativity in information activities, and to be good at evaluating information and its sources.

6.1.3 Cultivate students' information processing ability

Students collect information and accurately summarize the required information, ultimately integrating it into their own knowledge. Faced with a diverse ocean of information, it requires students to have a correct outlook on life, values, strong ability to discern information, and self-regulation, consciously abide by relevant laws and regulations, and resist the invasion of harmful information.

To cultivate students' information processing abilities, the vocational colleges can adopt the following four approaches to carry out their work. Firstly, Systematic information literacy education. The vocational colleges can regard information literacy education as a discipline, develop corresponding curriculum systems, and teach students how to acquire, evaluate, and apply information methods and skills. Secondly. guide students to conduct information retrieval. To cultivate students' ability to access information, The college libraries should be equipped with abundant books and resources, and use modern information technology to guide students in information retrieval and use. Thirdly, organize information exchange and sharing activities. The college regularly organizes information exchange and sharing activities in a planned manner, allowing students to continuously improve their information processing abilities through interaction with others. Finally, cultivate critical thinking. Cultivate students' ability to analyze and judge, guide them to think dialectically and objectively about information, and avoid blindly following and believing.

6.2 Strengthen the management and supervision of online learning resources

Autonomous learning is gradually being recognized and accepted by students, but the development speed of autonomous learning resources does not match it. At present, there are various shortcomings in the overall construction of online learning resources and the internal construction of online learning resources in the vocational colleges. For example, most students face an overwhelming ocean of information and are unable to effectively access learning resources, indicating insufficient supervision and weak implementation of online learning resource management.

The improvement of the quality of online learning resources requires a process, and the design of online resources should be based on the course objectives, according to the characteristics of learners, targeting the learning objectives, utilizing various specific technical functions, and leveraging the advantages of online learning resources. These new network resources require the joint efforts of various theoretical experts and technical personnel, not only requiring investment in manpower and material resources, but also a certain construction period. In addition, resource providers can collaborate with schools to develop unique and excellent learning resources, effectively addressing the personalized needs of students. Help students solve more practical problems, standardize equipment types, and improve the reuse rate of learning resources, so that students can more conveniently and efficiently find the new media autonomous learning resources they need.

6.3 Create an environment for autonomous learning among higher vocational students

Establishing a daily management system that adapts to autonomous learning is one of the essential conditions for a good autonomous learning environment. In addition, vocational colleges should actively promote school enterprise cooperation and provide more on-the-job internship opportunities for higher vocational students. Through on-the-job internships, college students can enhance their understanding of the real society, experience the hardships and setbacks in work, increase their resilience in the face of setbacks, enhance their learning motivation, and strive to solve the problem of insufficient initiative and persistence in the process of autonomous learning. At the same time, it is conducive to the career planning of higher vocational students, making their learning goals more accurate and autonomous learning more efficient. Under the background of "Internet +", it is very necessary for higher vocational colleges to set up autonomous learning guidance courses, establish relevant consulting service organizations, and provide timely guidance for autonomous learning of higher vocational students. Higher vocational students lack objective understanding of information resources, and through course guidance, they can point out the correct direction for their autonomous learning. Various forms of lectures can also be held to enable successful professionals in the workplace to timely convey key information to college students, helping them develop autonomous learning plans and clarify the content of autonomous learning. Introducing a combined evaluation mechanism in teaching, optimizing the current single evaluation criteria, and maximizing the motivation of autonomous learning to students. In addition, in the process of autonomous learning, in order to better enhance the autonomous learning ability of higher vocational students, excellent autonomous learning role models should be established. By conducting selection activities for excellent autonomous learning role models, students should be encouraged to continuously move towards their goals through autonomous learning.

7. Summary

At present, under the background of "Internet +", how to cultivate and improve the autonomous learning ability of higher vocational students is the focus of current education. It requires the cooperation of society, schools, teachers and students to improve the autonomous learning ability. Based on the survey results and referring to existing achievements in this research field, the

research team systematically explored three guiding strategies for higher vocational students to engage in autonomous learning, including updating the concepts of autonomous learning among students and educators, stimulating their motivation for autonomous learning, and creating a favorable environment for autonomous learning among college students. These strategies will help enhance students' ability to use internet resources and platforms correctly for autonomous learning.

References

[1] Keamy, K., Nicholas,H., Mahar,S.,&Herrick,C.. Personalising education: From research to policy and practice[C]. Melbourne: Office for Education Policy and Innovation, Department of Education and Early Childhood Development. July 2007.

[2] Garrison D R , Kanuka H.(2004) .Blended learning: Uncovering its transformative potential in higher education[J]. The Internet and Higher Education, 2004(2).

[3] ZIMMERMAN BJ. Becoming a Self-regulated Learner: Which Are the Key Subprocesses ? [J]. Contemporary Educational Psychology,2002,(11):307-313.

[4] Aleksandra Stalmach, Paola D'Elia, Sergio Di Sano, Gino Casale. Digital Learning and Self-Regulation in Students with Special Educational Needs: A Systematic Review of Current Research and Future Directions[J]. Education Sciences, 2023,13(10).

[5] Göransson, K.; Nilholm, C. Conceptual diversities and empirical shortcomings—A critical analysis of research on inclusiveeducation [J]. Eur. J. Spec. Needs Educ. 2014(29): 265–280.

[6] Nilholm, C. Research about inclusive education in 2020—How can we improve our theories in order to change practice? [J]. Eur. J.Spec. Needs Educ. 2021(36): 358–370.

[7] Effat Alvi, Robyn M. Gillies Social interactions that support students' self-regulated learning: A case study of one teacher's experiences [J]. International Journal of Educational Research. 2015,72: 14-25.

[8] Pilar Alonso-Martín, Rocío Cruz-Díaz, Carmen Granado-Alcón, Rocío Lago-Urbano, Variability of Higher Education Students' Learning Styles Depending on Gender, Course, Degree and Institutional Context [J]. Sustainability, MDPI, 2021,13(4):1-18.

[9] Denise Tolhurst. The influence of learning environments on students' epistemological beliefs and learning outcomes [J]. Teaching in Higher Education, 2007,12(2):219-233.

[10] L. Cadorin, A. Rei, A. Dante, T. Bulfone, G. Viera, A. Palese. Enhancing self-directed learning among Italian nursing students: A pre- and post-intervention study [J]. Nurse Education Today, 2015,35(6):746-753.

[11] Daphne Loads. Effective Learning Advisers' perceptions of their role in supporting lifelong learning [J]. Teaching in Higher Education, 2007,12(2):235-245.