Teaching Innovation of College Teachers Based on Self-determination Theory

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Abstract. With the development of the 5G network and artificial intelligence technology, the way for people to acquire knowledge has changed from a single traditional classroom to a combination of classroom, Internet, and multi-terminal mobile devices. The construction of online course resources in different port devices has become a new task and challenge for teaching. As the main force of online course resource libraries, college teachers are facing the problem of burnout and exclusion while providing rich and varied course resources. Starting from this problem, this paper selects a representative teacher from a university in Guangdong Province as a member of the focus group and conducts a semi-structured interview. The results show that the work environment with high autonomy, the teacher-student relationship that can reflect certain personal abilities in the construction of online courses, and the teacher-student relationship with high interaction frequency can stimulate the teachers' internal motivation and actively build courses. At the same time, it also provides an effective reference for platform construction. Compared with the development of multiple functions and interesting interface design, the simple and easy-to-operate platform is more attractive.

Keywords: SDT; college teachers; online courses.

1   Introduction

The development of science and technology and the innovation of artificial intelligence technology have provided students with various learning options. Among them, the development of computers and smartphones ensures the basic conditions of electronic equipment, and the development of wireless networks and intelligent algorithms provides rich possibilities for constructing network data platforms. Therefore, online media platforms are gradually developing into new platforms for learning and knowledge accumulation outside the classroom. The course resource library of the new media platform provides a variety of learning options for current students, and the adoption of mobile network learning provides students with a higher level of independent choice and self-realization [1]. Massive open online courses, such as MOOC platforms, have

become important in teaching AIDS for Internet-based development [2]. Although negative evaluations of online teaching platforms also occur from time to time, for example, online teaching resources will break the educational structure and model of communication and affect the relationship between teaching, research, and course student approval [3] [4]. However, its supporters point out that e-learning platforms can provide more flexible and fast access to platforms for more people interested in knowledge learning [5]. The use of mobile phones for fragmented learning has become an important source of knowledge acquisition for a broad audience. The construction of a university network teaching platform not only provides more diversified channels for students to learn but also becomes a new choice for other students and social people to understand and master knowledge. Therefore, promoting first-line teachers in colleges and universities to actively build online course resources, enrich the course group content of colleges and universities, and build a course chain has become an important part of the current course construction in colleges and universities. However, the construction of online course resources means a more complicated actual operation process and post-construction steps for college teachers, as well as the communication risk brought by the network and more audiences. Therefore, although the construction of online course resources is of great significance to the learners, there is still some resistance to the builders. Self-determination theory (SDT) [6] [7], as a cognitive theory of motivation, provides a theoretical basis and practical operation possibility for promoting teachers to actively build a teacher resource platform and improve the quality of teaching resources. Based on the group of college teachers, this study attempts to understand the behavior of college teachers in the construction of online course resources in their work from the perspective of self-determination theory and tries to propose a plan to promote teachers to actively build course resources. At the same time, the theory of self-determination is combined with the dissemination of innovative technology to explore a new way of theoretical development.

2   Research theory

Self-determination theory is a theory of human motivation and is the only theory of motivation that identifies autonomy as a human need. It also focuses on the relationship between mental demands and the environment and positive outcomes. Promote more autonomous regulatory behavior by producing positive outcomes [8]. Self-determinism divides motivation into internal motivation and external motivation. Content motivation refers to the inherent quality of human exploration, which is highly related to personal interest and satisfaction, and represents the prototype of self-determination. On the other hand, external motivation refers to the fact that whenever an activity is carried out, it is for some separable result [9], such as to avoid a mechanism such as punishment. Many studies have shown that intrinsic motivation has a greater impact on self-organizing behavior than extrinsic motivation. For example, students participate in knowledge learning and sharing by being strongly driven by intrinsic motivation [10] [11]. Therefore, this study focuses on the role of internal motivation of college teachers. By treating the individual as an active subject, the author discusses his free choice based

on the full understanding of individual needs and environmental information [12]. SDT argues that the adoption of intrinsic motivation generally depends on three universal needs: autonomy, competence, and the need for relevance [13]. Autonomy refers to the desire to self-initiate and self-organize, meaning that the person's behavior is influenced by the outside world, and he or she is free to choose his or her behavior and feel proactive. Competence means that people often feel effective in interacting with their social environment and are eager to demonstrate their competence. Relevance refers to the desire to feel connected to others and want to perceive acceptance and support from others [14] [15]. The construction of an online course resource library can set up courses according to teachers' independent will and personal style, which has a high degree of autonomy. The recognition of the value evaluation system of the course can help the course realize the sprint of quality courses, which is the recognition of the teacher's ability. A new relationship between teachers and students is gradually formed through online interaction with students, as well as the behavior of students' likes and comments after watching. Therefore, it is reasonable to use SDT to construct teachers' online course resources.

SDT theory has been applied in a large number of research literature in different fields, such as health, work, sports, and education [16]. In the field of education, there are a lot of studies on self-determination, but the main focus is on how to use SDT to stimulate students' learning initiative and improve learning efficiency. For example, Li Jing and Yang Wei discussed college students' autonomous learning and online presence [17], Xu Q. et al. discussed SDT's incentive for college students' fragmented learning [18]. Guo Kalong et al. studied SDT's promotion of college students' learning motivation in physical education courses [19]. Sun et al. studied and discussed the relationship between students' MOOC participation and quality from the perspective of SDT [20]. However, from the perspective of teachers who are more important in the teaching process, especially based on the current digital teaching methods and the diversified digital teaching development background, teachers' active construction of online teaching resource database and enrichment of content will actively assist students to some extent, promote teaching exchange and learning, and improve teaching relationship.

Based on the above foundation, this study puts forward the following research questions: First, to what extent can the online course resource system of colleges and universities stimulate teachers' behavioral willingness to actively construct course resource databases? Second, what types of platform application characteristics can stimulate teachers' behavioral willingness to actively construct and use curriculum resource libraries? Third, what kind of learning habits of student groups can encourage teachers to actively enrich and improve the construction of the curriculum resource library?

3   Research methods

3.1   Research Methods

This study mainly adopts the focus group research method and conducts thematic research interviews. Through professional discussions in small groups, teachers are stimulated to express their personal views and opinions. The target teachers were interviewed by setting up semi-structured interview organizations related to the research questions. For example, online resource construction intention, online course construction system, teaching platform use characteristics, student use, student interaction, and other topics. In addition, a master's student with certain experience in communication was selected as the moderator. Through the grasp of the semi-structured questionnaire, he actively guided and did not interfere too much in the communication of the members of the group and recorded the content effectively. After the text is obtained, the text content is sorted out and summarized, and the research is summarized according to the research problems. According to Merton, the reasonable range of focus group members is 6-10. According to the research objectives [21], 8 college teachers were selected as the interview objects of this focus group.

3.2   Research Sample

This study mainly selects a group of teachers in a university in Guangdong Province as the research object. This paper probes into the case of constructing the Super Star platform online course resource library. According to the content of the official teacher team of the school, the sample is mainly divided into four general situations in terms of the age and composition of the teachers in the school: young teachers who have been in the school for less than 3 years and have not obtained the title of lecturer are generally no more than 35 years old. The young and middle-aged teachers who have been in school for more than 3 years, not more than 8 years, and have obtained the title of lecturer are generally not more than 45 years old. The teachers who have been in school for more than 8 years and have obtained the title of associate senior are generally not more than 55 years old. Middle-aged and elderly teachers with senior professional titles. By analyzing the characteristics of the selected total samples, sample stratification is carried out for different teacher groups. Based on the understanding of sample groups, this study mainly uses the method of purpose sampling to select 2 representative teachers from each layer of samples for follow-up interviews. A total of 8 teachers with different titles and at different ages were selected as research objects.

4   Results & Discussion

4.1   Results

Through the collation and summary of interview data, this study gives the following results in table 1 for related issues.

Table 1. Results of focus group interview

The interview project	Young teachers without professional title (Teaching assistant)	Intermediate title young and middle-aged teachers (Lecturers)	Associate senior title teachers (Associate professors)	Teachers with senior professional titles (Professors)
Infrastructure will	There is a willingness to learn in detail	Willingness to improve the quality of existing courses is needed	Willingness is needed to assist in the development of more advanced courses	Willingness to learn new things willing to join a young team
System requirement	The existing rigid punishment system reduces the willingness of individuals to actively explore construction, but they still choose construction	The school reward system can motivate individuals to improve their network information construction, but the coercive measures may affect their autonomy	The school system has little influence, but the construction of online courses can improve the overall level of courses in the evaluation system	The school system has little influence and mainly assists the construction of young teachers
Platform characteristics	The design function is more complete, and novel and diverse	Easy to operate, easy to use	Easy to operate, easy to use	Easy to operate, easy to use
Student use	Can actively study and watch various learning materials in the platform, pay attention to the download of learning materials	Be able to download and consult relevant materials according to course requirements. Be able to submit homework on time.	Students can learn the knowledge in the curriculum resource library of the school in a planned way and expand the scope of learning	Students can complete a certain degree of independent learning, enrich personal knowledge and culture
Interaction between teachers and students	Students take the initiative to interact in the online platform, such as "like" and "leave a message", and at the same time, they can have fun with candidates and questions	It is better that students can complete the interaction initiated by teachers and actively carry out fun activities on the platform	Students can provide personal feedback on the courses created in the curriculum library and complete the assignment submission on the online platform	More students are expected to complete the course tasks, and there is little demand for online interaction, but more attention to offline interaction

4.2   Discussion

Through interviews with a representative group of college teachers, it is understood that college teachers have a certain willingness for the construction of online course resources based on the pioneering and particularity of their careers. But the level of willingness to build and the considerations vary. However, as active initiators, teachers tend

to be close to the technological development in the current social environment and establish a positive correlation with the technological world in teaching, which is still relatively consistent with the basic concepts of SDT theory. However, based on SDT, teachers express the factors that influence individuals to actively construct curriculum resources from different perspectives. Based on different individual characteristics, there may be different levels of satisfaction for a given job, but low satisfaction with various influencing factors usually leads to a higher level of job burnout [22] [23], it is ultimately difficult to complete the construction and continuous enrichment of the curriculum from the perspective of self-promotion.

Work environment and system based on teachers' independent needs.

Based on the particularity of education work, offline teaching is still the main form at present. While ensuring the basic teaching quality of online teaching, the construction and continuous improvement of the online teaching resource base require teachers to exert great autonomy. However, most of the teachers' autonomy comes from related tasks in teaching practice. The data in the above focus group interviews also show that individuals have the willingness to build, but if the university institution has a clear punishment system or excessive framework provisions, it will reduce individuals' willingness to build, and even result in a perfunctory completion of their construction tasks. Teachers' autonomy has been suppressed in this type of working environment, and factors such as how to build, how to build, and what kind of content to build have changed from the influence of internal autonomy to the influence of external repression. On the contrary, certain positive encouragement policies and a relatively broad working environment and system will reduce teachers' passive emotions and increase their sense of autonomy, and teachers' independent control over the course form and content will gradually appear, turning into an internal driving force to promote teachers' construction of online course resource base. Therefore, based on the basic characteristics of college teachers' knowledge workers and the impact of the work system environment on their autonomy, the institutional regulation of online course resources by colleges and universities and the transition to lenient reward have become important factors to consider.

Construction of online courses based on teachers' personal ability.

As knowledge workers, teachers have a high ability demand and need to show self-ability and realize self-value in work (Sun Zhifu, 2012). In this interview, the recognition and reward system of the school for teachers to build the curriculum library plays a great role in promoting the newly entered teachers as well as the young and middle-aged teachers. These teachers believe that the recognition and system reward are the embodiment of personal ability in work. At the same time, students' active "like" behavior and "leave a message" behavior also increase teachers' willingness to build resource databases from the perspective of students' recognition. At the same time, students' comments on teachers' teaching methods and relevant suggestions provide reference materials for teachers' follow-up online teaching and the construction of a resource library. At the same time, in the speech area of students in the curriculum resource

library, through the expression of students' personal interests and hobbies, as well as the expectation of learning knowledge, teachers can stimulate the willingness to expand personal knowledge and enhance personal ability. Through the establishment of a relevant positive recognition system and teaching environment, not only for teachers to take the initiative to build an online resource database but also for offline teaching have a role in promoting.

Construction of new teacher-student relationship based on teachers' relevance needs.

The traditional attachment framework holds that a close bond with others is an implicit need of the individual (Bowlby, 1958). There is a high consistency between the need for intimate relationships and the need for connection in SDT. Students establish an online interactive relationship with teachers through likes, messages, and other evaluation behaviors, breaking the traditional form of offline teachers and students, and better listening to students' learning feedback on the network. For teachers with certain teaching experience, through online assignments and the completion of tasks, they can more accurately grasp the overall learning progress of students, and carry out more targeted teaching plans and the construction of online resource libraries. In good interaction with students, teachers take the initiative to put themselves in more equal and easier communication between teachers and students. Thus, it is helpful for teachers to establish the desired personal image and meet their relevance needs in teaching work and curriculum construction.

To sum up, college teachers, as the leaders in the construction of online course resource databases, are faced with various challenges, but SDT can encourage college teachers to actively participate in the construction of online course resource databases from the perspective of intrinsic motivation, and constantly update the resource database based on the current social development, which is more in line with the practical needs of students. At the same time, this study also pays attention to the fact that, as an online resource library platform, easy entry in a short time and simple operation interface and steps are the main driving forces for teachers to carry out curriculum construction. Although more rich and diverse functions can attract students and younger teachers to use them to some extent, on the whole, Basic functions such as ensuring the simplicity of platform construction and smooth playback of resources are still the main advantages.

5   Conclusion

The rapid development of 5G networks and artificial intelligence technology has brought more people onto the network platform. AI content generation technology and the content it produces have given the audience a great sense of crisis. The learning and active use of new technologies have become the only way for teachers and staff in many industries. At the same time, as a college institution, it is the requirement of college teachers to update the course form and content according to social development. Therefore, it is extremely important for teachers and groups to accept innovative things more

actively. From the perspective of self-determinism, this paper puts forward the factors that are helpful to teachers' independent construction of curriculum resources, and at the same time provides an effective reference for colleges and universities to reduce their job burnout, take the initiative to self-learn, and actively exert their self-value in the society regardless of progress and development.

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