Research on Inspiring the Learning Motivation of Online Vocational Skill Learners - Analysis based on variable ratio reinforcement theory

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Abstract

Based on the variable-ratio reinforcement in Skinner's reinforcement theory, this paper will study the characteristics of online non-degree vocational skills learners' learning motivation for online vocational education. Enterprises provide a theoretical basis for providing better services to learners.

Key words: Variable-Ratio Reinforcement , Vocational Skill, Learning Motivation

Introduction

Since 2016, the online vocational training industry has entered a period of rapid development under the joint promotion of related technologies, capital injection, and rising demand. However, behind the rapid development of the industry, many companies have neglected some of the characteristics of learners, resulting in not being able to serve learners well. Online vocational skills learners have a strong internal motivation in the early stages of learning, but under the influence of many factors, the learning motivation will slowly fade away. At this time, some external factors are needed to stimulate the learners' motivation.

Learning motivation and the classification

A. Concept of learning motivation

Learning motivation is a kind of motivation that drives and keeps the learning behavior of students and directs it toward particular goals. Different psychologists have been interpreting the learning motivation from different perspectives, including Reinforcement Theory, Attribution Theory, Hierarchy of Needs, Achievement Motivation Theory, Self-worth Theory, Self-efficacy Theory, etc. Based on the variable ratio reinforcement theory in Skinner's reinforcement theory, this paper studies the characteristics of learning motivation of online non-degree vocational skill learners.

B. Classification of learning motivation
1. Proximal Motivation and Distal Motivation

Proximal motivation relates directly to the learning activities, stemming from the interest of learning content or results. For example, students' thirst for knowledge, interest and hobby will affect their learning motivation. The impact of this kind of motivation is quite obvious, but it can be easily affected by the environment or some accidental factors.

Distal motivation associates with the social significance of learning and the personal future. For example, students' future planning, their favored career, ideal and faith, etc. Such learning motivation will last a relatively long time.

But there is no formal division between proximal motivation and distal motivation. They transform with each other in certain condition. Distal goals can be divided into a series of proximal goals. Proximal goals serve for distal goals and reflect the distal goals.
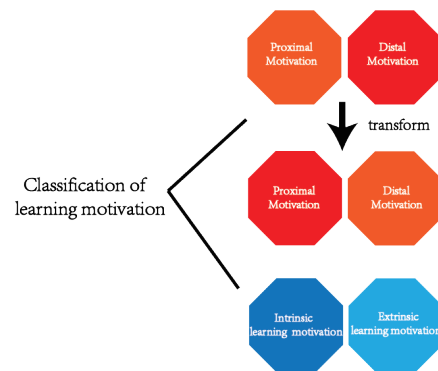

Fig. 1

2. Intrinsic learning motivation and extrinsic learning motivation

Intrinsic motivation, also known as intrinsic motivation effect, refers to the motivation that arises from the inner needs of an individual. For example, students' thirst for knowledge, interest in learning, desire to improve and enhance their abilities and other inner motivation factors will motivate students to learn actively.

Extrinsic motivation, also known as extrinsic motivation effect, refers to the individual motivation that results from the external incentives. For example, some students study hard in order to get rewards from their teachers or parents or avoid punishment from them as well. Their motivation to learn does not lie in the learning task itself, but beyond the learning activities.

Admittedly, the division between internal learning motivation and external one is not clear. Since learning motivation is about the inner psychological motivation that encourage people to engage in learning activities. Thus any external requirements and forces must be transformed into the inner needs of the individual, which can then become the

driving force of learning. Under the effect of external learning motivation, people's learning activities are more dependent on the sense of responsibility, obligation or the desire to get rewards and avoid punishment. Therefore, in this sense, the essence of external learning motivation is still an internal one. We attach more importance to inner learning motivation in education, but we can't ignore the role of external learning motivation..

The development of online vocational skill education and the learners' characteristics

According to the standard classification of international education published by UNESCO in 2011, it is believed that vocational education refers to the education courses designed mainly for learners to master the specific knowledge, skills and abilities required by a specific occupation or industry or a certain type of occupation or industry.

A. Online vocational education in China

Vocational education in China can be divided into degree vocational education and non-degree vocational education. Degree vocational education refers to the education including undergraduate, secondary school, college and so on within the national system. Non-degree vocational education covers a wide range, which can be categorized into examination qualification training, vocational skill training and company training, etc. Vocational education enjoys a broad market with a promising scale. According to the State Council's decision on accelerating the development of modern vocational education issued in 2014, the students in secondary vocational schools will reach 2.35 million in 2020, and students in college level will reach 14.8 million, and students in undergraduate level will reach a certain scale. Employees who continue their education will reach 350 million. The development of career education is vigorously being supported by the country.
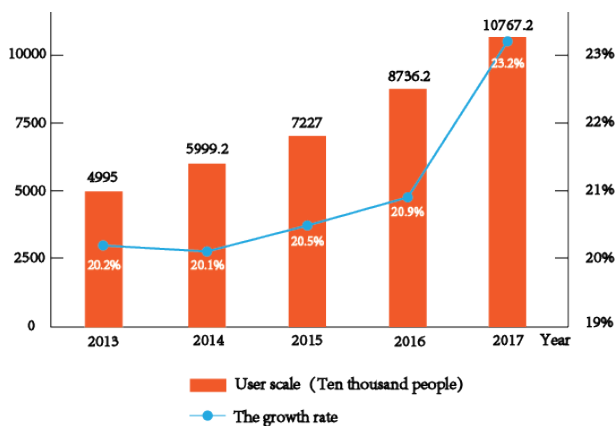

Fig. 2

B. Characteristics of online vocational skill learners

The majority of online vocational skill learners are adults, with nearly half of them under the age of 24. This is because people at this age stage have just entered the society from the campus, they need to find a job and have a high demand for vocational skills. That is why they have a strong motivation for independent learning and are willing to invest time and energy

in learning. In addition, there are some people who want to move to jobs with higher income, but because they have never been working in the field before, they need to acquire professional skills, or to enhance their professional ability by ways of professional education. So the vocational skill learners have very strong learning motivation before and at the beginning of learning, featuring deep integration of proximal motivation and distal motivation, and the dominance of internal learning motivation. Therefore, the learning motivation of learners in the learning process will be maintained at a relatively high level, and continues for a longer time than other learners, but under the influence of various factors, online vocational skill learners' learning motivation will fall significantly over time, thus requiring some external motivators to stimulate the learner's inner learning motivation.
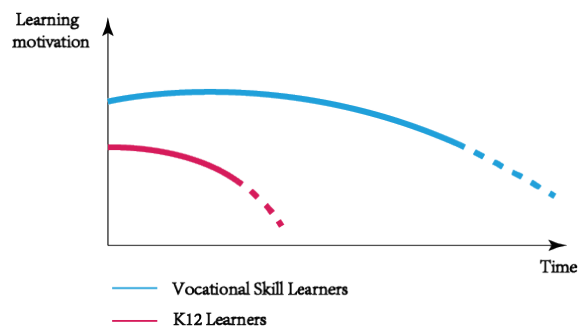

Fig. 3

Types and applications of variable ratio reinforcement

A. Concept of variable-ratio reinforcement

Variable-ratio reinforcement is one of the reinforcement modes on conditioned reflex and refers to the training mode with uncertain times of correct reaction between two reinforcements. In variable-ratio reinforcement, the average of the interval between every two reinforcements remains unchanged, but the interval between them in actual operation is not the same at all. The actor may get multiple reinforcements in a short time, or may not get even one reinforcement within a very long time. Therefore, the occurrence of regression phenomenon can be reduced. The most typical example is buying lottery tickets. The probability of winning the lottery is constant every time, but someone will win the lottery continuously, while other one never win the lottery over 10 years, but even so, they will keep purchasing.
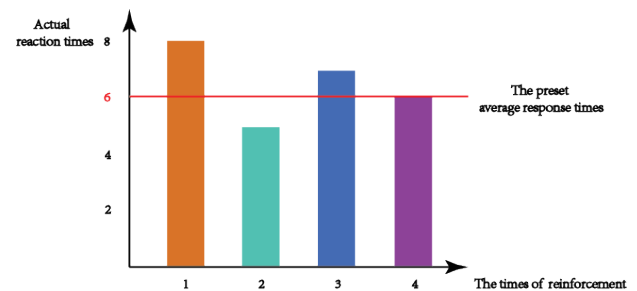

Fig. 4

In actual teaching process, if the numbers are completely random, some students may get multiple reinforcement within a

short period of time and feel that reinforcement is too easy to get and thus subsides, either may not get it within a long period of time and lose patience. So in general, in the process of education, the variable ratio of positive reinforcement is to set an average beforehand, when the actor takes action and the time of reaching a certain level is close to the average, a reinforcement will be given.

B. Types of reinforcement

The reinforcement is consist of positive reinforcement and negative reinforcement. Since negative reinforcement is often mistaken as punishment, positive reinforcement, negative reinforcement, and punishment are explained as below.

1. Positive Reinforcement

Positive reinforcement is the reinforcement when the actor takes a certain action, he or she will get a certain result that makes him or her happy and urges the actor to repeat such behavior. For example, when a student helps others actively, the teacher praises the student, so the student will continue to help others in order to get praise again next time.

Positive reinforcement means that as long as the actor meets certain requirement, he or she can be given a reinforcement, which is unrelated to negative reinforcement and punishment. It can be before or after positive reinforcement and punishment, and the effect of specific stimulation is variable. In addition, the stimulus effect of positive reinforcement may not be better than that of punishment or negative reinforcement, nor is it worse than that of punishment or negative reinforcement. However, it is related to many factors such as specific reinforcer, the actor's effort and expectation and so on.
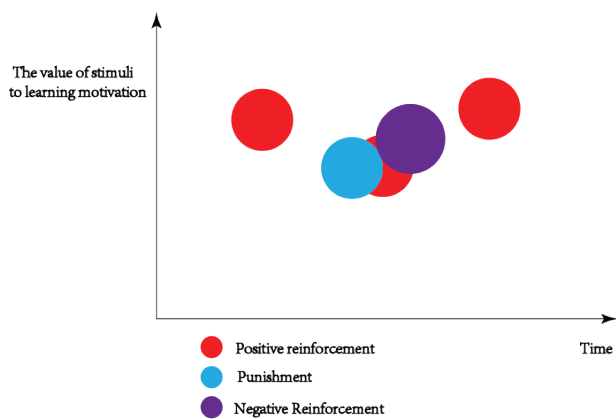

Fig. 5

2. Punishment

Punishment is an unpleasant stimulus given to an actor after he or she has done certain things in order to reduce the likelihood of similar behavior. For example, when a child steals something from others, teachers and parents criticize him or her severely, and then the child won't steal again. In addition, as shown in the figure, positive reinforcement can be execute as long as the actor meets the requirement, and punishment usually takes place before negative reinforcement, which is also the prerequisite.

3. Negative Reinforcement

Negative reinforcement refers to the reinforcement when the actor fails to meet certain requirement for various reasons and thus gets some punishment, and when the actor makes it, the previous punishment will then be revoked, so as to urge the actor to strive to behave in accordance with the requirement in future. For example, when the student's grade is bad, the teacher asks the student to bring the parent recently, and then the student studies hard and gets a good score in the later exam. At this time, the decision to ask the student to bring the parent is can celled, and the student is strengthened and becomes more hard-working. The difference between negative reinforcement and punishment is that the essence of reinforcement is to increase the probability of some behaviors. While the essence of punishment is to eliminate bad behaviors.

C. Application of variable-ratio reinforcement theory in online vocational skill training

For the characteristics that online vocational skill learners' intrinsic motivation dominates and proximal motivation and distal motivation deeply integrates, in order to stimulate the learners' learning motivation, it needs some stimulus of reinforcer. As for vocational skill learners, they spend time and money to learn the professional skills, aiming to find a satisfactory job, so the work-related reinforcer is no doubt their best reinforcer. The following discussion will focus on work-related reinforcement.

1. Positive Reinforcement

Firstly, the most obvious positive reinforcement is to regard a good job as an reinforcer so that learners can regain their motivation and enthusiasm for learning. For learners, it can also help them fit into the employing company more easily. On the selection of reinforcer, the training company makes a change not only on the reinforcement spacing, but also on the strength of the reinforcer. The companies can be classified by training company according to their influence. Every time the reinforcers with different influences can be arranged randomly, which can arouse the enthusiasm of learning all the time because the learner has no idea when the strengthen will occur and what exactly the strengthen is as well.

The ratio setting can be made on the basis of daily performance. For example, the training company sets seven tests over a period of time, when you get 5 Ss , the training company will recommend you to an employer. During the process of executing, if learners get 4-6 Ss, the training company will give learners a reinforcement. If learners want to go to other company, it requires learners to prove the scores and competence during the professional skill learning. Thus the certificate is a very important proof. And a great many professional skills are not the same as Accounting, Construction and other professions where there are national certificates. Therefore, the certificates issued by the training company or school are great proof. But nowadays there are very few online vocational education and training company who issue learners such a certificate. And even there is some one, such company just wants to collect money, without caring if the learners come in time and how well they learned. The learners could obtain a certificate in the end. As a result, the certificates issued by many training companies rarely receive societal recognition. As for the learners, Holding such certificates as their reinforcers is obviously not attractive enough. Therefore, it is necessary for the company to strengthen management in the long-term run of self

development and taking responsibility for learners, so as to receive the social recognition of its certificates, which is beneficial not only for its development but also for motivating learners.

2. Punishment

Because negative reinforcement and punishment are closely related, so discuss about punishment first. Different from the traditional education method, the results of online teaching at this stage mainly depend on students' self-restraint. With freely arranged learning time, learners may have problems such as task delay and learning inattention, which lead to bad learning effect. The online career education products that should have been convenient and fast increases the user's learning time cost instead. For such a situation, it is also necessary to carry out some reverse stimulation, such as periodic testing, no- issuing certificates and other punishment to stimulate learners to learn. But do it properly, otherwise it is easy for learners to lose their entire motivation of learning.

Since there is no fixed type of ratio-variable reinforcement, learners often need long time and continuous efforts to get strengthened. If you wish a good result, practicing at ordinary times is often required, and the test is only a method. More importantly, the result of test will be sent to the employer who will then better understand the applicant. And it will force the learners to learn actively in turn. It should be noted that the punishment is not the test itself, but the low score after test. For those hardworking learners who are quite self-disciplined and have been doing well in academic performance, every irregular test is long-awaited. They are eager to be appreciated by others in terms of score through their efforts. At this time, for such learners, the results of periodic irregular test become a positive reinforcement. With the release of scores, vocational skill training companies can not only provide qualified students with certificates to prove their learning status, but also provide learners' scores in various periods to the employer. It is the same as many employers require applicants to provide their transcripts in university. And it will be told to the learner during the learning period, so as to constantly stimulate the learner's learning motivation.

3. Negative Reinforcement

If punishment is given continuously, it is likely that learners will become less motivated or even lose their motivation totally. In this case, some negative reinforcement is needed to stimulate learners' motivation.

Instead, the punishment is based on the negative reinforcement. If the learners get bad score and punished, and the punishment is working, and they begin to study hard after realizing the seriousness of this problem, then in the later tests their points keep climbing, and so do their average scores. Every improvement means getting rid of the previous poor grades and having a high score. Every improvement is a process of negative reinforcement. For example, training company makes a setting that when a student gets 5 Ss, his worst result before could be erased. So when one of the students has a test result of C, after getting the "punishment" resulted from the score, and if he gets 4-6 Ss in the following tests, the previous C could be removed, then the report of such a "stain" won't shown on the final transcripts handed to the employer. In this way learners will keep studying hard for eliminating the stain and getting higher grades.

Summary

The most important for variable-ratio reinforcement to function well in the online vocational education is to grasp the need that they desire to find a good job. Only in this way can one set out the reinforcer that attracts them to continue learning and arouse their learning motivation. Secondly, compared with the other three types, the effect of variable-ratio reinforcement is obvious, especially in terms of fixed time reinforcement and fixed ratio reinforcement. However, in practice, variable-ratio reinforcement often needs to be combined with other types. Only in this way can learners' learning motivation be comprehensively triggered.

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