

# 学习的力量

吴杨◎著

THE POWER OF  
LEARNING

从个体学习的角度出发  
探寻学习过程中的细节与奥秘

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## The Power of Learning

吴 杨 著

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## Preface

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Learning is the most common and important activity in life, and it has become a necessary means and way of life for the survival and development of modern people. In addition, as everyone must participate in social activities, learning is irreplaceable and it requires learners to do it by themselves. However, for most people, the true meaning of learning cannot be found from the beginning of babbling or from the process of entering a regular primary school. We can easily understand the meaning of “learning”, but the most of us cannot realize the life expectation and value pursuit behind the word “learning”. Many people who have already made achievements on the road of “learning” will also be puzzled and puzzled by the meaning of learning. The book “The Power of Learning” mainly explores the details and mysteries of the learning process from the perspective of individual learning.

The book consists of nine chapters. The chapter one: learning—the source of life. From the discussion of the learner’s self-value to the direction and motivation of learning, it is a deeper discussion and interpretation of “learning”. The chapter two: learning—consensus on education system. From the perspective of receiving education, the mission, direction and goal of education are explained by the concepts of love for learning, lifelong learning and learning to learn. The chapter three: learning—the attitude of individual life. As the complete subject of action under the concept of “learning”, the effectiveness of learning depends on the individual’s learning attitude in most cases. The chapter four: learning—the realization of self-cognition. In fact, the learning process is also a process of continuous self-cognition. Based on cognitive science, this chapter discusses various levels of fuzziness in cognition and thinking, so that readers can provide some important help in the process of acquiring learning rules. The chapter five: learning—ways of knowledge acquisition. There are various ways to acquire knowledge, but knowledge trans-

fer, transformation, sharing and precipitation are the main ones. This chapter describes the internal dynamic process of individual learning process from the goal of knowledge accumulation to the advanced process of knowledge acquisition to the introduction of action learning theory. The chapter six: learning—transition of knowledge system. Knowledge system is not a simple static atlas, but a dynamic process that is constantly moving. The internal change process of knowledge system is the continuous change and turbulence of knowledge. The chapter seven: learning—opportunities for organizational development. An organization is a gathering of individuals in a certain sense. A successful organization must be able to continuously learn and create new knowledge, effectively disseminate knowledge within the organization, and combine knowledge with technology, products and services. The chapter eight: learning—the evolution in the age of intelligence. This chapter mainly introduces how “learning” will change in the intelligent era, how to become an excellent learner in the intelligent era, and how learners adapt to the rapidly changing intelligent era. The chapter nine: learning—life time goals and beliefs. When learning is regarded as a belief, learning will be regarded as a mission, a habit and a self-driving force, making learning more enjoyable and meaningful. Through these nine chapters, readers can have a better understanding of “learning”, thus learning to learn and promoting the cultivation of lifelong learning consciousness.

Learning is a basic innate ability for human beings and even the whole animal kingdom. The learning ability of animals is influenced to some extent by genetic information in animals. Different animals have different learning abilities. The lower the animals are, the worse their learning abilities are. Only after more than 200 attempts and mistakes can an earthworm learn to climb directly into a humid darkroom, while the mouse in a complex maze can learn much faster. For different kinds of animals, even if the learning conditions are the same, the learning speed will be different, because learning behavior will also be affected by genetic factors. Learning behavior is formed in order to adapt to the living environment. The more learning behaviors, the stronger adaptability.

Bacon, an English philosopher, once said, “Knowledge is power.” Learning not only broadens one’s horizon, cultivates one’s logical thinking ability, and form the habit of seeing things and dealing with problems from multiple perspectives. Similarly, people can also establish the correct values, outlook on life and world outlook through continuous learning. In the constantly evolving information age, with the rise of machine learning and

artificial intelligence , we need to arm ourselves through learning , constantly use new tools and adopt more novel and effective methods to speed up our learning progress. Learning is a matter of infinite benefits , the source of life force and a perpetual motivation for success. We should realize the importance of learning and establish the concept of lifelong learning.

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# Learning: The Source of Life

As one of the English philosophers, Francis Bacon once said ( Figure 1-1 ), “Knowledge is power.” Learning is the most common and important activity in life. It has become the necessary means and way of life for the survival and development of modern people. In addition, as a social activity that everyone must participate in, learning is irreplaceable and requires learners to do it by themselves. Not only can we broaden our horizon, but also develop the ability of logical thinking and develop the habit of treating things and dealing with problems from the different perspectives through learning. What’s more, it can help us establish the correct values, outlook on life and world outlook. Especially in

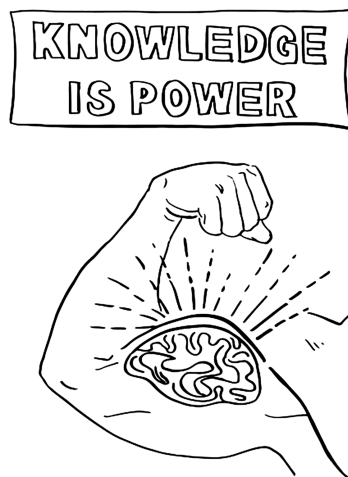


Figure 1-1 Knowledge is power

the information age, with the development of machine learning and artificial intelligence, we need to arm ourselves through learning, enrich our wings with knowledge, and make ourselves more powerful. The learning is a rewarding thing. It is the source of life, the driving force of progress, and the cornerstone of success. Therefore, we should not only realize the importance of learning and establish the concept of lifelong learning, but also understand the method of learning and the path of learning. This chapter is based on the logical framework of what learning is, why and how to learn.

## 1.1 Self-value of the learner

### 1.1.1 To know what is learning

What is learning? Defining the concept of learning is the primary problem to generate learning motivation, determine learning methods, and define learning goals and directions. However, there is no unified view on the concept of learning. In ancient China, learning is usually discussed separately as two concepts, namely “xue” and “xi”. The so-called “xue” refers to the acquisition of knowledge and skills, while “xi” refers to the review. Although through the historical evolution and cultural development, the concept of learning has always been within the scope of knowledge acquired by reading books. Andre Giordan, a French scholar, believes that learning is a complicated process involving many different factors; learning is a paradoxical phenomenon, learners must abandon their previous thinking patterns in the most cases. <sup>①</sup>Jianming Yao professor argues that learning is an art, and a matter for human beings to be happy. At the same time, it is a kind of instinct, a means of survival and adaptation to the environment, and the bridge or link for the continuation and development of civilization. <sup>②</sup>

Learning is a social activity that everyone must participate in and an indispensable condition for survival and development. Whether we are humans or animals, we need to learn to change ourselves and adapt to the environment in order to obtain superior living conditions. Therefore, we can understand the connotation of learning from the following aspects.

First of all, learning is a broad field, and its essence is “learning for practical

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①安德里·焦尔当. 学习的本质 [M]. 上海: 华东师范大学出版社, 2013.

②姚建明. 开启你自己的学习模式 [M]. 北京: 清华大学出版社, 2015.

use” . The learning, as a complete process, is a process from the unknown to the known, from knowledge to action and from recognition to practice, which is also a process of change in learning behavior. In terms of content, the field of learning is very wide, including not only from the books to absorb knowledge, but also from the experience of others, which we usually call direct experience and indirect experience. In addition, it is more important to deal with the transformation between tacit knowledge and explicit knowledge, so as to apply theoretical knowledge to practical life and reflect the value of reading fully, which is to put what we have learned into practice.

Second, learning is a process of activity, resulting in new behavior patterns. Learning is a kind of activity process, that is, the flying of the germplasm from “I cannot” to “I can”, which is the most obvious feature of learning. Moreover, in the process of learning, learners must change their behaviors, knowledge and skills. For example, throughout our human development, our body, behavior, language and intelligence have changed from the crying baby to the self-made adult. And these changes cannot be separated from learning.

Third, the changes caused by learning are relatively permanent. Some of the changes we make from learning or experience are relatively permanent, not temporary. For the learner, any skill acquired through learning will be maintained steadily for a long time, and will usually be strengthened and consolidated with the increase of subject's practices times. Such as Birds' flying skills, that is, birds need to practice repeatedly to consolidate it.

Finally, learning is a process in which students acquire knowledge and skills in an organized, planned and purposeful manner during relatively concentrated periods under the guidance of teachers. ①This internalized learning, usually has a certain purpose, such as obtaining a degree, achieving employment, economic independence and development. In addition, students' access to knowledge is relatively narrow, generally through books and teachers' teaching. And learners regard systematically mastering the previous experience as the main task of, that is, less direct experience.

### 1. 1. 2 The purpose of learning

In the spring and autumn period, Chinese scholars have put forward that learning is the foundation of self-cultivation, family harmony, governance and world peace. However, modern people believe that learning is a pleasure, an enjoyment, a passion, a desire, a pursuit

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①乔炳臣. 学习原理与方法 [M]. 哈尔滨: 哈尔滨工业大学, 2004.

and a kind of adventure. But no matter what the purpose is, there is no doubt that learning has never meant control. Especially in the 21st century, the development speed of human and society has reached the level of “beyond the limit” . With the rise of machine learning and artificial intelligence, the world is in a state of constant change. At the same time, the huge information base brought by new technology also makes the source and reliability of some information questioned. Therefore, on the one hand, learners need to constantly improve ourselves by learning more. On the other hand, learners must develop a critical awareness to correctly distinguish the truth and falsity of things. Learning can not only enrich the learner’s individual, but also enrich the society. So, we can discuss the purpose of learning from the individual level as well as the social level.

### **(1) Learner personal level**

Learning can make learners improve their knowledge accumulation, acquire survival skills and realize their self-value. It is a kind of luck to have knowledge. People with knowledge can often simplify complex problems, and they cannot be deceived and used by the pseudo-experts. And they often analyze and judge based on their own knowledge accumulation or draw lessons from others’ experience. At the same time, the purpose of learning is to pursue a degree and cope with unemployment. Especially in today’s era of employment pressure increase, there is no doubt that record of formal schooling and diploma is more and more important in the realistic society. It has become almost a necessity to knock at the door of the job market, and the only way to improve education is to constantly learning, enrich their own brain bank, so as to realize the employment, and access to social recognition.

Learning can cultivate the cultivation and sentiment of learners. Because the formation of moral character and noble sentiment is the process of knowing, feeling, meaning and action, and learning is the basic way to cultivate moral character, because only through learning to lay a solid foundation for scientific and cultural knowledge, learners will pursue a new and higher moral realm. In addition, learners’ self-worth can be realized through learning. By learning can let learners individual go on the way to the future, to let them out of the familiar living environment, jump out of the comfort zone, break the routine, the pursuit to transcend, out of the self and realize self-renewal and detached itself, it is the learners of individuals to possess wealth, the purpose of their study is to enjoy and internalization, they regard learning as a pleasure, when in trouble, at the same time they can always adjust good mentality, and rely on themselves to set out, this is the charm of learning.

## (2) The society level

From the social perspective, the purpose of learning is mainly reflected in the fact that learning can continue the technological development of human beings and serve as a bridge for the continuation and development of human civilization. From a macro perspective, the purpose of learning is not only to learn scientific and cultural knowledge and inherit spiritual civilization, but also an important way to spread scientific, cultural and spiritual civilization, as well as an important lever to improve national quality, social productivity and material and spiritual civilization. The effect of learning activities on human society is particularly prominent in science and technology. Such as the 18th century marked by a steam engine technology revolution, in the 19th century marked by electricity technology revolution, the 20th century marked by electronic computer, atomic energy, space technology of the new technology revolution and the information into the landmark technological revolution of the 21st century, and so on, these breakthroughs and development of science and technology brought great changes to social life, Not only did it proved that learning provide the enormous promotion force for society, but also admitt learning plays an important role in the continuation of human civilization and progress. In a word, the social effect of learning is huge. Through learning we can obtain certain knowledge and skills, and these are exactly the strength of our survival and development in society. Therefore, learners with rich knowledge should take the prosperity and progress of society and the spread of human spiritual civilization as their sacred mission and value pursuit. As far as China is concerned, China is now the most populous country in the world. We must establish and practice the scientific development concept of building a learning society, transform a country with a large population into a country with a strong population, and then turn it into human capital, so as to enhance the country's innovation capacity and international competitiveness.

### 1. 1. 3 The process of learning

Learning is the long-term and continuous process, it includes both the basic process of learning and the development process of learning. The most important is that the two stages are interconnected, of which the former is the basic link and foundation of the latter, while the latter is the continuation and development of the former. In essence, the process of learning is to promote the harmonious development of learners' body and mind.

The basic process of learning is essentially a process of cognition, which follows the general law of the process of cognition, that is, it consists of two stages: from perceptual

cognition to rational cognition, and then from rational cognition to practice. As a matter of fact, this learning process has been reflected in the ancient learning thought in China. For example, Xunzi in the pre-qin period regarded learning as the activity process of “hearing, seeing, knowing and doing”. He believed that these four stages were indispensable in the process of learning in order to achieve the mastery of knowledge and the application of knowledge. Learning activities begin from perception, namely learners get information through direct or indirect way, and regard it as rich perceptual materials; then through image thinking or rational thinking, learners can process and deal with these materials, internalize them into a knowledge system that is easy to understand, absorb them, and finally understand the world better. This is the understanding process of learning, and also the first stage of the learning process. But the purpose of learning is not only to acquire knowledge, but also to express the thoughts and emotions in the mind, and to apply the knowledge learned to practice, so as to promote the solution of problems and change the world better. This is a process from understanding to practice, and also a process from subjective spirit to objective world. Compared with the basic process of learning, the development process of learning pays more attention to the development of learners’emotion, will and personality, and focuses on promoting the all-round development of learners.

#### 1. 1. 4 The subjectivity of learning

Learning is the most important activity in a person’s life. The most significant feature that distinguishes it from other activities is that learning has subjectivity, which is irreplaceable and requires learners to do it by themselves. In the whole learning process, the learner is the subject of learning, and knowledge is the object and object of learning. Namely, the learners obtain direct and indirect experience through practice and learning, then they increase knowledge and cultivate ability, and finally achieve the goal of harmonious development of body and mind. Generally speaking, the subjectivity of learning is the realization of two dynamic functions in learning cognition from objective to subjective and from subjective to objective. The subjectivity of learning is mainly reflected in the initiative, autonomy and consciousness shown by learners in the process of learning.

The initiative of learning subjects is mainly the formation and development of skills, abilities, creativity and logical thinking ability. Among which, skill is the way of learning, ability is the synthesis of high-level skills, creativity is the highest embodiment of ability, and thinking runs through the whole process from skill to ability to the formation and development of creativity. Two leaps in the process of human cognition are the embod-