



Research on Teachers' Effect of Online Learning for Postgraduate Students

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Abstract. Under the background of digitalization, “Internet + education” has become a common teaching mode, and online learning has opened the tide of The Times. Teachers’ teaching methods, attitudes and levels affect students’ online learning results to some extent. This paper, in the form of questionnaire survey, distributed questionnaires to master students in a university in Chongqing, analyzed the factors of teachers’ online learning effect on master students, and provided references and suggestions for improving the effect of online learning for master students and teaching methods in the future.

Keywords: Teacher teaching · online learning · learning effect · influencing factors · teaching style

1 Introduction

In the online learning environment, teachers and students learn at different time and space. Scientific and efficient online learning helps learners to expand the depth and width of learning. As a group of Chinese highly educated people, the effect of online learning of postgraduate students affects scientific research results to some extent. Whether different teaching styles, levels and attitudes have different influences on learning results, and what causes teachers to have such influences, the exploration of these questions can provide guidance and reference for improving the quality of online teaching.

2 Data Source and Analysis

In this study, 472 questionnaires were distributed, 472 questionnaires were collected, and 462 questionnaires were valid, with effective recovery rate of 97.9%. SPSS25.0 was used for reliability and validity analysis, and the results were shown in Table 1. The coefficient of Klonbach Alpha was 0.934, greater than 0.8, indicating that the reliability of the questionnaire had good internal consistency and reliability.

KMO and Bartlett tests were used to conduct an internal consistency analysis on the validity of the questionnaire, as shown in Table 2. The measured value of KMO was $0.930 > 0.7$, and $p < 0.05$ showed a significant difference, indicating good structural validity of the questionnaire.

Table 1. Reliability statistics

Cloning Bach Alpha based on standardized terms	Numbers
0.934	11

Table 2. KMO and Bartlett tests

KMO sampling suitability quantity		0.930
	Approximate chi-square	3580.950
Bartlett sphericity test	free degree	55
	conspicuousness	0.000

According to the overall analysis of the data of learners' personality characteristics, as shown in Fig. 1, it can be found that learners' own characteristics have a positive impact on learning results in online learning, of which learning input is the best. However, in online learning, some graduate students believe that they have not made a clear learning plan and lack the ability to access and integrate information.

3 Specific Analysis of Influencing Factors

3.1 Overall Analysis of Influencing Factors

This section analyzes the teaching style, teaching level and teaching attitude of teachers. Teacher's teaching style is the characteristic of teaching activity, teacher's educational thought and personality. Teachers' teaching level mainly includes teachers' operating ability and teaching cognition ability. As shown in Fig. 1, most of the postgraduates are satisfied with the teaching style, level and attitude of the teachers, but some students still think that the teaching style of the teachers is not outstanding, the operation of online teaching equipment is not skilled, the course content has not reached a certain depth, some teachers are not very clear in the preparation for learning and the classroom effect, and some students do not feel the care of their tutors.

3.2 Correlation Analysis

As can be seen from Table 3, teachers have different degrees of correlation with different factors of online learning effect of postgraduates. Teaching style, teaching level and teaching attitude have significant positive correlation, and the correlation coefficients are in order of teaching level (0.707) > teaching attitude (0.668) > teaching style (0.670). It shows that the better the teacher's teaching level, teaching attitude and teaching style, the better the students' online learning effect.

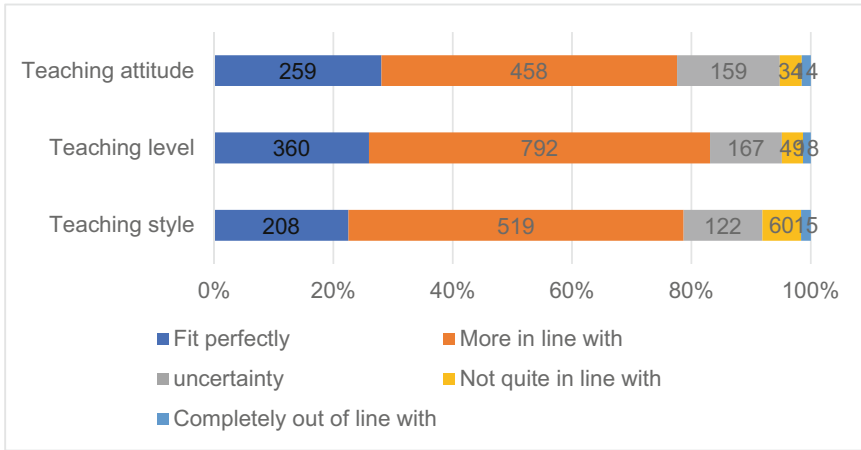


Fig. 1. Overall analysis of teachers' teaching style

Table 3. The correlation between influencing factors

	Teaching style	Teaching level	Teaching attitude	Learning effect
Teaching style	1			
Teaching level	.750**	1		
Teaching attitude	.662**	.803**	1	
Learning effect	.670**	.707**	.668**	1

**At 0.01 level (double tail), the correlation is significant.

3.3 Regression Analysis

In order to explore the influence of different dimensions on learning effect, multiple linear regression model was adopted for analysis, with teaching style, teaching level and teaching attitude as control variables and learning effect as dependent variable, and regression model was established, as shown in Table 4.

As can be seen from the above table, the significance of teaching style X1, teaching level X2 and teaching attitude X3 is less than 0.05, and the regression equation of online learning effect y of master students can be written as:

$$y = 0.256 + 0.301x_1 + 0.317x_2 + 0.253x_3$$

Regression coefficient B indicates the degree of influence between them. VIF value of model fitting is analyzed (VIF < 5). There is no collinearity problem in the model, and the model fits well. It can be concluded that teaching style, teaching level and teaching attitude have significant positive influence on the learning effect of postgraduates, among which the teaching level of teachers is the most significant. The level of teachers' teaching is the key to improve the effect of postgraduates' online learning.

Table 4. Linear regression model for study of online learning effect

classification	Unstandardized coefficient		Standardization coefficient	conspicuousnes	Collinearity statistics	
	B	Standard error	Beta		tolerance	VIF
(constant)	0.256	0.142		0.072		
Teaching style	0.301	0.046	0.298	0.000	0.455	2.198
Teaching level	0.317	0.061	0.289	0.000	0.297	3.368
Teaching attitude	0.253	0.048	0.256	0.000	0.389	2.569

4 Countermeasures and Suggestions

1. Schools should strengthen the training of teachers' ability to use online teaching tools and organize online learning activities to improve their online teaching ability [1].
2. Teachers should fully understand their courses, and understand their teaching objects, constantly open up new ideas, new Methods: Individualized teaching and individualized guidance teaching [2].
3. In the process of teaching, teachers should not only attach importance to inheritance, but also pay attention to innovation and development. On the basis of previous experience, teachers should find a new path to form a teaching style with their own charm [3].
4. Teachers' teaching attitude is the main factor affecting students' autonomous learning ability [4]. Positive teaching attitude is the prerequisite for teachers to make good lessons and the catalyst to improve the quality of classroom teaching. Teachers should establish a correct teaching attitude, attach importance to teaching and care about students [5].

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