

# The Relationship Between Online Course Learning Intention and Learners' Learning Behavior: The Moderating Effect of Teacher Guidance

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**Abstract:** *In order to explore the relationship between learners' learning intention and learning behavior in online course learning, and the moderating effect of teacher guidance on the relationship between learning intention and learning behavior, this study analyzed the online course learning in five schools, and found that: (1) Learners' online learning intention positively predicts learning behavior at the initial stage of the course and negatively predicts learning behavior at the end stage of the course. (2) Teacher guidance plays a significant moderating role between learning intention and learning behavior at the beginning and end of the course. In the learning of online course, for learners with strong willingness to learn, teacher guidance is conducive to strengthening learners' initial learning behavior; for learners with poor learning willingness, the learning behavior of learners can be improved through the adjustment of teacher guidance in the end of the course. This shows that online course learning requires learners to have higher learning willingness and more autonomous learning ability.*

**Keywords:** Online courses, Learning willingness, Learning behavior, Teacher guidance.

## 1. Introduction

Under the background of "Internet+" era, online open courses and learning platforms have developed rapidly, such as MOOC[1], Wisdom Tree[2], Super Star Erya[3] and other learning platforms, as well as open courses[4], online micro courses[5] and live courses[6], The idea of "Internet + Education" adapts to learners' individualized and diversified learning needs[7]. In 2015, the basic principles of the opinions of the Ministry of Education on strengthening the application and management of online open courses in colleges and universities should pay attention to application sharing, promote the wide application of online open courses, promote the reform of education and education system innovation, and improve the quality of education and teaching. In terms of curriculum quality, the Ministry of Education issued a "Circular on Carrying out the Identification of National Excellent Online Open Courses in 2017" to test the construction of online courses in colleges and universities. In 2019, the Ministry of Education put forward "strengthening the deep integration of modern information technology and education and teaching" in the implementation opinion on the construction of first-class undergraduate courses. In 2020, the Ministry of Education put forward the requirements for the construction of five types of gold courses, and put forward requirements for the course content, course teaching and design, course team, teaching support application effect and influence of online gold courses. This series of requirements has important guiding significance for improving the construction of online courses.

Online course resources, supported by the Carrier platform of Internet application, integrate all kinds of high-quality teaching resources and play an important role in promoting the reform of education mode and teaching evaluation. Meanwhile, the rapid development of online courses plays a key role in cultivating learners' autonomous learning ability and improving the professional level of teachers[8], especially

teachers play an auxiliary role in courses. Online curriculum education is more learner-centered, but in this mode, "high consumption and low efficiency" appear, learners' consciousness and self-discipline become a challenge, difficult to deep learning, lack of teaching supervision become a common problem. In view of the effect of online learning, Wang Shaofeng and Huang Ronghuai proposed that learners' active learning intention becomes the key to the success of online teaching[10]. In this context, the study of learners' online learning intention and learning behavior has certain guiding significance for the reform of online teaching mode, learner training and teacher orientation.

Online active learning intention refers to the subjective probability that learners participate in discussion, summary, practice and other active learning intentions in online course learning[10]. It is generally believed that behavioral intention is the most important predictor of actual behavior[11]. Therefore, it can be inferred that the important predictor of learning behavior is the learning intention of learners. Learning intention is the subjective driving force of learning behavior[12]. The higher the learning intention of learners, the greater their enthusiasm and learning effect in learning courses are[13]. In the study of influencing factors of learners' online learning behavior, it is also found that individual learning intention is one of the important factors[14]. Learning behavior is explicit and the basis for educational management evaluation[15]. Better learning behavior is not only beneficial for learners to better grasp the knowledge they have learned, but also conducive to the improvement of teaching management. In this paper, two self-designed projects are used to measure the online learning intention of learners, and the login times[16-19] and course completion rate[20-21] in previous studies are used as indicators of learning behavior. And according to the learning stage, the number of logins as an explicit indicator of the initial stage of learning, curriculum completion rate as an explicit indicator of the end stage. Learners' learning behavior is one of the most intuitive standards to measure learners' learning quality,

and it is usually an important part of teaching evaluation. Learning intention, as a key individual factor of learners, is related to learning behavior. Therefore, clarifying the relationship between learners' online learning intention and learning behavior plays a key role in improving online learning ability and teaching quality from the individual level of learners.

Hypothesis 1: learners' online learning intention can positively predict their learning behavior.

Teachers have always played a crucial role in learners' learning, and surveys have found that teachers will affect learners' enthusiasm and initiative in online learning and their learning intention[22]. The Ministry of Education regards the connotative development of higher education as an important content of the construction of "Double First-class". Teachers highlight their practical achievements in teaching and improving their teaching achievements. Teachers are guides and assistants in the teaching process, so they should return the classroom to learners and reflect their subjective status. Liu Tingping's research found that teachers' guidance strategies can promote the improvement of learners' independent learning intention[23]. Therefore, effective teacher guidance is the key to fully mobilize learners' independent learning intention[24]. Therefore, teacher guidance may contribute to the improvement of learners' autonomous learning intention and better performance in actual learning behavior.

Hypothesis 2: There is a positive correlation between online learning intention of learners and teacher guidance;

Hypothesis 3: Teacher guidance plays a moderating role in the relationship between learners' learning intention and learning behavior.

This study adopts quantitative research method to explore the relationship between learners' online learning intention and learning behavior, and the relationship between teacher guidance and online learning intention. This study attempts to provide theoretical explanations for improving learners' online learning behavior from the individual level and improving teaching quality from the teacher level. It also has theoretical significance for promoting higher education reform by using online course resources.

## 2. Method

### 2.1 Participants

We mainly use the learning data of "Personality and Mental Health" course running on Wisdom Tree Platform in December 2020. During the first phase of operation from December 30, 2020 to March 3, 2021, 5 schools applied the course resources. A total of 550 on-campus learners took the course, of which 465 completed the course. 465 learners who completed the course were investigated on their learning intention, and 362 valid questionnaires were collected.

In the application of curriculum resources, five schools provide the list of learners who take courses, and the course consultant of Wisdom Tree makes backstage management, so

that schools and learners have access to resources, and learners are required to complete the study and examination of all courses within the prescribed semester.

In order to strengthen the management of curriculum learning, a class teacher is set up for elective schools to guide learners to correctly use curriculum resources, solve technical problems in the process of curriculum learning, and provide guarantee for learners' learning.

### 2.2 Data and Sample

The learning data and evaluation data we use are mainly from the online course "Personality and Mental Health" running on the Wisdom Tree Platform. The Wisdom Tree platform is a global large-scale credit course operation service platform, and the online education platform has high-quality course resources. In order to collect the process data of teaching management, this course applies the Yangtze River Rain Classroom Information Management Platform, Learners of this course can complete all chapter tests and final exams through online learning and obtain credit certification.

The wisdom tree platform can provide the data of learning behaviors such as the login times of the enrolled learners and the completion rate of online tutorials and the data of learning intention and teacher guidance. We used two self-designed projects to investigate the learning intention of online learning and one self-designed project to investigate teacher guidance in online learning. The score range of learning intention is 0.00-1.00, the higher the score, indicating that the higher the learning intention, the score range of teacher guidance is 0.00-1.00, the higher the score, indicating that teacher guidance has a greater impact on learners' online learning. The collection of learning behavior data is mainly based on the learning stage. The index of initial learning is the login times. The more logins, the better the learning behavior is in the initial learning stage. The index of the end of learning is the course completion rate, which ranges from 0.00 to 1.00. The higher the course completion rate is, the better the learning behavior is at the end of learning.

This paper mainly combines the data of personality and Mental Health course operation Quality Report of 2020 Autumn and Winter Semester Shared Course provided by Wisdom Tree platform, and makes a secondary collation of the data. In the statistical analysis, we use SPSS22.0 (trial version) statistical analysis software to analyze the data, mainly using descriptive statistics, correlation analysis, regression analysis and other statistical analysis techniques.

### 3. Result

Through the distribution analysis of the data, Figure 1, Figure 2, Figure 3 and Figure 4. It can be seen from the figures that 60% of the learners with higher learning intention (0.9-1.0), 20% of the learners with general learning intention (0.8-0.9), and 20% of the learners with lower learning intention (0.8-0.9). Teachers' guidance and learners' learning intention are the same. Learners login 40-50 times accounted for 58%, 20-30 times accounted for 19%. The online course completion rate of 164 learners is above 80%, and 198 learners are below 60%.

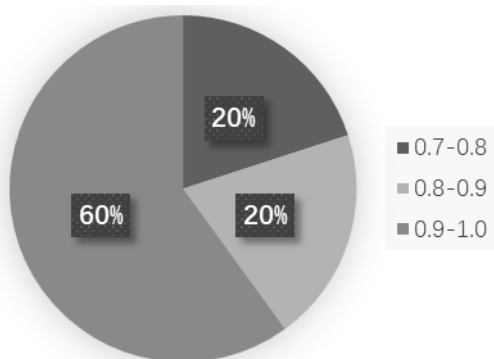


Figure 1: Learning intention

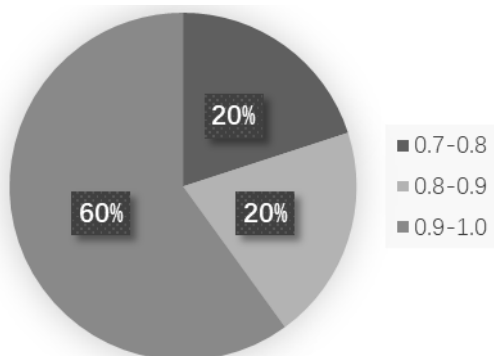


Figure 2: Teacher guidance

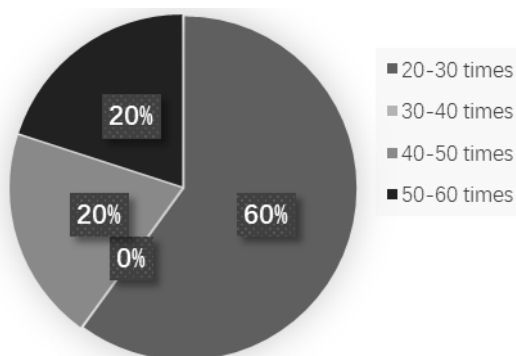


Figure 3: Login times

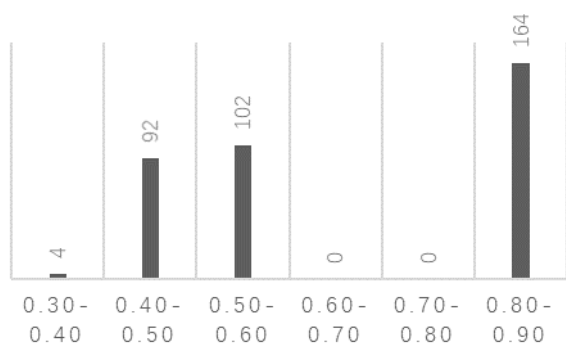


Figure 4: Online course completion rate

In this paper, learning behavior is mainly composed of login times at the initial stage of learning and online course completion rate at the end of learning. It can be seen from Table 1 that login times are significantly positively correlated with online course completion rate, learning intention and teacher guidance. There is a significant negative correlation between online course completion rate and learning intention and teacher guidance. There was a significant positive correlation between learning intention and teacher guidance.

Table 1: Descriptive statistics and correlation of main study variables

Variable	M±SD	1	2	3	4
Login times	40.88±13.07	-			
Online course completion rate	0.63±0.18	.220**	-		
Learning intention	0.94±0.04	.476**	-.194**	-	
Teacher guidance	0.94±0.05	.473**	-.247**	.998**	-

Note: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001

According to the results of correlation analysis, we further conduct regression analysis. Since the learning behavior is mainly composed of the number of logins and the completion rate of online courses, two regressions are made with the number of logins and the completion rate of online courses as the dependent variables (see table 2 and table 3). With learning intention and teacher guidance as predictors and login times as outcome variables, learning intention significantly positively predicted login times ( $\beta=.476$ ,  $t=12.655$ ,  $p=.000$ ), and teacher guidance significantly positively predicted login times ( $\beta=.473$ ,  $t=12.561$ ,  $p=.000$ ).

Table 2: The predictive effect of learning intention and teacher guidance on the login times

	R <sup>2</sup>	ΔR <sup>2</sup>	β	t
Learning intention	.226	.226	.476	12.655***
Teacher guidance	.224	.224	.473	12.561***

Note: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001

When learning intention and teacher guidance were used as the predictive variables and online course completion rate as the outcome variable, learning intention significantly negatively predicted online course completion rate ( $\beta=-.194$ ,  $t=-4.641$ ,  $p=.000$ ), and teacher guidance significantly negatively predicted online course completion rate ( $\beta=-.247$ ,  $t=-5.965$ ,  $p=.000$ ).

Table 3: The predictive effects of learning intention and teacher guidance on online course completion rate

Variable	R <sup>2</sup>	ΔR <sup>2</sup>	β	t
Learning intention	.038	.038	-.194	-4.641***
Teacher guidance	.061	.061	-.247	-5.965***

Note: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

On the basis of correlation analysis and regression analysis, this paper explores the moderating role of teacher guidance between learning intention and learning behavior. In this paper, multi-level regression is used to test the explanation of the interaction term for the variance increment, and the interaction term is presented in Table 4. From the results, teachers' guidance has a significant moderating effect between learning willingness and the number of logins, and a significant moderating effect between learning willingness and online curriculum completion rate.

Table 4: Prediction of Interaction between Learning Intention and Teachers Guidance on Learning Behavior

Dependent variable	Interaction term	β	SE	t
Login times	Learning intention × Teachers Guidance	-.412***	184.393	-7.444
Online course completion rate	Learning intention × Teachers Guidance	.254***	1.240	9.779

Note: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001

4. Discussion

This paper analyzes the learning data of online course "Personality and Mental Health" running on Wisdom Tree

Platform. and the results show that learners' learning intention, learning behavior and the role of teachers' guidance are mostly at a relatively high level. It can be seen that in the process of online learning, most learners have a high intention to learn and have good performance in the initial and end stages of learning. However, some learners have low learning intention and perform poorly in the initial and final stages of learning, which requires teachers' guidance. At the same time, the hypothesis 1 is partially valid. Learning intention positively predicts learning behavior at the initial stage of learning, and negatively predicts learning behavior at the end of learning. Hypothesis 2 and hypothesis 3 hold that the moderating effect of teacher guidance changes the predictive effect of learning intention on learning behavior at different learning stages.

#### **4.1 The Predictive Effect of Learning Intention on learning Behavior**

As can be seen from Table 2, learners' online learning intention has a positive prediction effect on the number of login times, indicating that a high level of learning intention can promote the increase of learners' login times. This shows that in the initial stage of learning, learners' willingness to learn is positive and their login frequency increases. This is consistent with previous research results that learning intention will promote learning behavior[25]. The results in Table 3 show that learners' online learning intention has a negative predictive effect on online course completion rate, which indicates that learners will still complete courses under academic pressure even with low learning intention, which is different from previous research results[12]

According to the "intention-behavior" analytical framework of planned behavior theory, the stronger learners' intention to learn, the more learning behavior they will produce[26]. However, in some analysis of this paper, it is different from previous studies. At the end of learning, learners' willingness to complete learning is not strong or even negative, but it still reflects a high curriculum completion rate. This shows that in the learning of online courses, learners have a higher willingness to learn at the beginning and lower willingness to learn at the end of the course, but still insist on completing the course[27]. Of course, some studies also show that learners' willingness to learn in online courses is low, and shallow learning can also occur due to lack of supervision[22]. Therefore, this paper speculates that on the one hand, some learners may want to complete online courses by acquiring credits and meeting school requirements through online courses. However, their low learning intention and the lack of supervision mechanism may lead to low learning intention and high completion rate of online courses. On the other hand, learners have a high expectation of the course at the beginning of learning and a strong intention to learn, but there will be a decrease in learning intention at the end of the course.

#### **4.2 The Moderating Role of Teacher Guidance in Learning Intention and Learning Behavior**

The results in Table 4 show that teacher guidance has a significant moderating effect on learning intention and learning behavior. This is consistent with previous studies that teacher guidance plays a key role in learners' online

learning[28].

With the number of logins as the result variable, under the regulation of teacher guidance, learners with low learning intention will increase login behavior. With online course completion rate as the result variable, under the regulation of teacher guidance, learners with high learning intention will have higher course completion rate. Compared with the results in Table 2 and Table 3, significant changes have taken place between learning intention and learning behavior due to the addition of the regulatory role of teacher guidance. This highlights the role of teacher guidance, lack of teacher guidance online course learning often leads to shallow learning results. Teachers' teaching can promote learners' learning behavior both in the initial stage of online learning and in the end stage, which is of great significance to the improvement of learners' learning behavior. From the results of this study, for learners with low learning intention, the more need for teacher guidance, so there are more and better learning behavior.

#### **4.3 Inspiration and Suggestions**

By exploring the relationship between learners' online learning intention and learning behavior, and exploring the moderating role of teacher guidance between learning intention and learning behavior, it is found that learning intention has different predictive effects on learning behavior in different learning stages. This study suggests that this may be related to the decrease of learners' learning willingness in curriculum learning. Teachers' guidance has a significant moderating effect on promoting learners with high learning intention and promoting learners with low learning intention. This result has the following enlightenment and suggestion for making better use of online open curriculum resources and promoting teachers' role orientation.

At the level of individual learners, online open resources are abundant and they all have great intention to learn at the beginning. However, in the process, their intention to learn may decrease due to high expectations, decreased interest and other factors. However, due to credit limit and other reasons, they will show a high completion rate. This illustrates the superficial learning phenomenon in online course learning. Therefore, in the process of online learning, learners should gradually develop their independent learning ability and maintain a lasting learning willingness. On the one hand, do not take a utilitarian attitude towards online course learning-only for credit or to meet the requirements, to choose courses have intrinsic motivation.

At the level of teachers, the results of the research illustrate the key role of teacher guidance. Therefore, even in the course of online learning, the role of the teacher is still indispensable. Especially when online courses lack supervision, teachers' procedural guidance becomes an important way for teachers to play their role as facilitators. At the same time, teachers should pay attention to learners' learning behavior according to different learning stages in the process of online course teaching, and regulate learners' learning behavior through manipulable guidance.

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