



# Research on the Innovation of “Internet+” Classroom Instruction in Undergraduate Business School

Boren Gao (✉)

Guizhou University of Commerce, Guizhou 550014, China  
gaoboren@139.com

**Abstract.** Undergraduate business schools conform to the development trend of the “Internet+” era, actively promote and apply the “Internet+” classroom instruction mode, which can promote the effective reform of education mode and promote the systematic deepening of instructional reform in schools. This research focuses on the education and instruction practice of lecturers and professors in undergraduate business schools. With the support of Internet information technology and classroom instruction innovation theory, the instruction mode is scientifically analyzed and reasonably designed from many aspects such as before, during, after and extracurricular class. At the same time, from the perspective of improving the comprehensive quality of lecturers and respecting the main position of students in learning, the 860 questionnaire was used to analyze the effect of “Internet+” instruction in undergraduate business schools, aiming at constantly improving the construction of information-based learning platforms and promoting the implementation of “Internet+” instruction mode, as well as providing support for the effective use of instruction design, reasonably setting instruction objectives, optimizing and integrating learning resources, continue to promote the effective improvement of instruction mode.

**Keywords:** “Internet+” Instructional Design · Classroom Instruction  
Innovation · Undergraduate Business School

## 1 Introduction

In recent years, the internet live online classroom has attracted wide attention with its novel online learning interactive platform technology. This emerging instruction mode effectively links the Internet and offline instruction in colleges and universities, makes traditional classroom instruction free from the limitations of time and space, and combines with the flipped classroom instruction mode to form a mixed instruction mode with excellent inclusiveness, sharing and personalization. After the outbreak of COVID-19, Internet + instruction has been adopted by many colleges and universities, setting off a reform of education mode based on modern information technology, and has become an important form of daily instruction. In order to deeply understand the positive impact of Internet + instruction on the education and instruction of undergraduate business

schools [1], and better promote the deep integration of MOOC class, RAIN class and flipped class with traditional teaching, it is necessary to conduct phased research and summary on Internet + classroom instruction, so as to provide advice and suggestions for the innovative development of higher business education.

In addition, in the context of the digital economy, the hardware conditions such as the construction of new educational infrastructure and the construction of smart education demonstration areas are constantly improving, which is accelerating China’s educational reform, and it is necessary to explore the mode, strategy and path of information technology to promote the new ecology of smart society education. This paper holds that the fundamental way for information technology to promote educational reform is to reconstruct the instruction process and the new instruction mode supported by information technology innovation. For undergraduate business schools, it is necessary to keep pace with the times, realize the organic combination of large-scale education and personalized instruction, and finally implement the construction concepts of heuristic, inquiry, participation, cooperation and precision instruction on the fundamental issue of students’ learning process, so as to realize the deconstruction, reorganization and reconstruction of traditional teaching process and the innovation of instruction mode.

On the basis of full research and demonstration, all countries in the world have focused their talent training on core literacy education. In 2002, the United States officially launched the “21st century core skills research” project and created the partnership for 21st century skills [2]. The organization formulated and released the framework for 21st century learning (21st century literacy framework) in 2002. In 2007, the organization released a new version. Likewise, in 2001, the general education content renewal

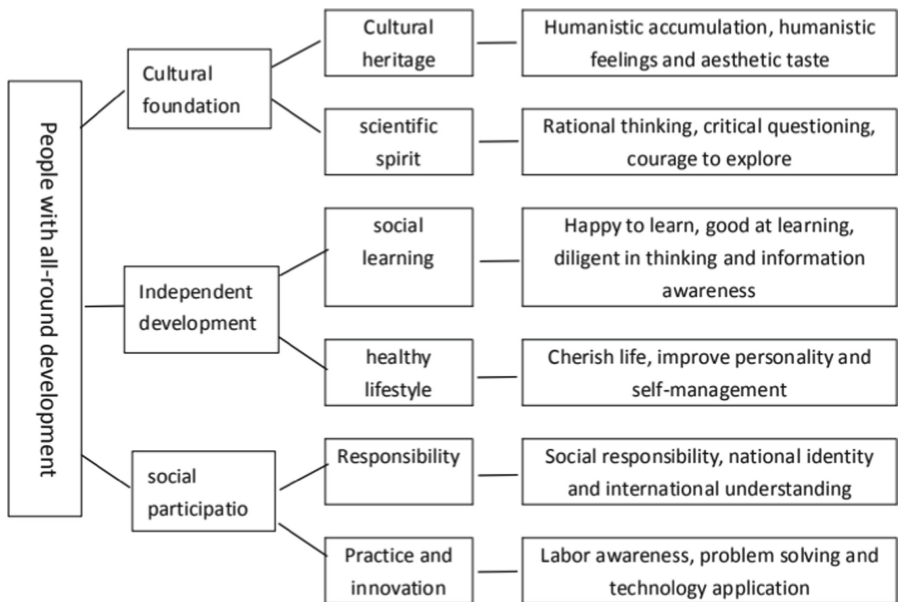


Fig. 1. Chinese Students’ Development Core Literacy [Owner-draw]

strategy committee of the Ministry of education of the Russian Federation organized the preparation of the general education content modernization strategy [3]. In 2013, the National Institute of education of Japan released the report “basic principles of educational curriculum development to cultivate quality and ability to adapt to social changes”[4].

In 2018, the European Union issued “the European lifelong learning core literacy recommendation framework 2018”. In 2005, the organization for economic co-operation and development (OECD) published the definition and selection of literacy, and defined “literacy” as the ability to meet complex needs by using and mobilizing psycho-social resources (including skills and attitudes) in specific situations. [5].

China’s education reform has always adhered to the guiding role of core literacy. In September 2016, the Department of basic education of the Ministry of Education commissioned Beijing Normal University to take the lead in releasing the overall framework of Chinese students’ development of core literacy, which is a concrete embodiment of China’s education entering the core literacy education [6]. The content structure of the framework is shown in Fig. 1, The “core quality” is defined as the personality quality and key ability gradually formed by students in the process of receiving education in the corresponding period to adapt to personal lifelong development and social development. The definition of core literacy is a signal that school education turns from knowledge transmission to knowledge construction, which indicates that the curriculum development of schools in China has entered a new stage [7].

The indicator framework of students’ development core literacy is a relatively abstract, systematic and comprehensive expression. Its implementation in education needs to be specific to make it more operable. To enter classroom instruction activities, students need to go through a process. This process is shown in Fig. 2. Students’ development of core literacy can be used in the formulation of curriculum standards by infiltrating into the process of formulating core qualities of disciplines (or courses) of national discipline courses or school-based courses, so as to promote fundamental

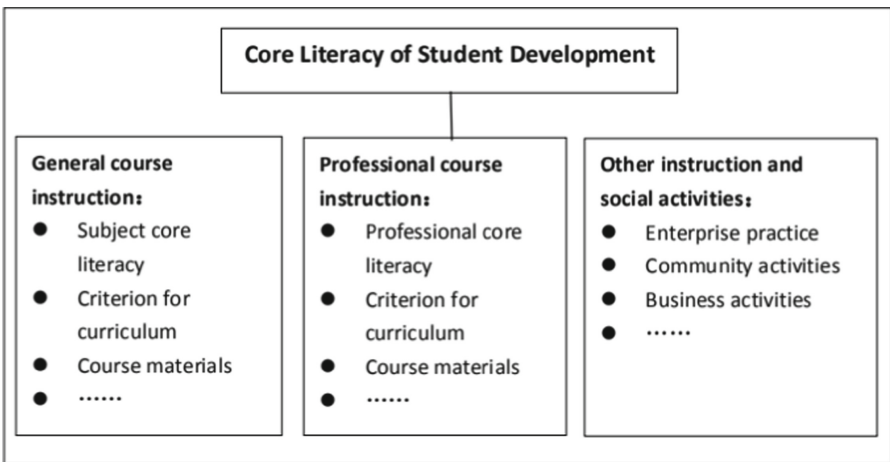


Fig. 2. The Process of Core Literacy Affecting Instruction [Owner-draw]

changes in the compilation style of teaching materials, so that students’ development of core literacy and subject core literacy can be implemented in textbooks and finally realized in the course of curriculum instruction. After 2018, the college curriculum plan and subject curriculum standards comprehensively revised in accordance with the “Chinese students’ development core literacy” were officially promulgated, indicating that students’ development core literacy began to be integrated into the subject core literacy education, and core literacy education began to promote the reform of basic education teaching [7].

In addition, in 2019, the Ministry of Education issued the implementation plan for accelerating the modernization of Education (2018–2022). The work points of the Department of higher education in 2020 clearly put forward the “double ten thousand plan” for the overall implementation of first-class courses, advocated the horizontal combination of domestic curriculum platforms, and promoted classroom reform to become a spiritual revolution, conceptual revolution, technological revolution and behavioral revolution for educators. The key points of the work emphasize to vigorously develop “Internet+” and “smart+” education, and promote the wide sharing of high-quality curriculum resources by building high-quality, open and shared first-class courses [7]. It has formed a curriculum reform and classroom revolution that includes online “golden lessons”, online and offline hybrid “golden lessons”, and offline “golden lessons” and the deep integration of information technology and education and instruction. Taking online courses as an important starting point to promote the construction of first-class undergraduate majors has become the consensus of the industry. Among them, online and offline mixed instruction, which realizes the effective integration of heterogeneous resources through “Internet+” technology and greatly improves the instruction quality, will be an important model for the construction of “golden Courses” in the future.

## 2 “Internet+” Classroom Instruction Design

“Internet+” classroom instruction design is a new teaching method derived from the trend of information technology. It is a instruction mode based on the traditional offline teaching mode and integrated with the online teaching mode. In the practical application stage, it can rely on the multifunctional online learning platform to provide new instruction experience for students to participate in curriculum instruction activities, so as to produce better curriculum instruction effects. On the one hand, lecturers can release learning requirements and tasks on the online learning platform according to learning conditions and instruction objectives, and students can participate in and complete online learning tasks, so as to promote students to achieve independent learning. On the other hand, lecturers can also carry out the whole process of instruction in the course of teaching, and always provide reliable and professional course guidance for students in the stage of preview before class, guidance in class and review after class. In terms of knowledge guidance, ensure that students can be guided by professional lecturers’ courses; In online and offline learning situations, students can experience the characteristics of the “Internet+” era and improve learning efficiency [8].

“Internet+” instruction is a new teaching mode. According to the theoretical basis of the “Internet+” era and smart classroom, the actual environment faced by colleges

and universities, and the learning reality of students, when using this mode to carry out instruction, first of all, we should scientifically and effectively design all aspects of teaching, reasonably arrange and create instruction content and teaching environment, and preset possible problems in the instruction process, scientifically plan all teaching links to ensure that there is sufficient preparation for the practical application of the instruction mode.

### **2.1 Before Class: Create an Interactive “Internet+” Classroom Environment**

In the process of instruction design, the “Internet+” classroom teaching mode should pay full attention to pre-class design, and pay attention to the efficient creation and effective grasp of the teaching environment and students’ learning situation [9]. This instruction mode has higher requirements for information technology conditions and intelligent learning environment. In instruction design, universities and lecturers should work together to create a learning environment conducive to the instruction activities of this teaching mode. On the one hand, colleges and universities should fully introduce information, intelligent and digital learning tools, and at the same time, install intelligent learning systems in the classroom, which can not only provide intelligent learning terminals for students, but also provide and push learning resources for lecturers themselves, record and analyze classroom teaching processes and dynamically monitor instruction effects. The creation of such a learning environment also needs to be effectively integrated with the specific classroom instruction requirements and reality, and all kinds of intelligent teaching equipment and learning systems should be debugged based on the classroom instruction requirements, so as to design an intelligent instruction environment with practical operability and practical utility. At the same time, in the pre-class teaching design, teaching objectives, course presets and learning situation analysis are also very important, which is also an important embodiment of this teaching model’s emphasis on students’ learning subject status.

### **2.2 During Class: Design a Variety of Instruction Methods**

On the basis of the creation of online teaching environment and the analysis of learning situation, lecturers need to design instruction based on the internet teaching environment and learning situation, design and improve teaching contents, instruction methods and classroom learning evaluation, so as to promote the effective implementation of the “Internet+” classroom instruction mode in the virtual classroom [10]. This instruction model attaches importance to the main position of students, and is committed to completing the instruction process and creating an intelligent classroom in the interaction between lecturers and students. Therefore, college lecturers should be transformed into facilitators, should design modern, intelligent instruction methods that can deepen the interaction between lecturers and students in the online class. For example, in view of the diverse personalized needs of contemporary college students and the characteristics of habitually using information technology to carry out learning, lecturers can use Internet information technology to design virtual real scene experience facilitation methods and create virtual teaching scenes related to teaching contents for students to carry out teaching. Specifically, it is to use notebook computers, VR glasses and related intelligent

devices to provide students with learning scenes that can be truly experienced, and at the same time, let students truly feel relevant theoretical knowledge in the scene experience, and learn to use theoretical knowledge to solve problems encountered in the scene experience, so as to achieve the dual goals of intelligent instruction classroom design and use, and also bring real participation in online classroom learning, also an opportunity to practice [11]. In view of the current situation of high degree of theorization of classroom instruction in Colleges and universities and insufficient thinking and exploration of students, lecturers can design inquiry teaching methods, ask relevant questions before class, lead students to explore theoretical knowledge independently in virtual class by means of team cooperation and exploration, use information technology at any time in the exploration process, communicate and interact with lecturers at any time, and finally complete online classroom instruction in the process of students' active learning. In addition, mixed teaching method, flipped classroom and other teaching methods can also be designed and applied to this teaching mode, which can better give play to the subjective initiative of students in the learning process.

### **2.3 After Class: Design Diversified Teaching Evaluation**

In the “Internet+” classroom instruction mode, after-school links are also an indispensable part of teaching design. College lecturers need to design diversified facilitating evaluation and after-school guidance according to the intelligent instruction process detection in class and students' performance, so as to facilitate lecturers and students to exchange classroom learning gains, analyze and solve existing problems, and comprehensively master the teaching mode. On the one hand, lecturers and students should jointly constitute the main body of smart classroom instruction evaluation. Both sides use big data, cloud computing and other information technologies to sort out and analyze the teaching process and student performance, and obtain comprehensive analysis results of the teaching process and instruction results [12]. At the same time, lecturers can communicate with students in time about online classroom content, as well as students' feelings and opinions about participating in smart classroom teaching mode through online communication, in order to promote lecturers to better design and use the instruction model, so as to better complete the instruction objectives. On the other hand, in the after-school link, the smart classroom teaching concept also requires lecturers to use Internet information technology to design personalized online tutoring for students. Specifically, it is to design different tutoring strategies for students with different learning effects in combination with the results of diversified virtual learning evaluation, and carry out after-school tutoring with the support of multiple communication channels. At the same time, it also provides students with Q & A on the information-based learning platform, It provides students with after-school ideological guidance and after-school homework correction, and also requires students to complete after-school tasks designed on the learning platform, reflect on the learning process and learning effect, and then complete a complete smart classroom link [13].

## 2.4 Extra Class: Extra Class Activities Designed According to Students' Main Body Status

Under the “Internet + Classroom” instruction concept, students’ extra-curricular time is also very important, especially for college education, students’ extra-curricular time accounts for a large proportion of students’ time in school. Lecturers should pay attention to students’ personalized extracurricular expansion in accordance with the “smart classroom” learning concept, so that students can carry out independent inquiry learning with the help of Internet information technology, better digest and absorb online classroom delivered knowledge and practical skills, further expand knowledge, and further improve their learning efficiency and quality. For this reason, college lecturers should pass on the content and resources that have not been in-depth in the classroom to students through the information-based learning platform, and innovate the display form of extracurricular teaching resources to adapt to the learning habits of contemporary college students, expand students’ experience through the extension of knowledge content, and extend smart classroom instruction beyond the offline classroom [14]. At the same time, lecturers can also design extracurricular activities related to virtual classroom instruction content, convert classroom knowledge content into diversified practical activities, release them to college students in the form of activity themes, attract college students to design practical forms themselves or actively participate in practical activities, provide students with opportunities to solve practical problems by using what they have learned through extracurricular practical activities, and better guide students to use knowledge and exercise skills, only in this way can we meet the final requirements of the intelligent instruction mode and help college education better train new people with strong comprehensive qualities [15].

## 3 Verification of “Internet+” Classroom Instruction Innovation

In order to scientifically investigate the implementation effect of “Internet+” classroom teaching, this study designed a questionnaire and randomly selected 860 college students from Guizhou University of Commerce for investigation.

860 questionnaires were distributed and 860 were recovered (refer to Table 1), with an effective recovery rate of 100%. Input the survey data into SPSS 20.0 statistical software, test the reliability of the questionnaire, and measure the coefficient Cronbach’s  $\alpha$  is 0.891. Usually Cronbach’s  $\alpha$  Coefficient  $< 0.7$  indicates that the reliability of the questionnaire is unreliable,  $0.7 \sim 0.8$  indicates that the questionnaire has certain reliability, and  $> 0.8 \sim 0.9$  indicates that the reliability of the questionnaire is very good. It can be seen that the reliability of this questionnaire is very good. The validity of the questionnaire was tested, and the KMO sampling appropriateness scale was 0.897. Batli Special Ball Facial Inspection Test the approximate stalem value is 3 296.838, the degree of freedom is 300, and the significance is 0.000. The validity analysis of the questionnaire refers to the KMO value, which  $> 0.7$  indicates that there is a certain relationship between the independent variables in the questionnaire design, so the validity of the questionnaire is good.

As this article is a part of the results of the ongoing project “exploration and research of the new business school enterprise integrated teaching model in the context of the

**Table 1.** Students’ comprehensive evaluation of “Internet+” classroom instruction [n (%)]

Content	Yes	No	Uncertain
“Internet+” classroom instruction is more conducive to Teacher-Student Interaction	706 (82.09)	40 (4.65)	114 (13.25)
“Internet+” classroom instruction is more conducive to students’ learning	711 (82.67)	43 (5.00)	106 (12.35)
The frequency of desertion in “Internet+” class will increase	418 (48.60)	210 (24.41)	232 (26.97)
“Internet+” teaching mode is better than traditional teaching mode	725 (84.30)	36 (4.18)	99 (11.51)

digital economy” of the Ministry of education’s industry university cooperation and collaborative education project, for the protection of project data, only the comprehensive evaluation part can be displayed at present. As shown in Table 1, the number of courses that undergraduate business school students accept “Internet+” teaching such as MOOC class, Rain class and flipped class: 43.51% of students have less than 4 courses, 56.49% of the students have more than 4 courses, of which 10.81% have more than 7 courses. Under this premise, the students’ learning feelings are investigated. Most students agree with the mixed teaching based on MOOC class, Rain class, flipped class and other online classes. They think that compared with the traditional teaching mode (lecturers explain PPT or blackboard writing), the mixed teaching is more helpful to personal learning and conducive to their interaction with classmates and lecturers. Therefore, they prefer and are willing to accept the mixed teaching. However, 48.06% of the students increased the frequency of playing mobile phones and deserting in the process of participating in hybrid instruction.

## 4 Conclusion

This research is gradually carried out in the innovative practice of “Internet+” classroom instruction in undergraduate business schools. In fact, the initially formed theory and method system has been used in Guizhou University of Commerce for nearly three years. The “Internet+” instruction model design and instruction practice results obtained by the research have good effects on promoting lecturers’ professional development, improving instruction information literacy, changing lecturers’ instruction methods, and improving students’ key ability in disciplines. Subsequent research results will be discussed in relevant articles ahead. At present, the research group is conducting diffusion practice and continuous exploration in undergraduate business schools in Guiyang, Zunyi city, Xingyi city and other places in Guizhou Province, with a view to building a complete theoretical and methodological system.

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