

Improving the Quality of English Talents Cultivation in Chinese Private Colleges and Universities in the Data-driven AI Age

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Abstract: the Data-driven AI Age has become one of the main driving forces for nowadays' social development. How higher education grasp the features of this digital era, seize opportunities, and meet challenges has already attracted most scholars' attention. The education of English talents in private colleges and universities in China is facing problems such as outdated teaching methods, weak willingness for teaching reform, lack of effective cooperation among teaching management departments, weak awareness and ability of students' autonomous learning, etc. This research will reveal the issue of in English talents education in 5 private colleges and universities in China through questionnaires, interviews and NLP (natural language processing) with teachers and students. In connection with the current problems found, this study proposes three paths from teaching, management, and students' perspectives. The research findings suggest that with the benefit of the Data-driven AI Age, improving teachers' information technology skills in teaching, strengthening departments' collaboration in teaching management, and enhancing students' ability to learn independently can effectively solve the existing problems, thus improving the quality of education of English majors in private colleges and universities in China.

Keywords: Data-driven AI Age; English Talents Cultivation; Chinese Private Colleges and Universities

1. Data-driven AI Age: Definition and Features

The Data-Driven AI Age, also known as the Digital Intelligence Age, refers to an era where

data has become one of the key driving forces for social, economic, and technological development. In this age, data collection, storage, analysis, and application are widely utilized across various domains to address issues, make decisions, and foster innovation [1-4]. Based on the definition of the Data-Driven AI Age and its extensive applications in recent years, its main features include:

Data-driven: In this age, a vast amount of data is used to inform decisions and actions. Data is considered the new "oil", a crucial resource for driving economic and social development.

Intelligent: the Data-Driven AI Age, represented by technologies like artificial intelligence (hereinafter referred to as AI) and machine learning, harnesses data to extract intelligence, make intelligent decisions, and take actions accordingly.

Networked: Technologies such as the Internet, Internet of Things (IoT), and cloud computing have made information acquisition and sharing extremely convenient [5]. All devices, people, and services are interconnected through networks.

Personalized and precise: With the help of big data and AI, it is possible to predict and satisfy the needs of each individual with precision, achieving personalized services and products.

Innovation-driven: new business, service, and management models continually emerge, serving as essential drivers of societal development.

Deep integrated: the deep integration of information technology with various industry sectors is propelling comprehensive upgrades in the economy and society.

Among these characteristics, data-driven approaches serve as the foundation. However, for higher education institutions and its talents cultivation, intelligence, personalization, precision, and innovation-driven approaches

are particularly vital. Achieving a high level of deep integration based on the comprehensive application of the features of the Age is essential for success.

2. Higher Education in Data-driven AI Age: Opportunities and Challenges

In light of the features of the Data-Driven AI Age above, contemporary higher education faces not only numerous opportunities but also a range of challenges. Regarding the opportunities, the data-driven nature allows higher education institutions to make more informed decisions, including those related to enrollment, curriculum design, student support, and resource allocation [4]. These data-driven decisions can enhance the overall quality of education. Additionally, the intelligent and networked features have propelled the development of online education platforms with a wide variety of courses and resources, catering to diverse learning needs. This makes online learning and distance education more accessible, thereby increasing the flexibility and accessibility of higher education. Students can more easily participate in distant courses and access high-quality education, leading to fairer resource distribution within higher education. The personalization and precision features support the individualized learning pathways. Education resources can be provided precisely according to the needs and learning styles of each student, thereby improving student performance and satisfaction. Furthermore, the demand for deep integration encourages collaboration among higher education institutions as well as between academia and industry. Such collaboration can accelerate research progress, offer practical experiences, and further enhance resource sharing.

The Data-Driven AI Age has brought several advantages such as resource sharing, technological advancements, and platform accessibility to higher education. However, it has also posed challenges and disruptions to traditional teaching methods. Firstly, the challenge lies in how educators can swiftly acquire and apply these new technologies, seamlessly integrate them into teaching, continuously update teaching content and resources, and ensure the timeliness and richness of teaching materials. This challenge necessitates a significant transformation in the

role of educators, shifting from traditional knowledge providers to guiders and facilitators of students' learning. Thus, how educators navigate this role transition represents another significant challenge they must face. Secondly, the Data-Driven AI Age makes personalized teaching a possibility, but tailoring education to meet the diverse learning needs of students is a major challenge. Additionally, traditional teaching assessment methods may fall short of meeting the requirements, so educators must contemplate how to develop new assessment methods suitable for the Age. Furthermore, in the application of technologies like big data and cloud computing, data security and privacy protection become critical issues. Ensuring the security of students' information and preventing data breaches is a paramount concern in higher education.

3. English Majors Cultivation in China: Measurement

Generally, in China, the formulation of talent cultivation programs for English majors and the outcomes of talent cultivation are primarily assessed by following aspects:

Language skills: including comprehensive English language skills such as listening, speaking, reading, writing, and translation, as well as language accuracy and fluency.

Professional knowledge: It encompasses fundamental knowledge and theory in areas such as English and American literature, linguistics, and translation theories.

Cultural literacy: English majors are expected to have an in-depth understanding of the history, culture, and society of English-speaking countries.

Critical thinking: They should possess critical thinking skills and the ability to analyze and solve problems.

Cross-cultural communication competence: They should be able to effectively communicate in cross-cultural environments.

Self-directed learning skills: They are expected to have strong self-directed learning abilities, adapting to the rapidly changing demands of society [3].

Technical proficiency: They should be proficient in using technologies of the Data-Driven AI Age for English language learning and related work.

Professional Ethics: They are expected to master professional ethics and a passion for their future work.

In specific teaching contexts, the outcomes of English majors cultivation are quantitatively and explicitly reflected through the following indicators:

Passing rates in foreign language proficiency examinations: This includes passing exams such as CET-4 (College English Test Band 4), CET-8 (College English Test Band 8), TEM-4 (Test for English Majors Band 4), TEM-8 (Test for English Majors Band 8), CATTI (China Accreditation Test for Translators and Interpreters), BEC (Business English Certificate), IELTS (International English Language Testing System), TOEFL (Test of English as a Foreign Language), and other proficiency tests.

Postgraduate admission rate: This refers to the percentage of English majors who are admitted to domestic or foreign postgraduate programs among recent graduates.

Employment rate: It represents the percentage of recent English major graduates who secure employment or engage in entrepreneurship before or upon graduation.

Student awards: This includes the number of students and the level of awards achieved in various competitions related to English, such as speech, writing, and translation contests.

Thesis quality: the quality of students' graduation theses provides a direct reflection of their research skills and professional competence.

These explicit indicators offer a more concrete and straightforward means of assessing the effectiveness and quality of talents' cultivation for English majors in China.

4. Research Methodology

To investigate the issues of talent cultivation in English majors in the Data-driven AI Age, a research study was conducted in 5 private universities and colleges in China. They are from middle, east, west, north and south China. This study included 50 English teachers, 40 administrative and educational staff, and 250 English major students from those schools.

Semi-structured interviews were conducted with English major teachers, administrators, and students. Interviews with teachers and administrators focused on teaching methods, educational management, and training needs,

while interviews with students covered their learning experiences, challenges, and requirements.

Questionnaires were designed and distributed, which included closed-ended questions to quantify the frequency and impact of issues, as well as open-ended questions to gather detailed feedback and opinions.

Finally, natural language processing technology was employed to process the interview and questionnaire data. This involved:

Text data cleaning and analysis: cleaning and analyzing all text materials to prepare for further processing; topic modeling and sentiment analysis: using topic modeling techniques to extract topics and keywords from text data; sentiment analysis was used to understand the emotions and attitudes of the respondents; text classification and clustering: using text classification and clustering techniques to group data, uncovering commonalities and differences; data integration: combining the results of interviews, questionnaires, and natural language processing to create comprehensive research data; data analysis: analyzing the integrated data to identify issues and challenges at the teacher, management, and student levels; interpretation of issues: explaining the reasons and impacts of the identified issues; proposal of solutions: based on the research results, improvements to the talent cultivation process in English-related majors, including enhancements to teaching methods, adjustments to management policies, and increased support for students.

This comprehensive approach allowed for an in-depth understanding of the challenges of English majors cultivation and provided both quantitative and qualitative data to suggest possible solutions for enhancing the talent cultivation in English majors during the Data-driven AI Age.

5. Challenges in the Cultivation of English Major Talents

With above research methods, challenges facing English majors' cultivation are revealed in following:

5.1 Issues at the Teachers' Level

Outdated teaching methods: Some teachers still rely on traditional teaching methods and

have not actively embraced modern, interactive, and diverse teaching techniques and resources, resulting in limited classroom teaching effectiveness.

Lack of enthusiasm for educational updates: Some teachers may lack enthusiasm for education, focusing solely on completing teaching tasks while overlooking the latest research and developments in the field of education, resulting in outdated teaching results.

Inadequate teaching assessment: Some teachers may not adequately monitor students' learning progress, lacking effective assessment and feedback mechanisms, resulting in unmet individual student needs.

5.2 Issues at the Management Level

Lack of opportunities for teacher development: the management level may not provide sufficient teacher training and development opportunities, limiting teachers' capacity to enhance the quality of education.

Insufficient interdisciplinary collaboration: Different disciplines may lack opportunities for collaboration, restricting the development of the profession and making it difficult to provide interdisciplinary English education.

Inadequate educational policies and resources: the management level may not fully support English education, including the provision of adequate educational resources and facilities, as well as the formulation of relevant education policies.

Inadequate promotion and application of new technologies: This has resulted in schools lagging in terms of teaching reform.

Inadequate development of teacher training and incentive mechanisms: This limits the improvement of teachers' teaching abilities and enthusiasm.

Inadequate control and evaluation mechanisms for teaching quality: This has led to significant fluctuations in teaching quality and an inability to guarantee students' learning outcomes.

5.3 Issues at the Students' Level

Insufficient autonomous learning skills: Some students may lack the ability and motivation for self-directed learning, relying on direct guidance from teachers rather than actively exploring knowledge.

Insufficient language skills: Some students may have insufficient English language

proficiency, which affects their academic performance and cross-cultural communication skills.

Academic integrity issues: Academic integrity may be threatened, including plagiarism and cheating, undermining the authenticity and quality of learning.

Addressing these issues requires the implementation of a comprehensive set of measures, including providing teachers' training and support, formulating educational policies to promote the development of English education, and cultivating students' self-awareness and comprehensive competencies in learning. This will help improve the quality and effectiveness of English talents cultivation.

6. Enhancing English Majors Cultivation in the Data-driven AI Age: Paths and Strategies

In response to the challenges at the levels of teacher instruction, educational management, and student learning above, drawing from the research results of above 5 private Chinese private colleges and universities, the enhancement of explicit indicators for cultivating English talents the Data-driven AI Age can be implemented through three ways: improving teaching quality, enhancing teaching management capabilities, and boosting students' learning abilities.

6.1 Strategies to Elevate Teaching Quality

Integration of technology: Utilize modern technological tools and online resources to support English language instruction. Employ online course management systems, virtual classrooms, and learning management platforms to provide diverse learning experiences, including online courses, interactive learning materials, and multimedia resources.

Data analysis: Leverage data analysis tools to monitor students' academic performance and progress. This assists educators in gaining a better understanding of students' needs and allows for the development of personalized teaching plans based on data.

Adaptive teaching: Implement adaptive learning platforms that adjust instructional content and pace according to students' learning styles and proficiency levels. This

ensures that each student can learn English in a manner that suits them best.

Integrating data science and English: Incorporate data science and technology-related topics into English courses to meet the demands of the data intelligence era. This may encompass subjects such as data analysis, AI, and natural language processing, preparing students to face future workplace challenges.

Interdisciplinary collaboration: Foster collaboration between English programs and other fields, such as computer science and business management, to develop interdisciplinary competencies, enabling students to better adapt to the diverse work environments of the data intelligence age.

Real-world applications: Encourage students to apply English in practical contexts, such as simulating business meetings and engaging in cross-cultural communication. This helps cultivate students' practical English skills for the professional world.

Continuous professional development: Educators and educational professionals should continuously enhance their skills through self-directed learning, international experiences, and visiting scholar programs. This ensures that they remain updated with the latest educational technologies and teaching methods, enabling them to deliver high-quality education.

In conclusion, in the age of data intelligence, English major educators should focus on technology, data, and practical application. They should continuously update their educational philosophies and teaching methods to adapt to the ever-changing challenges of the data intelligence era. This includes integrating educational technology into teaching, fostering students' critical thinking and problem-solving abilities, and cultivating their competitiveness in a globalized society.

6.2 Strategies to Enhance Teaching Management Abilities

In the Data-driven AI Age, enhancing teaching management abilities for English-related majors is crucial [2]. This includes effectively organizing, coordinating, and supervising the teaching process. Currently, most universities have implemented modern educational management systems for tasks like student registration, course planning, and grade

recording, reducing paperwork and improving management efficiency.

Additionally, educational administrators use data analysis tools to understand and monitor students' performance in mock exams and standardized tests. This helps in early issue detection and measures to enhance teaching quality. For instance, our institution currently utilizes platforms like lancooedu aiteach, Trans AI translation, BlueMoodle, Rain Classroom, and zhihuishu to collect and analyze real-time data on student tests and assignments. This data analysis is not limited to teachers; educational management departments should also effectively utilize this data to understand students' performance and monitor teaching dynamics.

Furthermore, management departments should provide technical training, establish relevant management systems, enhance faculty management, and promote efficient departmental collaboration. By offering student support services, including academic counseling, mental health support, and career development guidance, management departments could improve students' learning experiences and success rates. By implementing regular course assessments and teaching quality assurance mechanisms, management departments can ensure the effectiveness of courses and student satisfaction. By encouraging interdisciplinary collaboration among different fields by leveraging digital tools and technology, management departments can enrich students' academic experiences. It is essential to continuously evaluate and improve teaching management processes and strategies to adapt to the evolving educational environment. Active use of digital technology and data analysis tools is key to enhancing teaching management abilities, with a focus on addressing the needs and trends of both teachers and students, ensuring the delivery of high-quality, innovative, and engaging education.

6.3 Strategies to Improve Learning Abilities for English-Related Majors

In the Data-driven AI Age, enhancing learning abilities for English-related majors is essential. Students need to develop stronger self-directed learning and information-processing skills, especially in the following areas:

Information literacy: Foster students' information literacy, including their ability to effectively search, evaluate, and apply information. Simultaneously, guides discerning credible online resources and avoiding misinformation.

Self-directed learning: Educate students on setting goals, time management, creating study plans, and using resources for self-directed learning. This includes mastering online learning tools and educational technology. Students can also benefit from suitable online learning resources, such as open courses, educational platforms, and virtual labs, to enrich their self-directed learning experiences.

Interdisciplinary learning: Encourage students to explore other disciplines related to English majors, such as data science and cultural studies, to expand their knowledge domains.

Participatory learning: Utilize interactive and participatory teaching methods, such as group discussions, project work, and role-playing, to promote active engagement and cooperation among students.

Practice and application: Encourage students to apply knowledge they acquire to real-life situations, such as participating in internships, volunteering, or practical projects.

Cultivate critical thinking and cross-cultural communication: Actively engage students in problem-solving, information analysis, questioning, and the evaluation of diverse viewpoints. Critical thinking is key to effective learning. Foster participation in cross-cultural communication to enhance intercultural communication skills and global awareness.

Reflection and summation: Encourage students to regularly reflect on their learning experiences, summarize lessons learned, and continually improve their learning strategies.

Feedback mechanism: Provide timely feedback to help students understand their academic progress and improve their learning strategies.

Tracking academic progress: Teach students how to monitor their academic progress, including participating in academic seminars, reading academic literature, and staying updated with field news.

Higher education institutions and educators should actively employ these methods to help English talents improve their learning abilities, preparing them for success in their future careers in the Data-driven AI Age.

7. Conclusion

The Data-driven AI Age has opened up new ways for enhancing explicit indicators in the training of English-related professionals:

In terms of teaching, higher education institutions can leverage technologies like big data and AI to develop richer and more personalized teaching resources and methods, thus improving teaching effectiveness. Teachers can utilize intelligent teaching systems for personalized instruction, adjusting teaching content and methods based on each student's learning situation and needs. They can also employ big data for the analysis of teaching effectiveness, promptly identifying and addressing issues within their teaching methods.

Furthermore, data-driven technologies can enhance teaching management efficiency and quality. For instance, using big data for student learning data analysis allows educational management departments to more accurately assess each student's learning outcomes and progress, providing a basis for instructional decision-making. Teachers can employ AI for teaching management, reducing their administrative burden and allowing them to focus more on teaching.

Data intelligence technologies can also assist students in improving learning efficiency and effectiveness. For example, online learning platforms enable students to study at any time and from any location, offering greater flexibility and convenience. Intelligent teaching systems empower students to engage in personalized learning based on their learning conditions and requirements.

In summary, these three ways are not isolated but interconnected and mutually reinforcing. Through them, it is possible to effectively enhance the explicit indicators in the training of English-related professionals, nurturing individuals who are more outstanding and better suited to the challenges of the Age.

References

- [1] Kuzmanovic, N., & Todorović, M. Teaching English for Specific Purposes in the Age of Artificial Intelligence [J]. In Handbook of Research on Engaging Digital Natives in Higher Education Settings, IGI Global, 2019:204-225.
- [2] Li, X., & Ma, J. Intelligent English Teaching System in the Era of Big Data [J].

- Journal of Language Teaching and Research, 2020, 11(5):575-581.
- [3] Li, Y., & Wu, J. Challenges and Strategies for the Development of English Talents in the Era of Artificial Intelligence [J]. Journal of Intelligent Learning Systems and Applications, 2018, 10(04):348-356.
- [4] Liu, L., & Zhou, H. Research on the Cultivation of English Talents in Private Colleges and Universities in China in the Era of Big Data and Artificial Intelligence [C]. In 4th International Conference on Education and Social Science, Atlantis Press, 2019.
- [5] Qu, X., & Shi, Z. Development and Application of Artificial Intelligence in English Teaching [C]. In 2nd International Conference on Education Technology, Management and Humanities Science (ETMHS 2020), Atlantis Press, 2020.