

A Review of Factors Influencing Students' Intrinsic Motivation to Engage in Online Learning Processes

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Abstract: Since the 21st century, with the development of the Internet, online education has gradually become an important trend in the development of the education industry. The motivation of online learning has also received extensive attention and research in the academic community, but compared with the external motivation, the specialized research of internal motivation is less. Therefore, this paper will base on the influence of Bruner's intrinsic motivation theory on online learning, and analyse the relationship between three elements of internal motivation and synchronous online learning and asynchronous online learning. Combined with the existing online learning software and platform, this paper analyses and summarizes the promotion effect of internal motivation on online learning, and puts forward some own views and opinions.

Keywords: Intrinsic motivation, Synchronous online learning, Asynchronous online learning

1. Introduction

In recent years, computers, mobile phones and other electronic devices have become increasingly popular, and the Internet and network technology have continued to develop. Driven by the epidemic, online learning has developed rapidly and entered people's lives, gradually becoming another important way for people to learn. Online learning refers to learning and other supportive resources that are available through a computer.[1] At present, online learning continues to be used and advocated by various schools, such as the establishment of online learning platforms such as MOOCs, the emergence of "online + offline" classroom forms, and the viewing of teaching videos in flipped classrooms. However, compared with offline learning, the learning status and quality of most students will be reduced [2]. If there is no requirement or task assignment, basically can not carry out online learning independently. Because compared with offline learning, online learning lacks learning partners and teachers who are always on call. So, it has higher requirements for motivation [3]. And a general meaning of motivation is defined as the reason that moves us to do anything [4]. From the origin point of view, motivation can be divided into external motivation and intrinsic motivation. Intrinsic motivation is an internal force that motivates students to participate in activities. Students engage in learning activities because of their interest and enjoyment of learning itself. It includes three parts: curiosity drive, competition drive and reciprocity drive [5]. Extrinsic motivation refers to any stimulus that comes from outside the learner and drives the learner in the learning process [6].

Since learning motivation of online learning has been concerned, most scholars have focused on the study of external motivation. Some conclusions are drawn through the observation of students'

specific behaviors. Studies have shown that many problems can weaken students' motivation to learn, such as not being satisfied with the curriculum and course materials, lack of communication between teachers and students, lack of time and space for individual learning and lack of self-discipline, etc [7]. In the aspect of intrinsic motivation, many scholars have carried out related research, but compared with external motivation, the number and systematization of research is still insufficient.

Therefore, this study aims to conduct a specialized research on the intrinsic motivations that influence students' online learning. Specifically, this paper will synthesize the relevant articles about online learning and intrinsic motivation in the last 20 years, combine the literature content with the actual development of online learning, summarize and improve the existing and applicable conclusions, and draw and analyze new understandings and opinions.

2. Intrinsic Motivation

As a type of motivation, intrinsic motivation has and conforms to the characteristics of motivation, but it also has its own unique elements -- drive, and the concept of drive has some similarities with intrinsic motivation. It means that the reason you engage in a certain behavior comes from within, rather than because of external pressure or a desire for some external reward, such as a prize, money, or recognition [8]. According to Bruner's intrinsic motivation theory, intrinsic motivation is caused by three drives, which are also known as the basic elements of intrinsic motivation: curiosity drive, competition drive, and reciprocity drive. Therefore, this paper will give an overview of intrinsic motivation and its promoting effect on learning from these three aspects.

2.1. The Curious Drive

In a certain dimension, we can relate the "curious drive" to curiosity. Curiosity exists in many researches of pedagogy, psychology and so on. It has a very wide range, but it always lacks a clear definition. However, it has some classic points, Philosopher and psychologist William James called curiosity "the impulse towards better cognition," meaning that it is the desire to understand that which you do not [9]. Since then, many psychologists and educators have carried out research and experiments on curiosity. With continuous research and development, curiosity is classified as a drive [10], But for what kind of drive, there is still a lack of some unique definition in the characteristics. However, through the existing research, we can also realize that learning caused by curiosity mostly refers to people's spontaneous learning because of their love and exploration of knowledge itself, which is rarely or even not affected by other factors.

2.2. The Competitive Drive

The competitive drive can also be understood as the "desire to achieve". It means that people want to do something successfully. For example, in the movie "Heidi and Grandpa", Heidi wants the next story in the guide book because of her grandmother's guidance, so she has the motivation to try reading and learn to read. It is important to emphasize that competitive drive is different from competition, Competitive is an activity in achieving goals by defeating other people or groups [11]. One of them emphasizes motivation because you want to beat others, the other emphasizes motivation because you want to beat yourself or learn every skill.

2.3. Reciprocal Drive

The reciprocal drive is different from the curious drive and the competitive drive. It does not rely entirely on the person himself, but focuses on the relationship and communication between the individual and others. It emphasizes the need for harmonious coexistence among people, who must

be united in order to exert greater influence on individual behavior. For example, a group of children will sing a song at the same time and try to learn it. Cooperative learning, to a certain extent, uses the reciprocal drive. Cooperative learning (CL) means that students are required to complete an assignment or task in a team under certain criteria, in which the team members are responsible for the complete content of the assignment or project [12]. Students with active cooperative learning tend to have better learning status and outcomes than students with traditional teaching, because they focus on achieving a common goal in their relationship.

3. Online Learning

Online learning is a form of education produced by the interaction between normal teaching and network. It has many advantages, such as unrestricted time and space, strong ductility and resource sharing [13]. This has greatly promoted the equality of educational resources, and promoted the improvement of educational quality and efficiency[14]. Therefore, a variety of online learning methods have emerged in the wave of development. According to the teaching mode, they can be divided into two categories. One is a synchronous online learning model, or interactive classroom. The other is asynchronous online learning mode, that is, recording and broadcasting classes. The biggest difference between the two classes is that there is no communication and interaction.

3.1. Synchronous Online Learning Mode

Synchronous online learning refers to learning where the teacher and the student are at the same time but not in the same space. It is a special type of online learning that is gaining in importance because of the convenience it provides to both teachers and students, as well as the increased interactivity it enhances [15]. Its most notable feature is the importance of teacher-student and student-student communication and interaction in the classroom process, which puts forward higher requirements for teaching software and science and technology. Studies have shown that students enjoy classroom interaction through sharing whiteboards, voting and other procedures in online learning, which increases their high sense of class participation, belonging and satisfaction [16][17]. Overall, the communication channels provided by the synchronous online learning model for students and teachers make it converge to the offline learning model to the greatest extent, reducing the negative emotions generated by the inability to teach face-to-face.

3.2. Asynchronous Online Learning Mode

The biggest difference between asynchronous online learning and synchronous online learning is the lack of communication between people, only the knowledge output by the educator alone, and then the independent absorption of knowledge by the educated. For example, educational resources such as MOOCs and ted in current education take this form. The unique delay of asynchronous online learning provides learners with the convenience that other learning methods are difficult to provide, and learners can learn without any time limit [18]. In addition, rich online learning resources can also enable learners to broaden the depth and breadth of learning based on their own needs, which is conducive to advanced learning [19]. However, the high freedom of asynchronous online learning also puts forward higher requirements for learners' consciousness, and their demand for knowledge or interest.

4. The Relationship of Intrinsic Motivation and Online Learning

4.1. Intrinsic Motivations Influence Synchronous Online Learning Mode

The unique interactive characteristics of synchronous online learning model make it better reflect the kind of internal motivation related to others, that is, reciprocal drive. Most of the existing research focuses on language learning. Research shows that students generally have a high level of internal motivation when they start online learning, and learning software needs to provide enough technical and functional support to ensure that internal motivation can be fully developed [20]. Take Zoom as an example, it provides extremely convenient communication between students and students. Teachers can divide students into groups and open separate communication rooms, or set up sharing tablets to enable each student or group to share their ideas, and accommodate multiple people for real-time communication at the same time. All these have undoubtedly had a positive impact on improving students' motivation and provided a good guarantee [21]. Today's common interactive teaching software also includes Ding Talk, Chalk Live Class, etc. These software and platforms not only build connections between teachers and students, but also provide space and guarantee for communication between students and students. Of course, they do not ignore the motivation of students' curiosity and competitive drive, but most of them are integrated into the communication between teachers and students in class, because teachers can directly stimulate the learning motivation and promote students' learning by asking questions or setting goals in class or communication.

4.2. Intrinsic Motivations Influence Asynchronous Online Learning Mode

Different from synchronous online learning, which can better realize human interaction, the advantage of asynchronous online learning mode is the freedom of learning, that is, it is not limited by time, space and specific courses. Students can study anytime, anywhere, and have the flexibility to choose what they want to study. The interaction between people mainly relies on written text to achieve, people can share their views and doubts on a certain issue in blogs, forums and other platforms, but it is difficult to exceed the time and space limits to achieve a mutually beneficial combination [22]. Therefore, for the discussion of the internal motivation of asynchronous online learning, this paper will focus on the curious drive and the competitive drive. The relationship between curiosity and learning has been concerned by many educational psychologists as early as many years ago, such as William James, Vygotsky and so on [23]. However, under the impact of the development of cognitivism, people's attention has gradually shifted to the study of the stimulation of external rewards on learning. Recent research on online learning has shown that curiosity alone can support students in some activities, apart from external rewards and other stimuli[24]. In today's asynchronous online learning resources, we can also find that almost all learning video Settings are controlled in about 10 to 15 minutes, which can reduce the psychological burden of user learning, and promote the play of curious drive. The competitive drive has received less attention in the present research. But I think a lot of existing word learning software uses this motivation. For example, every time we finish a day's word learning task, there will be a calendar with dots, the system will represent the day of the blank dot color, to indicate the success of punching. This triggers a desire in some students to fill up their calendars, which keeps them going.

5. Conclusion

With the continuous development of the Internet and education technology industry, intrinsic motivation has been fully used in online learning, and has a better role in promoting online learning. According to Bruner's intrinsic motivation theory, this paper analyzes the influence of three kinds of intrinsic motivation on the two modes of online learning. In synchronous online learning mode,

because teachers and students can communicate directly through the screen, teachers can easily guide students to develop curious drive and competitive drive. Because of the development and emergence of programs and modules for student-student communication in various educational software, there is also room for reciprocal drives. In the asynchronous online learning model, although it is difficult to create a bond between people, the curious drive and the competitive drive are very lucky. The rich pictures and titles in educational software and platform can better promote students' curiosity about knowledge under the support of advertising and aesthetics. Various forms and goals of punching in are using students' competitive drive to promote learning. In my opinion, in the follow-up research, we should continue to study the impact of intrinsic motivation on online learning, so as to increase or improve the functions of online learning software, so as to better stimulate and apply intrinsic motivation, and provide a steady stream of power for the current mainstream trend of online learning. In addition, more effort could be devoted to the study of competitive drive, because its stimulation and influence on online learning is relatively weak compared with the other two, and there is a lot of room for development.

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