

# Research on Influence Factors and Driving Strategies of Online Autonomous Learning

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**Abstract:** *Online autonomous learning is becoming a new way of learning. Based on the understanding of the main characteristics of online autonomous learning, the author analyze the main influence factors of online autonomous from the aspects of cognition and internal driving force, behavior and strategy selection, environment and resource utilization, etc., and explore the driving strategies of online autonomous learning in stimulating learners' learning motivation, optimizing learning strategies, and creating a high-quality online learning environment, which will help improve learners' online autonomous learning capabilities.*

**Keywords:** Online learning, Autonomous learning, Online autonomous learning.

## 1. Introduction

With the continuous development of information technology, online courses such as MOOC, SPOC, and E-learning are becoming important teaching content, and online learning has also become a new way of learning. In online learning, learners can cross the distance of time and space and quickly enter the learning state. They can also use massive network resources to continuously enrich the learning content and make reasonable learning plans according to individual learning needs. Because of its openness, flexibility, efficiency, richness and individuality, online learning is more and more popular among learners. In the process of online learning, autonomous learning is an important learning link and method, and an important factor that determines the effect of online learning. Therefore, fully understanding the influence factors of Online autonomous learning and cultivating learners' Online autonomous learning capabilities are important goals for improving the quality of online learning.

## 2. Main Characteristics of Online Autonomous Learning

In the study of autonomous learning, Skinner emphasizes the autonomous learning behavior based on self-monitoring, guidance and reinforcement of external rewards and punishments; Bandura emphasizes the interaction of individual, behavior and environment based on social cognition and autonomous learning; Flavell believes that autonomous learning is a process of students' metacognitive monitoring of learning, and also a process of actively adjusting learning strategies according to their learning ability and tasks[1].

Scholars' discussion on autonomous learning emphasized the learner's metacognition, goal setting, strategy selection, environment creation, self-evaluation and monitoring implementation, which affect the implementation effect of autonomous learning and also determine the quality of autonomous learning. In the process of Online autonomous learning, not only has the characteristics of traditional autonomous learning, but also has the characteristics of network environment, mainly manifested in three aspects: First, the learner's self-awareness comes from the information

exchange between the subjective self and the objective self in the virtual environment. In Online autonomous learning, the continuous exchange information between the subjective self and the objective self in the virtual environment makes the learner's self-awareness constantly updated, thereby constantly clarifying and adjusting the learning goals and directions. Second, learner evaluation mainly relies on feedback from quantitative assessment. In the process of Online autonomous learning, because of the remoteness of the online teaching organization, the dispersion of teaching time and space, the implementation of learners' evaluation mainly relies on the quantitative indicators in the network environment and provide information feedback by information technology, so as to help learners adjust learning behaviors and make strategic choices. Third, the learner's learning is based on the good conditions of the Internet. The learner's requirement of the good conditions of the Internet is the psychological and material basis for effective learning. The implementation process of network autonomous learning originated from the learners' full recognition of the network environment, which is the basis for learners to clarify the boundaries and expectations of online self-learning and implement effective learning.

## 3. Influence Factors of Online Autonomous Learning

The influence factors of Online autonomous learning are mainly analyzed from three aspects: learners' cognition and internal driving force, behavior and strategy selection, learning environment and resource utilization.

### 3.1 Cognition and Internal Driving Force of Online Autonomous Learning

The cognition and internal driving force of Online autonomous learning is a process in which learners' self-cognition is constantly updated and learning goals are continuously adjusted and optimized, thereby continuously driving learning behavior. In the process of continuous interactive development of self-cognition and internal driving force, we should pay attention to the three aspects influence on Online autonomous learning. First, pay attention to the impact of learners' sense of self-efficacy in the network

environment. Self-efficacy is the learner's judgment on whether they can complete the task of e-learning and the performance of self-confidence in learning. In the network environment, the uncertainty of the virtual world and the unfamiliarity of learning content and form are important reasons that affect the sense of self-efficacy. Second, pay attention to the impact of self-awareness on learning goal setting in the network environment. The exchange of information between the subjective self and the objective self is a way to realize the continuous renewal of self-awareness. The ambiguity of the network virtual environment on the cognition of the objective self is an important factor that affects the renewal of self-cognition, which leads to deviations in setting learning goals. Third, pay attention to the influence of learner's emotions on learning driving force in the network environment. In the human-computer environment and virtual environment of the network, the anxiety generated by the learner is not easy to be found, and also difficult to be solved, which will seriously affect the enthusiasm and initiative of the learner.

### **3.2 Behavior and Strategy Selection of Online Autonomous Learning**

The behavior and strategy selection in Online autonomous learning is a process in which learners re-judge the learning goals, plans and task completion based on self-observation, thereby adjusting and choosing learning methods and strategies. In the process of behavior and strategy selection, we should pay attention to three aspects: First, learners influence the continuity of learning tasks through self-observation. The learner's self-observation is divided into two types of behaviors: phase observation and real-time monitoring. Learner's self-observation is the self-monitoring of the completion of learning goals, which affects learners' learning confidence, learning motivation, learning continuity and other aspects, and is an important factor influencing the continuous advancement of learners' learning behavior. Second, learners influence autonomous learning expectations through self-judgment. Learners usually obtain the evaluation basis of self-judgment from both subjective and objective aspects. Learner self-judgment is a measurement of expected goals, plans and task completion, and is an important factor that affects learning confidence and further stimulates learning potential. Third, learners influence learning willingness and tendency through the choice of learning methods and strategies. Learning methods and strategy choices are divided into positive and negative choices, which are the symptoms of learners' intrinsic motivation and driving force, and are the behavioral manifestations that affect learning intentions and tendencies.

### **3.3 Environment and Resource Utilization of Online Autonomous Learning**

The utilization of Online autonomous learning environment and resources is a process in which learners obtain autonomous learning ability enhancement and individual development through continuous interaction with external environment information and at the same time relying on the construction of internal environment. In the process of Online autonomous learning, there are two main effects: On the one hand, the preparation of network equipment and physical

environment will affect the smooth progress of the learning plan. The learner's transition from traditional classroom learning to online learning is an adaptation process from a real environment to a virtual learning environment. This process includes the primary requirement for normal use of network equipment and physical environment, the requirement of fully demonstrating course content and realizing teaching growth and solving teaching problems for teachers and students by network equipment and physical environment, especially the requirement of giving full play to the collaborative function of teaching and cultivating students from the perspective on student's growth. Therefore, whether the network equipment and physical environment can well be prepared will have an important impact on the smooth progress of the learning plan. On the other hand, the creation of the network society and virtual environment will affect the improvement of learners' autonomous learning ability. Online autonomous learning is the learners adapting process from real psychology to network psychology, from real society to network society. In this process, the learner is not only an independent learner, but also requires the conditions to improve the ability of acquiring external information and skills provided by the network society.

Zimmerman divides the process of improving the quality of autonomous learning into four levels: observation level, imitation level, self-control level and autonomy level[2]. Therefore, whether the creation of the network society and virtual environment can fully meet the needs of learners will have an important impact on the improvement of learners' Online autonomous learning ability.

## **4. Driving Strategies of Online Autonomous Learning**

In the process of Online autonomous learning, we should fully stimulate learners' learning motivation, optimize learning strategies, and create high-quality online learning environment, so as to continuously improve learners' Online autonomous learning capabilities.

### **4.1 Stimulate Learners' Learning Motivation**

In the process of Online autonomous learning, the accomplishment of learning goal, the stimulation of learning emotion and sense of self-efficacy are important factors that affect learning motivation, and we need to pay attention to the following four aspects: First, it is necessary to guide learners to set reasonable phased goal of Online autonomous learning. Learners set reasonable phased goal according to the curriculum objectives and learners' own knowledge and ability, which is an important prerequisite for orderly organization to promote Online autonomous learning and gain learning confidence. Second, it is necessary to adjust learner's learning mood in time. In the organization process of Online autonomous learning, it is not only necessary to provide necessary learning resources, but also to take measures to understand the situation of learning and obtain feedback on learning emotions in accordance with the objective conditions of the online teaching environment. Positive learning attitude and appropriate learning-driven stress are effective ways to motivate learning and avoid learning anxiety. Third, it is necessary to provide timely scientific feedback on learners'

knowledge acquisition. Getting information of knowledge acquisition is an important means for learners to improve their self-cognition, realize the coordination of the subjective self and objective self-cognition, and further enhance their sense of self-efficacy. So, in the process of stimulating learners' learning motivation, strategy implementation should be considered the setting of learning goals, the mobilization of learners' emotions, the reasonable adjustment of learning driving force, knowledge acquisition and feedback on the completion of learning goals, etc., so as to continuously stimulate learners' learning motivation and promote the continuous improvement of network independent learning ability.

#### 4.2 Optimize Learner Learning Strategies

Learners choose learning strategies through self-observation and judgment of learning behavior, and the choice of learning strategies is not only a sign of learning willingness and tendency, but also an important influence factor of learning effects in the next stage. How to optimize learners' choice of learning strategies? We can consider in three ways: First, guide learners to understand the learning strategies of Online autonomous learning. Online autonomous learning is unique in teaching environment, teaching methods, evaluation feedback, management mechanism, etc. It also has different learning strategy selection mechanisms for different learning groups, learning content and learning goals. Therefore, full understanding of autonomous learning strategies is a necessary prerequisite for further preparation and optimization of the learning process. Second, guide learners to systematically build a learning strategy module system. Learning strategies are not implemented in a single way, nor are they used in mechanical patterns. Learning strategies are based on the learners' needs, and the modular system is formed through a variety of strategy sets in a Pareto optimal combination. It is only through continuous optimization, rather than a single implementation or stacking of learning strategies, that Online autonomous learning strategies become more scientific and effective. Therefore, it is very important to guide learners to build learning strategies that meet their own development needs in the network environment. Third, enable learners to implement learning strategies scientifically and effectively. On the one hand, it is necessary to help learners to know when and where to use which learning strategy is more effective. This is the practice link of learning strategy, but also the process of continuous blending of strategic knowledge and practical experience. On the other hand, it is necessary to let the learners to know that the implementation effect of the learning strategy is also related to the learner's effort. After setting up scientific and reasonable learning plan goals and optimizing learning strategies, learners also need to carry out self-supervision and management, and make active learning follow-up arrangements through the task completion measurement and feedback mechanism to promote the continuous development of Online autonomous learning.

#### 4.3 Create High-quality Online Learning Environment

The creation of high-quality Online autonomous learning environment is the process of resource optimization under the coordination between the physical environment of network equipment and the virtual environment of network society,

which is prepared from three aspects: First, establish physical environment of network equipment that meets the needs of Online autonomous learning. Under the background of Online autonomous learning, the characteristics of the dispersion of learner's time and space, the discreteness of learning goal and content and the indirectness of teaching organization management, which make requests for information technology in the design of teaching objectives, the allocation of teaching resources, and the organization and management of teaching activities for Online autonomous learning. The construction of the network equipment environment not only needs to think about information technology, but also needs to start from the educational theory and educational rules, combine with the needs of education and student development to create a scientific and reasonable network equipment of material environment. Second, create a community environment for Online autonomous learning learners. The process of Online autonomous learning is the process of learner's mental maturity and moral growth, which involves not only the learning indicators that can be quantified and monitored in memory and technology in real time, but also the learned content with hidden and lagging performance characteristics at the level of ideology and morality and thinking mode. Only in the Online autonomous learning environment, actively build the network community environment that conforms to the real social values, knowledge system and codes of conduct, establish the mechanism and object of evaluation feedback that is easy for learners to observe and imitate, so as to achieve the improvement of the level of learning autonomy based on the learner's self-control. Third, improve the coordination between the construction of the network physical environment and social environment, and improve the efficiency of resource allocation. The creation process of high-quality online learning environment is the process of the integration and development of information technology and educational teaching theory. The construction of the network physics environment is the foundation and condition for serving the development of educational theories and laws and the benefit orientation of resource allocation is to provide necessary support for the development of educational theories and laws. Therefore, in the process of creating a high-quality network learning environment, whether it can meet the requirements of the development of education and teaching theories and laws for educational and teaching activities, and whether it can provide the necessary basis and condition guarantee for educational and teaching activities are the important criterion to test whether the online learning environment is qualified.

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