Performance Evaluation and Modeling on Practical Ability Cultivation Mode for English Majors Based on Cloud Platform and Cloud Interconnectedness Theory

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Abstract. According to China's *"National Standard for the Teaching Quality of English Majors in Colleges and Universities"* (abbreviated as *"National Standard"*), "Internship and Practical Training" refers to all kinds of practical activities carried out in combination with course teaching, mainly including professional novitiate and internship, extra-curricular practical teaching, social practice activities, international exchanges, etc., which aims at cultivating students' practical ability and innovation ability, helps students to understand civil and national conditions, as well as broadens their international vision. Based on "Cloud Interconnectedness Theory" (abbreviated as CIT), this study is conducted by integrating WJX online platform, Wisdom Tree teaching platform and SPOC teaching, taking Software Engineering Institute of Guangzhou (SEIG) as an example to propose a performance evaluation and modeling on practical ability cultivation mode for English majors.

Keywords: Cloud Interconnectedness Theory · Cloud Platform · English Majors · Practical Ability · Evaluation and Modeling

1 Introduction

"National Standard for the Teaching Quality of English Majors in Colleges and Universities" (abbreviated as *"National Standard"*) is an important basis for the admittance, construction and evaluation of English majors in China. It has an important influence on the further development of English majors in China in the new historical period. The evaluation requirements put forward a new guidance for the teaching evaluation of English majors, which have an important impact on the construction and evaluation of English majors.

According to the *"National Standard"*, the Curriculum system for English majors includes five parts: public courses, major core courses, major orientation courses, internship and practical training and graduation thesis.

"Internship and Practical Training" refers to all kinds of practical activities carried out in combination with course teaching, mainly including professional novitiate and

internship, extra-curricular practical teaching, social practice activities, international exchanges, etc., which aims at cultivating students' practical ability and innovation ability, helps students to understand civil and national conditions, as well as broadens their international vision.

From *"National Standard",* the total credits of courses are generally 150 to 180 credits, and the total credit hours are 2400 to 2900 h. Colleges and universities should formulate specific training programs according to school standards to highlight the characteristics of talent training.

Due to the influence of pandemic, English majors of undergraduate schools in China are facing many restrictions in social practice these years. Many undergraduate schools are eager to seek and establish appropriate practical ability cultivation mode, so that students can get professional training in English practical ability.

Professor Wen Qiufang proposed "Cloud Interconnectedness Theory" (CIT) for construction of Cloud Teaching-Research Community (CTRC). There are three overlapping hypotheses of CIT, including cognitive connection, social connection and emotional connection. The explicit goal of CTRC is to promote the application and research of Production-oriented Approach (abbreviated as POA) in the whole country. The implicit goal is to train a backbone team of foreign languages teaching and research in China.

The explicit goal of CTRC is to promote the application and research of POA in the whole country. The implicit goal is to train a backbone team of foreign language teaching and research in China. The theory asserts that the effectiveness and sustainability of cloud teaching and research community learning depends on the intensity of the cognitive-social-emotional connection [1].

In the past decade, POA has been proposed, which is innovative, representative and practical as well as continuously developed and promoted the reform of College English teaching in China [2].

CTRC is similar to online courses during the pandemic, with the same difficulties. Therefore, in order for CTRC to achieve results, it cannot completely rely on existing theories and practical experience, but requires CTRC organizers and participants to make more efforts and wisdom to construct new theories [3].

Therefore, based on CIT, this study is conducted by integrating WJX online questionnaire platform, Wisdom Tree teaching platform and SPOC teaching, which takes the Foreign Languages Department of Software Engineering Institute of Guangzhou (SEIG) as an example to propose a performance evaluation and modeling on practical ability cultivation mode for English majors.

2   CIT and CTRC

CIT proposed three hypotheses of cognitive connection, social connection and emotional connection. These three hypotheses are both different and intrinsically related, overlapping each other to show the close relationship between them. In essence, these three connections are not only the conditions for the occurrence of effective CTRC activities, but also the Indexes of effective activities.

Cognitive connectivity occurs at two levels. The first level is the connection between individuals and "problems", that is, individuals have "capital" to contribute their wisdom

when participating in collective activities through in-depth thinking and processing of problems. Otherwise, there will be "free riders" or even "just holding up numbers".

The other level is the connection of "problems" through interpersonal interaction, that is, through discussion, debate and negotiation with others to optimize the solution to the problem, so as to acquire new knowledge, new skills and develop new abilities.

Social connections are hierarchical, ranging from small to large, that is, from small to large, and then to between large groups; Social connection is also multi-directional, that is, there are different forms and different degrees of interaction between researchers, students and researchers. This multi-level and multi-dimensional social connection revolves around "problems".

In the past two years, CTRC research promotion team has followed the process of dialectical research: learning and reference—constructing theory— implementing theory—reflecting and interpreting. In the stage of "learning and reference", Wen Qiufang led 7 researchers to learn many literatures about online community construction, and at the same time learned from the theories and practical experience of offline teacher professional learning community construction [4].

In addition, Wen's team constantly tested and revised the principle, reflected on the interpretation and improved it in practice, so as to gradually improved the abstraction, comprehensiveness and effectiveness of the general principle and phased principle [5].

Wen pointed out that the completion of each CTRC learning task requires the simultaneous input of individual emotion and cognition, as well as the positive interaction and emotional mutual trust between groups. It suggests that CTRC members should be encouraged and commended for their efforts in solving problems. Thirdly, with the development of CTRC, individuals will gradually deepen their sense of identity and honor for CTRC. This deeper emotional connection is accumulated from the emotions generated in the series of scenes, or gradually formed in the process of successfully solving the series of problems.

3   Modeling on Practical Ability Cultivation Mode for English Majors

Based on the principles of CIT and CRTC, this paper proposes the modeling on practical ability cultivation mode for English Majors in SEIG.

This model is divided into macro model construction and micro model construction.

3.1   Macro Model with Online Platform

Macro model takes WJX online platform, Wisdom Tree online platform, SEIG teaching and evaluation platform, Tencent Meeting and Enterprise Wechat application platform as the framework to construct the practical ability cultivation mode. See Fig. 1.

The macro model runs by five steps:

Step 1. Research on students' internship and cloud computing on word frequency statistics of students' internship content by WJX questionnaire platform (Website: https://www.wjx.cn).
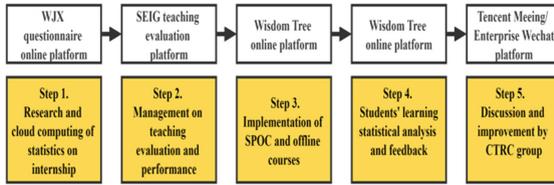
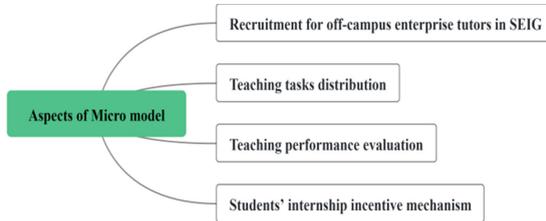**Fig. 1.** Macro Model with Online Platform (Modeling on Practical Ability Cultivation Mode)

Fig. 2. Four Aspects of Micro Model

Step 2: Management on teaching evaluation and performance by SEIG teaching evaluation platform for teachers (https://my.seig.edu.cn).

Step 3. Implementation of Small Private Online Course (SPOC) by Zhi Hui Shu (Wisdom Tree) online platform (https://www.zhihuishu.com).

Step 4. Learning statistical analysis and feedback for teachers and students by Wisdom Tree online platform.

Step 5. Discussion and Improvement of CTRC Teaching in Foreign Languages Department by the platform of Tencent Meeting and Enterprise Wechat.

(Website for Tencent: https://meeting.tencent.com;

Website for Wechat: https://work.weixin.qq.com/).

3.2 Micro Model

Micro model construction is based on the concept of CIT and teaching evaluation policy of SEIG under the macro model, which is a further construction of practical ability cultivation for English majors in SEIG, especially for off-campus enterprise tutors.

The micro model includes four aspects, they are: recruitment for off-campus enterprise tutors in SEIG, teaching tasks distribution for off-campus enterprise tutors, teaching performance evaluation and students' internship incentive mechanism. See Fig. 2.

Based on the above construction of macro and micro models, the specific principles and methods of are described below.

4 Investigation of Students Internship Based on WJX Online Platform

WJX online platform (https://www.wjx.cn) is a widely used network questionnaire platform. In this study, WJX is used to investigate students' current situation of social practice and graduation internship.

In the survey, senior graduates of the Foreign Languages Department, SEIG from the classes of 2020 to 2022 were investigated on the completion of graduation practice. Online questionnaires would be launched at the beginning of the second semester of their senior year.

The survey includes students' gender, major, completion of internship, work of internship and difficulties encountered during the internship. There are two majors in Foreign Languages Department, English major and Japanese major.

There are 200 respondents for the class of 2020, 172 for the class of 2021 and 183 for the class of 2022. The questionnaires would be distributed at the end of March each year, three months before students graduate. Students should submit internship materials to the school before the middle of April.

This paper mainly analyzes the survey data, the proportion of students completing the graduation internship, the factors affecting the internship, as well as the statistics of high-frequency words in the internship description. See Fig. 3.

According to the survey, only 81% of 2020 graduates would be able to finish their internships on time by the end of March, while 7.5% had yet to find an internship and 2% had found an internship but have not started. Students said that the main reason for the difficulties they faced was that the practice units and physical stores could not operate as scheduled due to the impact of the pandemic.

Faced with this situation, the Foreign Languages Department began to implement the policy of online teaching assistant practice to solve the difficulties of some students. The work includes assisting teachers to complete online course teaching, homework correcting, courseware making and so on.

In addition, since 2021, the Foreign Languages Department has paid more attention to school-enterprise cooperation and cross-border e-commerce training, and gradually establish a practical ability training mode based on the combination of online and offline platforms.
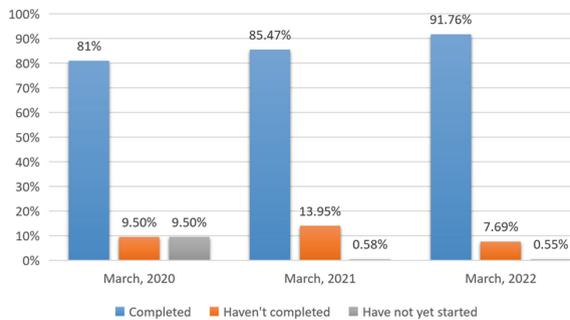
**Fig. 3.** Online Survey on Internship Completion (Foreign Languages Dept., SEIG, 2020–2022)

According to the survey results, the proportion of 2021 graduates who could finish their internships on time by the end of March has increased to 85.47%, while 13.95% of students were still in the internship. Only 0.58% of students had not found an internship.

The proportion of students who could finish their internship on time by the end of March in 2022 increased to 91.76%. The proportion of students who were still in internship accounts for 7.69%, while those who had not yet started their internship decreased to 0.55%.

The focus of the internship issues mentioned by students changed to salary, working hours, work pressure and job satisfaction.

Moreover, the research carried out the statistics of word frequency analysis by cloud computing. Figures 4, 5 and 6 show the top 10 relevant effective words mentioned most from students' internship work in the past three years. See Figs. 4, 5 and 6.

Among all these words from the above figures, 5 high-frequency words were mentioned every year. They are "client" (mentioned for 151 times in total), "student" (85 times in total), "products" (70 times in total), teaching (54 times in total) and platform (34 times in total). Thus, the research holds that enterprise practice, teaching practice and platform using somehow reflect the trend and mainstream of professional internship and social practice.
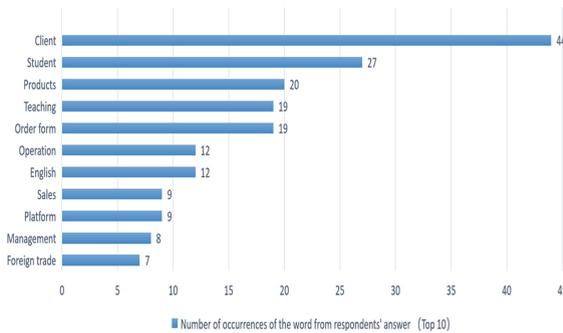
Fig. 4. Cloud Computing on Word Frequency Statistics of Students' Graduation Internship Content (Foreign Languages Dept., SEIG, 2020)
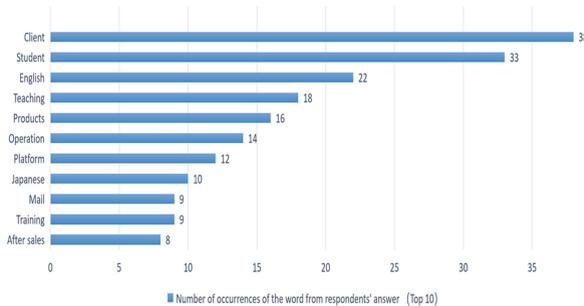
Fig. 5. Cloud Computing on Word Frequency Statistics of Students' Graduation Internship Content (Foreign Languages Dept., SEIG, 2021)
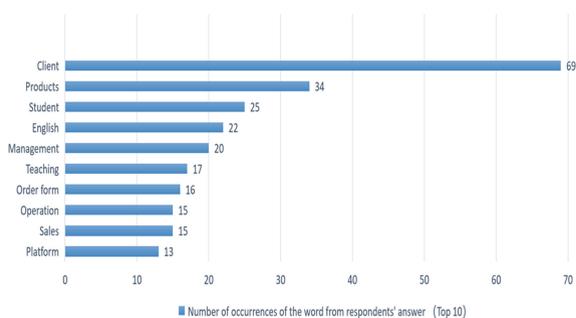
Fig. 6. Cloud Computing on Word Frequency Statistics of Students' Graduation Internship Content (Foreign Languages Dept., SEIG, 2022)

5 Introduction to Practical Ability Cultivation Mode for English Majors Based on Wisdom Tree Online Platform

Based on CIT and the Wisdom Tree platform (https://www.zhihuishu.com), this paper takes Foreign Languages Department of SEIG as an example to propose a performance evaluation and modeling on practical ability cultivation mode for English majors.

Besides Wisdom Tree platform, teaching groups of enterprise tutors can also make full use of Qinglu Smart Classroom Technology in SEIG.

The cultivation mode can be divided into three modules: the work management module of off-campus enterprise tutors (abbreviated as enterprise tutors), the teaching performance evaluation module of enterprise tutors, and the incentive mechanism module of students' practice.

Enterprise tutor is an innovative role of SEIG since 2022. Enterprise tutor is also an important part of school teachers, a necessary supplement of full-time teachers as well as an important support for application-oriented talents training.

The purpose of implementing the enterprise tutor employment system is to further deepen the teaching reform of school-enterprise collaborative education, promote the deep integration of talent training with the industry and enterprises, and improve the quality of application-oriented talent training.

In order to better guide the work of enterprise tutors, the Foreign Languages Department first set up a leading group for enterprise tutors outside the school, and made overall arrangements and specific arrangements for enterprise tutors, including the group leader, deputy group leader and team members. See Fig. 7.
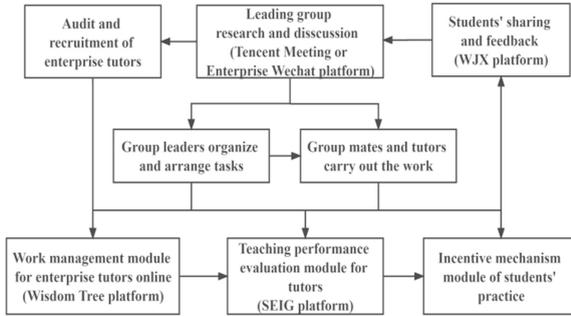
Fig. 7. Performance Evaluation and Modeling on Practical Ability Cultivation Mode for English Majors

6 Work Management Module of Off-Campus Enterprise Tutors

6.1 Recruitment Process

The recruitment process of enterprise tutors is as follows:

Step 1. Enterprise tutor of Foreign Languages department submits personal materials.

Step 2. Tutor contacts the person in charge to sort out the materials and submit them to the Foreign Languages Department and relevant departments of the school for review.

Step 3. After examination and approval of the tutor materials, the Foreign Languages Department shall organize an interview for the prospective tutor, discuss work content and relevant requirements.

Step 4. Department shall sign the employment agreement with the tutor and submit it to the relevant department of the university for final approval.

Step 5. Enterprise tutors shall be managed by school and department after signing employment contracts. School and department shall arrange teaching tasks, distribute labor remuneration, implement teaching assessment and employment period management.

6.2 Teaching Tasks

The teaching tasks of enterprise tutors of Foreign Languages Department can be divided into two categories: "Internship Guidance" and "Theory and Industry Training".

"Internship Guidance" includes one or more of the following:

One, provide guidance for course or professional internship. Introduce, explain and assist students during the internship process;

Two, guide graduation social practice, arranged internship tasks for students and conduct guidance and assessment.

"Theory and Industry Training" includes one or more of the following:

One, participate in the content design, guidance and evaluation of curriculum practice or professional comprehensive practice. Be able to teach students independently or jointly with full-time teachers of the school;

Two, conduct work related to students' industry cognition, job cognition. Provide social production guidance, innovation and entrepreneurship as well as practical ability cultivation.

7   Teaching Performance Evaluation Module of Enterprise Tutors Based on SEIG Platform

SEIG organizes a teaching evaluation for enterprise tutors every year, which is carried out by the hiring department (https://my.seig.edu.cn).

The evaluation results can be divided into three levels: excellent, qualified and unqualified. If the evaluation is "excellent", the Academic Affairs Office will issue the honorary certificate of "Excellent Enterprise Tutor"; Those evaluated as qualified or above will be given priority for renewal; Those evaluated as unqualified shall not be renewed.

7.1   Indexes of "Internship Guidance" for Enterprise Tutors

Enterprise tutors provide graduate internship positions for English majors to provide internship practice guidance (4–8 weeks, from July 1 to March 1 of the next year). The specific Indexes as follows:

Index 1. Internship positions were provided and implemented, and internship guidance was given to students in the unit, with the number of students reaching 1–4;

Index 2. Internship positions were provided and implemented, and internship guidance was given to students in the unit, with the number of students reaching 5–9;

Index 3. Internship positions were provided and implemented, and internship guidance was given to students in the unit. The number of students reached 10 or more.

7.2   Indexes on "Theory and Industry Training" of Enterprise Tutors

With one academic year as a cycle, enterprise tutors can share, guide and train processional knowledge and skills on the industry by online or offline platform for students.

Online training can be in the form of online conference training or online video recording. Offline training is on-site training on campus.

Specific Indexes are as follows:

Index 1. Share industry quotation, introduce units, positions and jobs, and share social and employment needs. (1 training session, each session lasts for 40 min).

Index 2. Complete the knowledge and skill training for the specific job position (1 training session, each session lasts for 40 min).

Index 3. Complete the knowledge and skills training for specific job positions (2 training sessions, each session lasts for 40 min).

Index 4. Complete the knowledge and skills training for specific job positions (3 training session at least, each session lasts for 40 min).

7.3 Teaching Evaluation for Enterprise Tutors

According to the work indexes of "Internship Guidance" and "Theory and Industry Training" completed by enterprise tutors in each academic year, the evaluation conclusions of enterprise tutors are divided into three levels: excellent, qualified and unqualified.

Level of "Unqualified":

Index 1. Tutor who failed to meet any of the indexes of "Internship Guidance" and "Theory and Industry Training" is expected to be rated as "unqualified".

Index 2. Tutor who only complete Index 1 and 2 from "Theory and Industry Training" is expected to be rated as "unqualified".

Level of "Qualified":

Tutor should complete at least 3 indexes of "Theory and Industry Training" work is expected to be rated as "qualified".

Level of "Excellent":

Index 1. Tutor should complete at least 4 indexes of "Theory and Industry Training" as well as at least 1 index of "Internship Guidance", which can be rated as "excellent".

Index 2. Tutor should complete at least 3 indexes of "Theory and industry training" as well as at least 2 indexes of "Internship Guidance", which can be rated as "excellent".

8 Students Internship Incentive Mechanism Module with CTRC

In order to motivate students in practice, the Foreign Languages Department selects "Active Internship Supervisor" and "Active Graduate Intern Student" for English majors every year.

In order to have more convenient discussions between teachers and off-campus enterprise tutors, the discussion and communication for CTRC in Foreign Languages Department are carried out in combination with Tencent Meeting or Enterprise Wechat online platform.

(Website for Tencent: https://meeting.tencent.com;

Website for Wechat: https://work.weixin.qq.com/).

8.1 Selection Method and Process

Step 1. The internship supervisors invite at least one of their students to record and share internship experience.

Step 2. Students share their experience related to their major through PPT and video recording and submit 600-word summary report of their internship.

Students complete 15–20 min of video recording, including brief introduction to the internship unit, personal internship experience and suggestions on internship practice.

Step 3. The supervisor shall review the video and electronic version of the student's experience sharing report, then fill in at least 100 words of the teacher's evaluation.

Step 4. Students' internship experience videos, electronic summary reports and teacher evaluation documents are packed and submitted to the English major Practice leading Group for review.

Step 5. The qualified works will be shared by "English Majors Internship Experience Sharing" course on the Wisdom Tree online platform.

8.2 Incentives

The internship supervisor who completes the corresponding work will be awarded the annual "Internship Supervisor Activist" certificate. Students who complete the relevant work will be awarded the annual "Graduate Internship Student Activist" certificate.

Students with excellent works and their internship supervisors will be awarded as "Excellent Internship Students" and "Excellent Internship Supervisors" of the Foreign Languages Department.

9 Achievements in Implementation

In 2021, Foreign Languages Department of SEIG carried out two school-enterprise cooperation training classes. 72 students participated in the training class of Guangzhou Mi Zhuang Biological Technology Co., LTD., accounting for 47.01% of English majors in this grade. The development of this class cultivates students' professional practical training ability.

Moreover, 42 students participated in the Shenzhen Five One Three Cross-border E-commerce training class, accounting for 27.45% of English majors in this grade. The opening of this class lays a foundation for students to engage in cross-border e-commerce and foreign trade entrepreneurship and employment.

In 2022, the Foreign Languages Department launched one more school-enterprise cooperation training class. 36 students participated in the cross-border e-commerce training class of Guangzhou Dayang Education Technology Co., LTD., accounting for 23.53% of English majors in this grade. The opening of this class lays a foundation for students to engage in cross-border e-commerce and foreign trade entrepreneurship and employment.

From September 2021 to now, 10 senior students from the Foreign Languages Department have been to the Conghua Taiping Middle School for graduation internship and teaching practice.

This school-school cooperation practice builds an excellent internship platform for graduates, opens a new mode of providing services to primary and secondary schools around the school, explores more possibilities of school-school cooperation under the policy of "double-reduction", which build a broader internship and employment platform for graduates of the Foreign Languages Department to enhance their professional core competitiveness.

Since March 2022, the Foreign Languages Department of SEIG has set up a specific leading group, which made overall arrangements and specific arrangements for the work of enterprise tutors, formulated the recruitment plan, work management and teaching evaluation trial measures of the enterprise tutors of the Foreign Languages Department. After research and discussion, 8 enterprise tutors are qualified to be employed. Some of the tutors are senior executives of enterprises, some have advanced professional and technical qualifications.

In addition, in order to improve the employment of 2021 graduates, Foreign Languages Department also established a one-to-one employment assistance system for graduates, in which all professional teachers and counselors participate in the employment guidance and assistance. Finally, the employment rate of Foreign Languages

Department reaches 93.64%, which have helped to solve the employment problem of many students under the influence of the pandemic.

10   Conclusions

In this study, WJX online platform, Wisdom Tree online platform, SEIG teaching and evaluation platform, Tencent Meeting and Enterprise Wechat application are integrated together as the framework to construct the practical ability cultivation mode, which provide important supports of computer technology and information technology.

The performance evaluation and modeling on the practical ability training mode for English majors is still in the stage of continuous practice, of improvement and of re-practice. The cultivation of students' practical ability needs to be developed in coordination with other aspects.

Wen's team admitted that CIT is still in its infancy and many questions remain to be explored, including the explicit index of the depth, breadth and strength of each connection from CIT, as well as the measurement method and the principle of improving the quality of the three connections. Since large-scale trans-regional CTRC is a new teaching and research organization, its effective operation theory is worth further study.

In the future practice and study, Foreign Languages Department, SEIG is expected to deepen school-enterprise cooperation, hold entrepreneurship alumni exchange meetings and enterprise executives training regularly. These activities are conducive to the development of innovation and entrepreneurship education for students.

Moreover, it is also of great importance to cooperate with the government, schools and foreign trade enterprises to carry out industry-education integration and education cooperation. Schools should take improving students' employ ability as the goal, take teaching as the core, so as to do a good job in the revision of talent training programs.

Last but not least, teachers should strengthen their understanding of the employment market, go deep into enterprises and give play to the guiding role of professional teachers, which can help to improving the quality of students' practice and broadening the employment channels for students.

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