

Research on Teaching Reform of Data Analysis Course in Big Data Specialty

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Abstract: The era of big data brings great opportunities and challenges to the construction and development of data analysis course. Based on this, taking the teaching of data analysis course of big data specialty in Guangdong Vocational College of science and technology as the research object, this paper expounds the concept and characteristics of big data, analyzes the influence of big data on the teaching of data analysis course, discusses the problems existing in the teaching of data analysis course, and proposes to reform the teaching theory, teaching mode and teaching staff of data analysis course. The corresponding teaching reform strategies are given.

Introduction

With the popularity of social networks, the wide application of the Internet of things, and the rise of cloud computing technology, data is growing at an unprecedented rate, and human beings have entered the era of big data. Scientific research, engineering technology and management economy are inseparable from data analysis. The massive data obtained from many channels is heterogeneous, dynamic and high-dimensional, which forms obstacles for decision-making. It is a challenge and an opportunity for big data analysis. How to use the information provided by big data quickly and effectively, skillfully handle the complexity and redundancy of big data, and how to combine data analysis theory with big data organically is a problem faced by many data analysis teachers. It is of far-reaching significance to reform the teaching of data analysis course, improve students' interest in learning data analysis course and improve teaching quality.

1. The Impact of Big Data on Data Analysis

The course of data analysis is the main part of computational mathematics. It studies the data calculation of solving various data algebra problems by computer Methods and theories. In the era of big data, data is still the research object of data analysis course. Big data has great impact and influence on the theory and method of data analysis course, which is mainly reflected in the following aspects.

1.1 Impacts of Big Data on Data Collection.

In the past, the data needed in data analysis were mainly obtained by data experiment. In the era of big data, there are many ways to collect data. For example, data can be generated by GPS system, video monitoring, website browsing traces, etc. As a result, the amount of data is growing at an explosive rate. When collecting data, instead of collecting data according to its purpose and purpose as it used to be, it is not selective and purposeless. Therefore, the value density of the collected data is often small. For example, public places in modern cities are almost full of monitoring equipment, and almost all the things happened in public places are photographed, forming huge video data; however, it is very difficult to obtain useful data of an event from the huge video data. Although there is a huge amount of data in the era of big data, it is possible to get the required data after filtering and filtering by various methods. This is a great challenge for data analysts.

1.2 Impact of Big Data on Data Collation.

In the past, the data obtained through surveys and data experiments are all structured data, which

can be expressed in two-dimensional tables. In the era of big data, except for a small number of data with structural characteristics, most of them are unstructured data, which cannot be directly expressed in two-dimensional tables, such as text, pictures, etc. These complex data structures make the data processing process to be adjusted. Traditional data collation includes data audit, screening, sorting, grouping, summary and display. The acquisition of big data makes the data collation more complex and needs to apply more technologies, which puts forward higher requirements for data calculation.

1.3 Impact of Big Data on Data Analysis.

In the era of big data, data is massive and has overall characteristics. Therefore, data analysis is no longer the analysis of partial data, The traditional data analysis methods, such as hypothesis testing and parameter estimation, are no longer suitable. Some new analysis techniques should be added to the data analysis method, which puts forward higher requirements.

2. Problems Existing in the Teaching of Data Analysis Course in the Era of Big Data

With the advent of big data era, the teaching of data analysis course is not only a challenge, but also an opportunity, which brings some problems.

2.1 The Theoretical Teaching of Data Analysis Course Needs to be Reformed.

In the era of big data, the source of data, the reliability of data, the error of data and the structure of data model will change. In addition, big data has a great impact on data collection, collation and analysis, so the corresponding changes have taken place in the data based data analysis course theory. Big data is the expansion of data analysis course theory, and it is the development and continuous improvement of data analysis course theory. Then, in teaching, how to guide students to apply the theory of big data to the theory of data analysis course, and how to organically combine the theory of big data and data analysis course is a problem that data analysis teachers must face.

2.2 The Teaching Mode of Data Analysis Course is Single.

The main teaching mode of "data + practice" is "data analysis". In the era of big data, various new teaching methods are constantly introduced, and the teaching methods of data analysis course have undergone profound changes, gradually realizing the mutual penetration and combination of theory and practice, which plays an important role in improving the teaching quality of data analysis course. For example, network teaching, mobile teaching and so on, these teaching methods have promoted the teaching quality of data analysis course to varying degrees. However, today's college students pursue new things and stick to any teaching method cannot guarantee the continuity of teaching quality improvement. Therefore, in order to adapt to the teaching requirements of data analysis course in the era of big data, it is particularly important to reform the teaching mode and construct a diversified teaching mode.

2.3 The Construction of Teaching Staff of Data Analysis Course Needs to be Strengthened.

The arrival of the era of big data indicates that all kinds of data from different levels and classifications will play an increasingly important role in the construction and management of data analysis teachers. Therefore, in the era of big data, with the help of big data technology, organize, analyze and integrate data analysis courses.

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