Research on the Contributing Factors of Postgraduate Students' Online Learning Experience

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Abstract. In recent years, online learning has become a hot research issue in higher education. In order to gain insight into the actual situation of online learning for postgraduates, and explore the important factors that affect their online learning perceptions, this study adopts qualitative research methods and selects 13 graduate students of Chinese University as interview subjects, using the grounded theory to process and analyze the interview data. Research results show that the online learning experience of graduate students is jointly affected by the internal factors of the subject and external factors. Specifically, it mainly includes 11 key factors, which are teachers' online teaching ability, teachers' familiarity with technology, online course design, social interaction, network conditions, platform functions, assessment methods, course workload, intrinsic learning motivation, self-monitoring ability, and self-learning ability. Based on the research findings, we put forward four suggestions to improve the online learning experience of postgraduates.

Keywords: Postgraduates' online learning experience · Contributing factors · Qualitative research · Semi-structured interviews · Grounded theory

1 Introduction

The outbreak of COVID-19 has brought a huge impact to the teaching work of colleges. Out of the needs for epidemic prevention and control, the Chinese Ministry of Education has uniformly deployed various colleges across the country to postpone the opening of schools, and put forward the "stop classes without suspension" initiative. In this context, colleges across the country have actively carried out large-scale online teaching activities to ensure students' course learning. For a time, online learning has become the focus of attention in the academic world, and it is considered to be an important force in reforming traditional teaching forms and realizing higher education revolution (Yang et al. 2019).

However, the actual effect of online learning is far less than what people expected. The lack of motivation for students to participate in online learning, as well as the lack of peer interaction and teacher feedback make students prone to problems such as loneliness, anxiety, and poor learning effects (Khalil and Ebner 2014). Whether online learning can achieve the same learning effect as traditional classroom learning has been

questioned by many researchers (Hu and Zhao 2015). To deal with the above-mentioned practical problems, researchers have gradually shifted from focusing on the connotation characteristics of online learning, curriculum design, and online education theories to focusing on the micro-levels of cognition, motivation, emotion, and practical experience of students' online learning. So far, online learning experience has become a hot issue in online education research.

Through combing and analyzing the relevant literature, it is found that in terms of research objects, the existing studies mostly focuses on college students but not the graduate students. In terms of research methods, quantitative analysis methods such as questionnaire surveys and literature analysis methods are mostly used, but qualitative research is lacking. There are few research investigating on the dynamic change process of online learning experience, let alone the actual situation of online learning for post-graduates, which is insufficiently grasped. Therefore, this research adopts the approach of qualitative research, aiming to gain in-depth understanding of the actual situation of the postgraduate study experience and explore the important contributing factors of the online learning experience.

This paper aims to optimize the quality of postgraduate online education and to provide some references and mirrors for the future promotion of the "online and offline" hybrid teaching model.

So, what is the actual situation of postgraduate online learning experience? What are the factors that affect their online learning experience? This research attempts to answer these questions.

2   Literature Review

Recent scholarly work with a research interest in online learning experience can be divided into two themes: (1) concept and constituent elements of online learning experience; (2) contributing factors of online learning experience, all of which provide experimental evidence establishing and shaping the theoretical framework of current research.

2.1   Concept and Constituent Elements of Online Learning Experience

The concept of "experience" originated in the field of philosophy. Philosophers generally believe that "experience" is the process of the subject's understanding and perception of the objective world, and it implies a relationship between subject and object. Subsequently, psychologists have enriched and developed this definition. In the field of psychological research, "experience" is understood as the subject's emotional response and psychological change process to related things under personal experience and in-depth understanding (Zhang and Lu 2012). The pedagogical researchers combined the definitions of philosophers and psychologists, and regarded "experience" as not only the process of the subject's understanding of the objective world, but also the cognitive and emotional results produced by the subject through activities (Li 2001).

Based on the analysis of the definition of "experience", this article defines "online learning experience" as the subject's perception and experience of the process and results

of learning activities by participating in online course learning activities in the learning field. Multi-dimensional experiences include the learning environment, online course learning, and online learning effects. In essence, the "online learning experience" is both an experience of the process and a reaction to the result. In order to further clarify the content structure of the online learning experience, this research extracts relevant information from the previous literature to determine the components of the online learning experience. Representative views on the components of the online learning experience are shown in Table 1. As can be seen from the table, previous studies have divided the components of online learning experience mainly from the following three aspects: the aspect of the experience of course environment, such as learning platform, course platform and course learning; the aspect of the experience of learning activities, such as learning behavior, community interaction and teacher-student interaction; the aspect of learner's evaluation of learning effects, such as participation feeling, online learning experience, and course evaluation. In summary, this study believes that online course environment experience, course learning activity experience and learning effect evaluation are the three important dimensions that constitute online learning experience, which lays the theoretical foundation for the design of the follow-up interview outline for this article.

Table 1. Elements of the online learning experience

Definition	Elements	Authors
MOOC learning experience	Course evaluation, learning behavior, participation experience	(He Chun et al. 2016)
Large-scale online open course learning experience	Learning platform, course learning, social interaction	(Shan and Liu 2018)
Online learning platform learning experience	Sensory experience, interactive experience, learning experience	(Liu 2019)
Online learning experience	Curriculum platform, student-student interaction, teacher-student interaction, individual learning	(Udo et al. 2011)

2.2 Factors Affecting Online Learning Experience

There are many factors that affect learners' online learning experience. Researchers have discussed the factors of online learning experience from different perspectives: for example, Jiang Yujun et al. (2019) use a survey to investigate the online learning experience of 141 college students. The results show that teacher-student interaction, peer interaction and collaboration, course tasks, teacher teaching skills, resource characteristics, and curriculum activity design are the six key factors that affect the online learning

experience. Similarly, Chen Wuyuan and Jia Wenjun (2020) use 209,099 college student questionnaires from 334 colleges and universities as research samples to evaluate online teaching. The study finds that teachers' familiarity with online platforms, and students' technical literacy and learning abilities have become important factors affecting online experience. Liu et al. (2016) explore the structural relationship between the factors that affect the learning experience of online courses through a systematic literature review, and point out that the main influencing factors include the online learning environment, student learning style, and teacher's professionalism. Murders (2017) uses phenomenological research to track and investigate the online learning experience of college students with learning disabilities, and the analysis results show that platform convenience, teacher feedback, and students' own learning motivation are the core driving factors that determine whether they continue to participate in online learning. Young (2000) discovers that the differences between individual learners, such as information literacy, learning enthusiasm and motivation, independent learning ability, self-planning and management ability, and other factors will have a certain impact on students' online learning experience. Besides, Paechter et al. (2010) take 2196 college students as the research objects and use questionnaire survey methods to conduct in-depth investigations on their online learning experience and satisfaction. The analysis results show that learners' self-regulation ability, learning motivation, and resource acquisition flexibility are the main contributing factors of online learning experience.

Throughout reviewing relevant literature, it can be found that researchers still have disputes about which factors will affect learners' online learning experience, and the research perspectives and methods are also different; a systematic research system has not yet been formed. In terms of research methods, most existing studies use questionnaires, literature analysis, and scale methods to collect data. Tthey can understand the online learning status of students to a certain extent, and explore some related factors that affect the online learning experience. However, it is unable to deeply capture the dynamic process of online learning experience changes over time and fully understand the indepth reasons that affect online learning experience. Also, in terms of research objects, previous research mainly focuses on college students, and the subject of research is singular. Research on the online learning experience of the graduate group is relatively scarce in China and only 13 articles on online learning experiences for postgraduates are searched in the National Knowledge Infrastructure (CNKI) database, the largest and most widely recognized database in China. However, the graduate group is an indispensable part of the higher education system for online learning. The exploration of experience is especially necessary.

Therefore, based on reviewing and learning from existing research, this article adopts a qualitative research approach, taking graduate students as the survey object to gain in-depth understanding of the actual situation of their online learning experience, and reveals the important factors that affect the online learning experience of graduate students, which are helpful to optimize the quality of postgraduate online education and provide some references and mirrors for advancing the "online and offline" hybrid teaching model in the future.

3   Research Questions

This research attempts to answer these questions:

1.   what is the actual situation of postgraduate online learning experience in China?
2.   What factors in online learning affect Chinese postgraduate satisfaction?

4   Methodology

We conduct this qualitative study by using the interviews, and adopt grounded theory to process and analyze the interview data. As the founder of grounded theory, Glaser and Strauss (2017) believe that grounded theory is a qualitative research method for discovering and constructing theories from empirical data, that is, the process of collecting, analyzing, continuously testing and integrating data in accordance with rigorous and standardized operating procedures. This process particularly emphasizes the interaction with research objects.

4.1   Research Participants

This study adopts a purposeful sampling method and selects 13 graduate students from Nanjing University of Posts and Telecommunications as interview subjects according to research needs. All 13 interviewees have participated in the school's online courses during the winter vacation epidemic. Among them are 5 boys and 8 girls; ages range from 22 to 26 years old; 4 postgraduates majoring in education technology, 3 postgraduates majoring in higher education, 4 postgraduates majoring in electronic information, 1 postgraduate majoring in chemistry, 1 postgraduate majoring in computer application technology. Due to the limitations of objective conditions, this study tries to balance men and women, age ranges, arts and science majors, but there are still certain limitations. The specific information of the interviewees is shown in Table 2.

Table 2. Participants' demographic information

Participant	Gender	Age	Education	Major	Online learning experience
S01	Female	25 years old	Postgraduate	Education technology	4 months
S02	Male	24 years old	Postgraduate	Education technology	2 months

(*continued*)

Table 2. (*continued*)

Participant	Gender	Age	Education	Major	Online learning experience
S03	Female	25 years old	Postgraduate	Higher education	2 months
S04	Male	22 years old	Postgraduate	Electronic information	3 months
S05	Female	24 years old	Postgraduate	Education technology	2 months
S06	Female	25 years old	Postgraduate	Higher education	2 months
S07	Male	23 years old	Postgraduate	Electronic information	3 months
S08	Female	26 years old	Postgraduate	Education technology	2 months
S09	Male	24 years old	Postgraduate	Electronic information	3 months
S10	Female	23 years old	Postgraduate	Electronic information	3 months
S11	Female	24 years old	Postgraduate	Chemistry	2 months
S12	Female	23 years old	Postgraduate	Higher education	2 months
S13	Male	25 years old	Postgraduate	Computer technology	2 months

4.2   Data Collection

We used a semi-structured interview method to interview 13 graduate students one by one to collect data. The interview forms are face-to-face interviews and online videos. The interview content is mainly composed of two parts. The first part aims to know about the interviewee's personal background information, online learning time, etc. The second part focuses on a comprehensive understanding of the respondents' actual experience of participating in online course learning, and their attitudes and views on online learning. Before the interview, in order to enable the interviewees to better understand and answer the interview questions, the researcher briefly explained the purpose of this research to the interviewees and briefly explained the definition of the online learning experience. During the interview, the researcher recorded the content of the interview and took notes with the consent of the interviewees. The duration of each interview ranges from 30 min to 60 min.

4.3   Data Analysis

After the interview, we transcribed 13 interview recordings into 20,000-character manuscripts. After preliminary deletion of sentences that are irrelevant or unclear to the study, the manuscripts are imported into Nvivo12 software for coding. The operation process strictly follows the grounded-theory's "open coding-axial coding-selective coding" three-level coding method to process the data. Part of the interview coding is shown in Table 3.

Table 3. Coding table of data

Selective coding (Number of nodes)	Axis coding (Number of nodes)	Open coding (Number of nodes)	Representative viewpoints of interviewees
External contributing factors of online learning experience (126 nodes)	Teacher (84 nodes)	Teaching ability (23 nodes)	My online learning experience is not good…. Teacher's teaching ability is very important. Sometimes he is very excited when he speaks alone, but we don't understand, and then the teacher keeps talking, regardless of whether students understand it or not. (S04)
		Familiarity with technology (12 nodes)	My online learning experience is not good…. One reason is that some teachers start to use the online platform and are not very familiar with how to operate. When students want to speak, ~~but~~ the teachers don't know how to use the talk function of the platform. This is a waste of everyone's time. (S04)

(continued)

Table 3. (*continued*)

Selective coding (**Number of nodes**)	Axis coding (**Number of nodes**)	Open coding (**Number of nodes**)	Representative viewpoints of interviewees
		Online course design (16 nodes)	But the effect of our online English class is not as good as that of offline…. According to the offline classroom model, everyone is supposed to speak on the podium. But online teaching skips this part. The teacher just asks everyone to upload the recording after class, which disappoints me. (S07)
		Social interaction (33 nodes)	It feels bad to study online. During the time of online learning, there is basically no interaction between the teacher and the student. Everyone can't see the face of each other because teachers and students are unwilling to turn on video cameras, which makes me lonely. Sometimes I even listen to the class while eating. (S11)

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Table 3. (*continued*)

Selective coding (Number of nodes)	Axis coding (Number of nodes)	Open coding (Number of nodes)	Representative viewpoints of interviewees
	Curriculum learning (18 nodes)	Course workload (11 nodes)	After turning to online teaching, there are more tasks after class. It feels like testing for the sake of testing, and PPT reports are required for each course. (S10)
		Assessment method (7 nodes)	If Teachers don't use other methods to keep students' attention, such as randomly taking names and answering questions…. Calling and answering questions have become the main method of online course assessment. I don't like this method of assessment very much. I feel that I don't understand the teacher's question, and I must raise my hand to pretend to answer. It is too utilitarian in order to add points. (S02)

Table 3. (*continued*)

Selective coding (Number of nodes)	Axis coding (Number of nodes)	Open coding (Number of nodes)	Representative viewpoints of interviewees
	Technology support (24 nodes)	Network status (14 nodes)	About the online learning experience, I think the internet speed is very important, because when I am at home, the internet speed is very fast. But after I arrive at school, it happens that the school's internet seems to have some problems, and then I am unable to connect the internet. Poor internet speed makes me can't keep up with the teacher's lecture progress and I miss a lot of important content. (S13)
		Platform function (10 nodes)	It will be great if students also can add their own notes on the screen explained by the teacher.... Allowing multiple people to edit the content of the course online. You can put a question mark on what you don't understand, and the teacher will know where the student didn't understand, and she will repeat it again, so that timely feedback is achieved. (S08)

Table 3. (*continued*)

Selective coding (Number of nodes)	Axis coding (Number of nodes)	Open coding (Number of nodes)	Representative viewpoints of interviewees
Internal contributing factors of online learning experience (26 nodes)	Learner (26 nodes)	Intrinsic learning motivation (11 nodes)	In my opinion, online learning mainly depends on the intrinsic learning motivation of students, like my previous experience of attending online courses for postgraduate entrance examinations; my motivation is very strong at that time. (S05)
		Self-supervision ability (9 nodes)	Some students with good self-discipline will consciously study and complete the learning task even if they are not urged by a teacher, but students with poor self-discipline will fool themselves into not completing the learning task seriously. (S01)
		Autonomous learning ability (6 nodes)	Online learning is more suitable for students with strong autonomous learning ability. However, I belong to the passive learning type, and I barely learn actively on my own. (S09)

First, open coding is the process of decomposing data into independent units of meaning and its purposes are to conceptualize and label data (Glaser and Strauss 2017). Open coding begins the process of classifying many individual phenomena. The concepts of separate categories are grouped together around related topics to build more abstract categories. As shown in Table 3, a total of 11 initial categories are formed,

mainly including teacher teaching ability, teacher familiarity with technology, online course design, social interaction, intrinsic learning motivation, self-supervision ability, autonomous learning ability, course workload, assessment method, network status, and platform function.

Secondly, the axis coding is a process of inducing and summarizing the nature, dimensions, attributes, and other relationships between the initial concept categories formed, and organically linking various logical categories (Glaser and Strauss 2017). In the process of axis coding, we reviewed the internal logical relationship between the 11 initial categories, clarified the conceptual links between the categories, and finally integrated and refined 4 main categories: teacher, learner, curriculum learning, and technology support.

Finally, selective coding can be described as a process in which categories are related to core categories, which eventually become the basis of grounded theory (Glaser and Strauss 2017). We further classified the three main categories of "teacher", "curriculum learning" and "technical support" into the core category of "external factors", and classified "learners" into the core category of "individual internal factors". Finally, two core categories of "individual internal factors" and "external factors" are obtained.

5 Findings

This research follows the process of grounded theoretical analysis, synthesizing the relationship between the initial category, the main category, and the core category, and constructs a map of contributing factors of postgraduate students' online learning experience, as shown in Table 4. The results of the study show that individual internal factors and external factors such as the environment are the two main factors affecting the online learning experience of postgraduates. The online learning experience of graduate students is not only affected by external factors, but also by individual internal factors. Individual internal factors such as intrinsic learning motivation, self-supervision ability, and autonomous learning ability are the active conditions for graduate students to participate in online learning, and determine their participation status, and whether the participation status is active or not will directly affect the online learning experience of graduate students. External factors such as teachers, course learning, and technical support are the objective environmental elements for postgraduates to conduct online learning, and objective environmental elements are the basic conditions for postgraduates to produce online learning experience. The internal factors of the subject and external factors such as the environment are intertwined with each other, which together affect the online learning experience of postgraduates.

Table 4. Factors affecting postgraduate students' online learning experience

Dimensions	Factors
Internal factors on individuals (26 nodes)	Intrinsic learning motivation (11 nodes)
	Self-supervision ability (9 nodes)
	Autonomous learning ability (6 nodes)
External factors at teacher level (84 nodes)	Teaching ability (23 nodes)
	Familiarity with technology (12 nodes)
	Online course design (16 nodes)
	Social interaction (33 nodes)
External factors at the technical support level (24 nodes)	Network status (14 nodes)
	Platform function (10 nodes)
External factors at the curriculum learning level (18 nodes)	Course workload (11 nodes)
	Assessment method (7 nodes)

5.1   External Contributing Factors Such as Online Learning Environment

Through the sorting, coding and analysis of interview data, it is found that external factors such as the environment will have a certain impact on the online learning experience of postgraduates. External factors mainly include teachers, technology support, and course learning.

First of all, from the aspect of teacher, their teaching ability, teachers' familiarity with technology, online course design, and social interaction has the greatest impact on the online learning experience of graduate students. The Table 3 shows that the number of nodes at the teacher level is the largest, about 84 nodes. The four elements at this level are directly related to the quality of the postgraduate online learning experience. The stronger the teacher's teaching ability and familiarity with technology, the more novel the curriculum design, and the more flexible the social interaction, the better the online learning experience for graduate students. Among them, the online learning experience of graduate students is most affected by social interaction (the number of nodes is 33). Social interaction refers to the social communication and online cooperation between learners and teachers, learners and learners, learners and other experts, etc. From the actual online learning experience of graduate students, the interactivity of online learning is far from meeting their needs. There is very little interaction between teachers and students or students and students, and their interactions are often not instant enough, which brings a bad online learning experience to learners. For example, a graduate student mention that "the teaching interaction of online courses is too little, the group is very deserted, and there is no interaction with each other" (S11); another student mention that "online learning has no learning atmosphere and cannot see the learning status of peers, and there is basically no communication between classmates, so sometimes I feel very lonely" (S06); another example is that the interviewee pointed out that "the teacher's online lectures should be more interactive, mobilize the enthusiasm of the students, and encourage everyone to discuss. If this can be solved, I think the online learning experience

will become better" (S05). The above shows that the current degree of interaction in online learning is not ideal, and weak interaction cannot meet the relationship needs of graduate students, and it is not conducive to mobilizing the enthusiasm of graduate students, leading to a negative online learning experience.

Secondly, the network conditions and platform functions at the technical support level are another key factor that affects the online learning experience of graduate students. Good network conditions and platform capabilities can make learners have a positive online learning experience. On the contrary, it will bring a poor experience. Some interviewees express their views on Internet speed:

Internet speed is very important because when I am at home, the internet speed is very fast. But after I arrive at school, it happens that the school's internet seems to have some problems, and then I can't connect the internet, which make me can't keep up with the teacher's lecture progress and miss a lot of important content. (S13)

In addition, during the interview, the interviewees state that the ease of use and convenience of the platform's functions will also have a certain impact on their learning experience. "Because the platform has many forms and functions, it is also very complicated, which makes it difficult for everyone to grasp." (S01), therefore, technical support and services are also important factors that cannot be ignored.

Finally, it is worth noting that the assessment methods and the course workload at the learning level of the course will also affect the online learning experience of postgraduates. When teachers carry out online teaching activities, the design of assessment methods and the arrangement of curriculum tasks should be reasonable and effective. They should not only achieve the effect of testing learners' learning conditions, but also the testing should not be conducted too frequent. In the interview, some students raise doubts about the assessment method and the amount of course tasks. "After becoming online teaching, there are more assessment items and assignments. The teacher assigns a lot of homework and every course needs a PPT report. "(S10).

5.2   Internal Contributing Factors of Individuals

This study finds that not all postgraduates' online learning experience is affected by external factors, but also by individual internal factors. Individual internal factors mainly include learners' internal learning motivation, self-supervision ability, and autonomous learning ability.

Intrinsic learning motivation refers to the motivational tendency to stimulate and maintain learners' learning behaviors and make them move toward a certain academic goal. It will affect learners' interest in learning activities and willingness to participate. In the interview, some interviewees state that "I think online learning mainly depends on the intrinsic learning motivation of students. Like my previous experience of attending online courses for postgraduate entrance examinations, my motivation is very strong at that time" (S05). It can be seen that the strength of intrinsic learning motivation will affect the state and enthusiasm of learners to participate in online course learning, which in turn leads to differences in learners' sense of online learning experience. During the interview, we find that graduate students with strong internal learning motivations have relatively better online learning experience. One graduate student states that "online learning is not much different from offline learning, but online learning can avoid the

interference in the offline environment and concentrate on learning" (S03). In addition, self-supervision ability is also one of the internal factors that affect the online learning experience of postgraduates. It refers to the learner's constraints on their own behavior, thoughts, and speech, that is, the process of achieving expected goals through the regulation and restriction of the subject and the object. Since the organization of online learning is decentralized and lacks strong supervision by teachers, learners often need to have stronger self-supervision capabilities, while learners with poor self-consciousness will have a poor online learning experience. Some graduate students speak frankly that "online learning is not suitable for me, because without the supervision of teachers and classmates, my state of online learning is very lazy, and I often hang up and play games" (S11). Another intrinsic factor that is as important as self-supervision ability is self-learning ability. 6 graduate students out of 13 interviewees believe that self-learning ability is a necessary condition for completing online courses. "Graduate-level courses often expect students to study on their own. The online learning environment is free, and I will be more actively involved in learning and improve my ability" (S07).

6   Discussion and Conclusions

The main conclusions of this research are as follows. The first conclusion is that the online learning experience of graduate students is affected by the internal factors of the subject and external factors such as the environment. Among them, the internal factors involve the level of learners, and the external factors such as online learning environment cover the level of teachers, course learning as well as technical support. The second conclusion is that there are 11 key factors that will affect the postgraduate online learning experience, mainly including teacher teaching ability, teacher technical literacy, online course design, social interaction, network conditions, platform functions, assessment methods, course tasks, intrinsic learning motivation, self-supervision ability, and autonomous learning ability. The third conclusion is that the factor of social interaction plays a key role in the online learning experience of graduate students.

Based on the above research conclusions, this research proposes the following improvement suggestions to optimize the online learning experience of graduate students.

6.1   Strengthen Teachers' Training to Improve Their Online Teaching Ability

The online teaching ability of teachers is closely related to the online learning experience of learners. Also, considering the fact that teachers are the main implementers and instructors of school teaching activities, colleges and universities should provide teachers with more skills training and further training opportunities to continuously improve their online teaching capabilities. Because of the sudden outbreak of the COVID-19, the online teaching pattern becomes an emergency measure during the epidemic prevention period. Some college teachers do not have the necessary teaching skills to carry out online teaching activities. It is also found from the interviews that most interviewees express concern about teachers' online teaching ability, they believe that some teachers have copied offline courses to the internet, and still habitually uphold the traditional

teaching concept of "teacher-centered". All in all, teachers should actively participate in online skills training inside and outside the school, actively improving their own teaching ability. Only doing this can ensure the quality of online teaching, and then enhance the learner's online learning experience.

6.2   Enhance the Interactivity of Online Learning

In view of the fact that social interaction plays a key role in the online learning experience of graduate students, teachers should pay attention to the interactive communication with learners to avoid one-way knowledge instillation that causes negative learning experience for learners. Teachers need to adopt more interactive teaching methods when designing teaching, such as cooperative learning method, inquiry discovery method, task-driven method, etc., encouraging learners to make full use of the platform's collaborative tools to carry out cooperative learning, guiding students to conduct more simultaneous interactions. In addition, teachers should also hold regular online Q&A activities to dynamically grasp learners' online learning status, in order to timely provide learners with diagnostic feedback to strengthen the interactivity of online learning.

6.3   Carry Out Online Learning Guidance to Cultivate Students' Independent Learning Ability

Online learning requires learners to have stronger self-learning ability, but most learners have not yet developed the ability to learn independently, and still rely on the supervision and guidance of teachers habitually; they are even unable to completely abandon the traditional classroom learning thinking. It is necessary for universities to actively offer online learning guidance courses to cultivate learners' independent learning ability and self-supervision ability. That can guide learners to conduct scientific and effective online learning, which will help to form a positive online learning experience.

6.4   Improve Platform Construction and Optimize Online Learning Technical Support Services

The diverse forms of current online learning platforms, complex rules, and insufficient personalization of functions are objective environmental factors that affect postgraduates' online learning experience. Therefore, government departments, companies, enterprises, and universities should work with together to continuously improve the functions of online learning platforms, paying attention to the real needs of learners and teachers. For example, students' needs include strengthening the interactive functions of the platform, simplifying the operation process of the platform, supporting the diversified presentation of teaching resources, realizing the simultaneous editing of course content by multiple people, as well as the development of fun quizzes in class. Only by doing so can provide learners with a more convenient and humanized online learning experience.

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Appendix

Interview questions

1. What do you think is the difference between the online learning environment and the offline course environment?

2. Can the online learning environment meet your learning needs?

3. Can you talk about your feelings about participating in online course learning activities?

4. What kind of experience did you get through online courses?

5. What aspects do you think will affect your online course learning experience?

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