Career development of College English Teachers in the Era of Big Data

Xuemei Zhu *
School of Foreign Languages, Wuhan College, Wuhan, China

*Corresponding author e-mail: 651477277@qq.com

Abstract. The deep embedding of big data in education is reshaping the ideology and daily practice of teaching and learning, which requires and promotes the college English teachers’ development from “experience-based” to “data driven”. In order to clarify the career development of college English teachers, this paper, using the methods of literature analysis and logical analysis, examines the challenges to college English teachers and puts forward four approaches for their career development in the era of big data. Of all these approaches proposed, establishing online cooperation alliances and promoting data literacy deserve more attention, because the analysis and utilization of learning data are two important dimensions in the data-driven teaching. College English teachers should be committed to trying new ways and improving their abilities so as to meet the challenges of the big data era.

Keywords: College English Teachers, Career Development, Big Data; Challenges and Approaches

1. Introduction
Big data is a term that has invaded our daily life. Many researches about it promise innovation across endless disciplines.

The term of big data is not a recent one. Its first appearance in the academic literature dates back to the early 2000. Big data has the characteristics of volume, velocity and variety, the so-called 3Vs of Big Data. In the following years, definitions of big data expanded from additional Vs such as veracity, value and variability to other qualities including exhaustivity, extensionality, and complexity (Favaretto Maddalena et al, 2020) [1]. Among these definitions and characteristics, people agree on the practical ones such as data collection and data processing.

Big data has a huge transforming potential for education. In recent years, the academic community has carried out a lot of researches on the education reform in the era of big data. It’s believed that big data opens up a new horizon for education. Buchanan and McPherson (2019) thought “we are witnessing a shift from education as a democratically controlled system to one designed and run by corporations [2].” According to Sellar and Hogan (2019), personalized learning is in students’ best interests, and it seems that “the corporate vision for the future of education is disrupting the broader social purposes of schooling, as well as potentially deprofessionalising teachers [3]. Many educational researchers are developing conceptual and methodological tools to investigate the social lives of
3.1. system contents the of terminals everywhere, anyone teaching digital technology teaching can dimension evaluation technical quality suit them which can individual problems activities, learning the College constant behaviors educational long.

At Second, traditional learning also requires one-way teaching, which brings the College English era, English teachers have to enhance the ability of integrating big data in teaching process to meet the need of individualized teaching.

2. Impact of Big Data on Education
The analysis of education data can play an important role in exploring the relationship between various factors — teaching environment, teaching methods, teaching evaluation, learning content, learning time, learning methods and learners’ learning effect — and clarifies the process of teaching and learning, so as to improve the effectiveness of education.

First, Through the use of big data, teachers can carry out personalized and effective teaching activities, and students can learn more conveniently and autonomously. In the era of big data, teaching problems will be solved based on the analysis of massive learning data, rather than teachers’ individual experience in mind. By collecting and analyzing a large number of teaching data, teachers can find out the factors affecting education quality and then figure out the law of teaching activities, which provides basis and reference for the optimization of their teaching. In addition, it is possible for them to analyze each student’s learning data and then modify their teaching contents and methods to suit the special requirements of each student.

Second, with big data, teachers can establish a comprehensive, real-time and dynamic education quality monitoring system. Teaching activities can be evaluated, analyzed and improved through data technical skills. First, teaching evaluation is no longer obtained through teachers’ experience in the traditional way. Second, teaching evaluation can be transformed from final evaluation to process evaluation in a real sense. Third, students can be evaluated in multiple ways, not just in a single dimension of their knowledge mastery. Besides, apart from the evaluation made by teachers, students can also judge their learning process and achievement through data. In this way, teaching evaluation is no longer one-way and empirical, but two-way and data-based.

At last, big data support intelligent teaching and ubiquitous learning (U-learning). Intelligent teaching is a kind of teaching activity that teachers make full use of various advanced information technology and resources under the intelligent teaching environment. Compared with the traditional digital teaching, the intelligent teaching is more efficient, open and diversified: the interaction between participants is smoother and more in-depth, and teachers’ lecture preparation, homework correcting, teaching evaluation, etc. are more active and intelligent. U-learning is a learning process in which anyone can obtain any learning resources needed and enjoy convenient learning services at any time, any place and with any computing device. Under the background of big data, knowledge is everywhere, and educational resources are open in many platforms. With access to various mobile terminals and the network, students can study anytime and anywhere. Big data technology is changing the traditional link between teachers and students, and will reconstruct the school education mode, which will inevitably require educators to innovate their thinking and keep pace with the development of the times.

3. Challenges to College English Teachers
Big data era brings both opportunities and challenges for college English teaching. In big data era, all the teaching sections and factors — the formulation of teaching objectives, the selection of teaching contents and methods, the organization of teaching activities and the establishment of evaluation system — have to be changed according to new needs. All of these bring great challenges to college English teachers.

3.1. Being questioned and criticized for the standardized teaching mode
For a long time, Chinese English teaching are a benchmark education, which is characterized by large-scale class and unified teaching contents. Under the teaching mode, teachers have been working hard to transfer the standardized contents (grammar, sentence pattern, text structure, etc.) and refined emotional cognition to students; and students — with different personalities, foundations and learning methods — are required to meet the same requirement and take the same tests.

But situation changes in big data era. With the support of massive data, teachers and students, who have completely aware of the differences between individuals, eager to change their ways of teaching and learning. College English teachers have to change, from caring about the whole class to focusing on individuals, from focusing on passing rate of exams to caring for students’ individual needs.

3.2. Facing more pressure and heavier tasks

College English teachers, facing more pressure and heavier tasks, have to accelerate their pace of self-improvement. In the era of big data, the data speak louder than teachers’ personal judgement or judgement based on small group of students. Teachers should no longer determine their teaching contents and methods according to their teaching experience. They have to master network and data analysis technology, which will demand them of more investment in time, energy and money. What’s more, they have to design, organize and evaluate their teaching in a totally new mode — the database mode. The evaluation of teachers should be changed from evaluating their teaching level to evaluating teachers’ design, organization and guidance level. So, college English teachers have to rethink their teaching, and design their teaching procedure in a new way.

3.3. Losing the status of authority

In the traditional education, teachers are the mere knowledge imparters and source of authoritative knowledge. But in the big data era, the network resources have been greatly enriched. Students can obtain information about words, grammar, sentences, passages and cultures anytime and anywhere. With network and mobile terminal devices, they can have the access to abundant online documents, audios and videos in English learning. They can also attend online classes given by different teachers from different universities or take online courses beyond their syllabus. When they find they can accumulate knowledge and improve skills all by themselves, they will have higher expectation on their teachers. Some students may question their teachers’ teaching content and method, or even doubt whether it is still necessary to attend the classroom classes in their universities. College English teachers are losing their status of authority.

All of these are challenging college English teachers’ confidence, belief and practice, and compel them to make a change.

4. Approaches to Self-development in Big Data Era

In view of these challenges, it is necessary and feasible for college English teachers to actively explore effective ways of self-development and improve their comprehensive quality. Teachers’ self-development is a process of continuous development in terms of intelligence, experience and attitude. Teachers’ self-development is a lifelong process of continuous growth. A professional teacher should have a compound knowledge of four aspects: first, a high level of self-awareness, including self-knowledge, self-evaluation and self-improvement; second, general knowledge, i.e. basic knowledge of humanities and a broad vision; third, professional knowledge, i.e. being proficient in one’s profession; fourth, knowledge of educational science. The professional development of teachers is a long-term process, and one critical point to keep in mind is to keep pace with the times. Currently, college English teachers can start from the following aspects.

4.1. Change the mindset and keep lifelong learning

In the era of big data, college English teachers should see themselves as the participants in collaborative learning, the instructors in delivering professional knowledge, as well as lifelong learners in updating their professional knowledge and skills.
The massive language learning resources online, which enable students’ self-study and challenge teachers’ authority, can also be rich resources to assist teaching. College English teachers should, on one hand, be brave enough to admit their limitation and treat students’ queries rationally; on the other hand, they can make a careful selection of the online resources and use them as a supplement to their own teaching. For example, there are many free short videos introducing European and American culture delivered by foreign internet celebrities on social platforms. These videos are free, real-life and popular online. If carefully chosen and appropriately introduced to students, they can be good supplement to classroom teaching, especially for many Chinese teachers who are teaching English but have never got the chance to travel or live abroad.

4.2. Implement reform on teaching methodology
In many college English classes in China, the teaching mode is “teachers giving lectures and raising questions, students listening and answering questions”. This is the traditional way of language teaching, widely-accepted and appropriate in the years when teaching condition was poor and learning resources were limited, because in this way teachers could efficiently impart knowledge to students. But now, with the coming of big data, situation is totally different. Many teachers and students have realized that it is not appropriate to follow the old teaching and learning mode, and many of them have made a great effort to change. But there are still some ones who are not aware of the rapid change of times or totally at loss as to how to change.

In big data era, what decides a student’s learning effect is not how much information he has obtained, but how much he is willing to explore and whether he has the ability to integrate information and utilize the resources. With the development of the information age and the diversification of English learning approaches, many college students have changed from passive receivers to active explorers. They are no longer satisfied with mere knowledge delivering from teachers, but hope that teachers can effectively guide them to make greater use of online resources. Obviously, these abilities can be developed and should be developed gradually under the guidance of teachers. What’s more, teachers should also facilitate cooperation among students, and help them internalize knowledge and improve their emotional and cognitive abilities through well-designed classroom activities.

So, what teachers can do now is to combine the massive resources online with classroom teaching. Big data education provides teachers with a variety of possibilities: flexible schooling, flipped classroom, on-demand learning, lifelong learning and so on. In recent years, the mode of “MOOCs plus flipped classroom” has become a new teaching trend. MOOCs, moving the traditional classroom from indoor to outdoor, give students the opportunity to access to many high-quality online courses, and free teachers from the tedious and time-consuming in-class teaching on vocabulary, grammar and background information; in the flipped classroom, teachers provoke in-class discussions among students, and students state opinions based on a full understanding of the information input before class. The new teaching method gives students more freedom to decide what, when, where and how to learn. An efficient learner can usually explore independently, and make full preparation for class cooperation and discussion.

The new teaching method not only injects vitality into students’ study and make teaching more flexible and interesting, but also expand teachers’ professional knowledge and improve their professional abilities. If college English teachers want to implement this new teaching method effectively, they need to be clear in teaching objectives and design proper teaching procedure. There are some important aspects:

4.2.1 Guiding students in their online learning. Students’ online learning is an important part in the whole teaching procedure. Teachers need to select proper and related documents, audios or videos from massive online resources, and assign students the online learning tasks. Besides, they need to take necessary incentive measures to ensure that students will complete the online learning and grasp the basic content. They also need to encourage students to change from passively accepting the given information to actively exploring more information from internet, dictionaries, books or libraries.
What’s more, they can get data from the learning platform to evaluate the efficiency of students’ online learning. After getting the data or feedback, teachers can adjust their teaching plan, and do better preparation for the classroom teaching. Teachers can also show the data to students, because the feedback is a way to encourage students in their constant learning and exploration.

4.2.2 Guiding students in in-class discussion/learning. In classroom learning section, teachers should try their best to build a relaxed and pleasant atmosphere, strengthen the interaction among students, and provide students with a stage to show their English learning achievements. In the discussion section, teachers need to enlighten students to critically analyze texts or phenomena, and integrate the obtained information by sharing opinions. One point should be kept in mind: the cultivation of thinking is the core of education and the improvement of students’ comprehensive application ability of listening, speaking, reading, writing and translation is the main goal of language learning.

In face-to-face classroom learning, students can evaluate their learning efficiency through a comparison with their classmates. After making a peer comparison with classmates, students will probably do better in online learning next time. With the assistance of information technology, teachers and students can jointly complete the teaching and learning of prescribed knowledge, and students’ learning abilities can be improved as well.

4.3. Establish online cooperation alliances
In the era of big data, college English teachers can rely on online learning platform to form cooperative development alliances. These alliances can enable teachers of related subjects to form teaching groups. Teachers within a group can set the same learning objectives and assign same tasks to students from different classes or universities. The platform will record all the learning traces of a student, including the frequency and length of study, accuracy of assignments and tests, preference of topics, etc. These traces provide data support to teachers in deciding their teaching procedure and updating teaching content. The students can also see the trace, which is a record of their previous study and a reminder of their next study.

When gathering all the data from all the students in a pool, teachers will have a broader sense of current English education. Besides, with the data, teachers can carry out scientific researches. For example, teachers can analyze the data and find out the most frequently-used Chinglish expressions in students’ English oral expression, or the appropriate sentence length in excellent English compositions.

Within these alliances, teachers will achieve personal development through cooperation with others, which is an important new way in the era of big data.

4.4. Promote teachers’ data literacy
Education in the big data era means not merely transferring classroom teaching to online teaching. It emphasizes that education should be a data-based behavioral science. College English teachers should change their teaching mode from being “experiential” to being “data-driven”. They should learn to analyze students’ relevant learning data and obtain information. on the basis of this information, they can adjust the teaching scheme accordingly. When the data analysis is applied to the performance of individual students, teachers will achieve individualized teaching. Once being made full use of, big data will help college English teachers understand students in a scientific way.

Big data have the characteristics of being massive and distributed unstructured. Data technology is the professional processing of meaningful data. Meaningful data refer to the chosen structured data according to different teaching or research purposes. College English teachers can conduct data analysis if their data literacy could be promoted.

The promotion of teachers’ data literacy includes: how to obtain data, how to analyze data, how to interpret data, and how to communicate data. These lay the foundation for teaching analysis or scientific research. Besides, teachers’ data literacy can be obtained in practical activities, not through logical analysis separated from the specific situation.
5. Conclusion
In the era of big data, data technology continues to promote the reform of college teaching. College English teachers should follow the trend, reform their teaching methods and achieve their professional development, so as to meet the challenges of the big data era.

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