Cultivation of College Students' Digital Economic Honesty in the Teaching of Statistics

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Abstract

With the rapid development and wide application of network information technology, the digital economy era puts forward higher requirements for the honesty behavior of college students in China and more suggestions for the teaching of Statistics. Aiming at the problems in the traditional teaching process of Statistics, such as the low awareness of integrity, the disconnection between teaching content and digital economy, students' poor manipulative ability and the slow update of teachers' knowledge, this paper, combined with the characteristics of big data and digital economy era, puts forward some suggestions and reflections on the reform of the teaching of statistical courses from "establishing integrity, appreciating integrity, maintaining integrity and delivering integrity" and other aspects.

Subject Areas

Information Economics, Statistics and Econometrics

Keywords

Statistics, Digital Economy, Integrity

1. The Related Concept of Digital Economy

1.1. Definition of the Digital Economy

What is the digital economy? There is no authoritative definition yet, however, scholars agree that the digital economy refers to an economic system in which digital technology is widely used and brings about fundamental changes in the entire economic environment and economic activities. It is also a new social, political, and economic system in which information and business activities are digitized. Transactions between businesses, consumers, and governments

through the Internet are growing rapidly [1]. Xu Qiang, vice president of Yun Manman, the first domestic freight dispatching platform which was founded in 2013 based on cloud computing, big data, mobile Internet and artificial intelligence technology development, said that digital economy is a new type of economy with characteristics of taking science and technology innovation as the core driving force, data and information as important production factors, and network as the information carrier. At the same time, he stressed that the development of digital economy faces two major problems. The first one is integrity. Sharing economy is mainly based on the transaction between strangers. Internet platform-based enterprises who have inherent advantages in the construction of integrity, should shoulder their own social responsibility. The second one is security. Platform-based enterprises have innate strong connection properties, which is likely to lead to high security of network information [2].

1.2. About Digital Economic Integrity

Digital economy integrity means the authenticity and accuracy of the data. That is, in the era of informationization and big data, Internet platform-based enterprises cannot use the enterprise platform to behave deceitfully, such as sales brushing, traffic-based editing, price bullying while they enjoy the benefits of the digital economy. When doing information statistics, related departments should ensure that the data truly reflects the credit situation of the enterprise and establish a data integration and unified publishing platform to ensure the authenticity and accuracy of the data. For a statistical teacher who imparts knowledge in the classroom, it is an important topic worthy of further study that how to keep up with the development of the times, to introduce the issue of digital economic integrity into the classroom and into the Statistics course that is most closely related to the numbers, and to cultivate students' digital economic integrity thinking mode.

1.3. The Content of This Article

This paper analyzes the problems: the disconnection, in the traditional Statistics classrooms, between up-to-date digital economy and statistical principle and pure theory of the derivation and calculation, the low awareness of integrity, the outdated teaching content, students' poor manipulative ability, the slow update of teachers' knowledge. It emphasizes that the Statistics class, in the digital economy era, should start from "establishing integrity, appreciating integrity, maintaining integrity and delivering integrity" and other aspects to instill students with honest and trustworthy code of conduct in the classrooms, encourage students to collect data from trust examples, and guide them to develop a behavioral habit of maintaining integrity. Teachers who teach the integrity of the digital economy, should improve their quality and train them into qualified, honest college students with digital economy and statistical thinking.

2. The Lack of Digital Economic Integrity in the Traditional Statistics Classrooms

The advent of the digital economy era has raised the importance of statistics to an unprecedented height. However, if the communication and cultivation of the integrity awareness of the Statistics course were neglected, students will feel that it is a rather boring, useless, incomprehensible, pure numbers courses without souls. The following problems are existing in traditional Statistics courses.

2.1. Low Awareness of Integrity

In the traditional teaching mode, Statistics is to do something about descriptive statistical analysis, such as drawing histograms, pie charts, radar charts, etc.; and also do inferential statistics, such as hypothesis testing, parameter estimation, regression analysis, time series prediction. Traditional teaching mode focuses on the continuation, supplement, expansion and deepening of theoretical teaching, thus the importance of integrity education is difficult to reflect. A way of thinking—emphasis on theoretical knowledge, while ignoring integrity education, stuffy classroom atmospheres and passive learning to coping with exams are common phenomenons. Students usually have underachievement. Information cheating methods and the current college students group cheating behavior emerge one after another, because of their final exam results related to student awards, degree acquisition, employment, etc. The integrity awareness is extremely low. Thus the Statistic classes need not only the impartment of knowledge, but also the communication and penetration of integrity education.

2.2. The Disconnection between Teaching Content and Digital Economy

The content of statistical textbooks used in most universities now focuses on the principles of statistics, the reasoning of concepts and formulas, and the inference and analysis of the population within a given precision. However, in the era of digital economy, we focus on the information itself which use a variety of data, such as character, geographic orientation, consumption habits, communication methods, etc. Everything can be quantified—all phenomena can be explained by data tables; all behaviors of each person can be described by data; honesty or fraud behavior will be reflected by data. Now the data is massive and complex. Simple software can't handle the analysis. Traditional Statistics only studies small samples and data. However the software we use is Excel or SPSS only, which cannot handle complex behaviors and large amounts of data. Obviously, the content and method of statistics teaching represent less relationship with big data and the digital economy era.

2.3. Students' Poor Manipulative Ability

In general, the statistical teaching of the university is basically a theoretical lesson in the classroom. Then the teacher uses the computer to demonstrate some

of the case exercises during the class. However, a large number of students do not listen carefully during the class, and ignore how the teacher operated. After class they also do not back to their books for rethinking, nor do they complete the homework assigned by their teacher. Thus students are hardly understanding the content. Their manipulative abilities are extremely poor, not to mention the application of Statistics. The theory and practice are seriously separated. Many students cannot use statistical thinking and methods to look at and deal with practical problems. According to the investigation, they don't know how to use the correct survey methods to obtain information nor where to get the data, not to mention the way to convey digital integrity. When asked, they are ambiguous in doing statistical analysis. Thus it can be seen that teaching effects are really puny.

2.4. The Slow Update of Teachers' Knowledge

At present, the teaching of Statistics courses is completely arranged by the teachers. The content of the lectures is scattered and scattered. Teachers rarely participate in the study and training of statistical software, and they are lack systematic and in-depth training on statistical business processes. With the appearance of big data, digital economy and Intelligent Cloud in recent years, new knowledge has sprung up. It is difficult to learn for a while. Many teachers just heard about it, while they are ambiguous about how much its influence on the teaching of today's statistical courses. Therefore, the teaching is basically regarded teacher as the center. Most of the teachers who teach Statistics are not the graduates of the statistical profession. Regularly, they teach what they know. Therefore, updating the teacher's knowledge is a matter of urgency.

3. Building the Training of College Students' Integrity Awareness under the Course of Statistics in Digital Economy

Statistics should not only teach students statistical theory, computing methods, software use, but also base on the cultivation of college students' statistical integrity awareness. It should start from "establishing integrity, appreciating integrity, maintaining integrity and delivering integrity" to build a business card of statistical integrity and cultivate students' habits of doing things with integrity.

3.1. Instilling the Teaching Philosophy of "Integrity Establishing"

Establishing integrity means keep word. In statistical terms, it means accurate and convincing statistical data. That is, in the Statistics class, students are required to verify the authenticity of the data, the normality of the data and the reliability and validity of the data, whether they are qualitative or quantitative. So that they can develop habits that no matter what they do, they must be honest rather than falsified from data analysis to conduct themselves. We should strengthen the education of "integrity establishing" of college students, ask them

to seek truth from facts in interpersonal communication and personal cultivation quality, emphasize that they should have digital evidence on the network or in the society, so as to prevent the occurrence of some dishonest behaviors. The strengthening of the college students' education of "integrity establishing" which represent the development direction of the society is essential for purifying the social environment and gradually creating a healthy, harmonious and stable society [3].

3.2. Establishing a Teaching Model of "Appreciating Integrity"

The selection activities of "appreciating integrity" models should be actively carried out in and out of the classroom, especially the strengthen of the use of online platforms to display the typical activities of "appreciating integrity" which can deepen the advanced typical propaganda from the depth and breadth, play the leading and demonstrative role of "appreciating integrity" to guide and motivate the majority of students to establish a integrity-based thinking. Students should be encouraged to collect data on college students' learning, poverty relief applications, rewards and punishments, employment, etc. Based on this, they can conduct data analysis and mining, and combine personal integrity data with student evaluation, promotion, employment and other data to analyze. They can perceive the people who are "appreciating integrity", including the correlation of his academic, future and integrity data. Then targeted education to students' integrity should be carried out so as to improve teaching effectiveness.

3.3. Developing the Behavioral Habit of "Maintaining Integrity"

The formation of credit requires a process of accumulation. It is necessary to build a good credit image through continuous accumulation. The establishment of statistical credit requires the efforts of the vast number of statisticians through hard work, so that every teacher and every student can do their best to maintain statistical integrity. In this way, there is hope in the establishment of integrity. In the traditional statistical classroom, however, the students mainly listen to the teacher's analysis and observe their operation, while rarely do their own hands to verify and question the teacher's point of view. To develop the behavior of "maintaining integrity" in the statistical classroom, students need to participate in all aspects. They should experience every aspect of teaching, from the classroom scene, on-machine experiments and on-campus and off-campus research to experience the formation of theory, data, results, so as to expand their ability to apply statistical knowledge, and cultivate their digital economic integrity habits.

3.4. Improving the Quality of Teachers Who Experience "Delivering Integrity"

It is the key to improve the professional quality of statistical teachers who experience "delivering integrity" and update the statistical knowledge. The existing

business knowledge of the statistical teacher team is mostly explanation of statistical theory and the operation of computing skills, although it has made many achievements in teaching and research. However, it involves less understanding of big data and digital economy related to cleaning, dimension reduction, processing, visualization, and cloud computing of data [4], which will not satisfy college students' desire for new knowledge. Therefore, a group of professionals with comprehensive knowledge and a team of teachers with expertise in data processing should be trained to improve the quality of talents training. At the same time, it is also the trend of the times to cultivate skilled network technicians and economic management talents, strengthen the cultivation of teachers' integrity and innovation ability, maintain their keen sense of new things and new methods, and improve the quality and credit level of statistical data.

4. Conclusions

It has been said that data is an important strategic asset for today's enterprises, which is like the oil of the new era and has great development value. In the era of digital economy, statistical integrity is an integral part of the establishment of credit country and governments. Honesty must be regarded as a standard for cultivating college students and it should be implemented in the teaching of Statistics, their lives. With the sense of integrity and philosophy, they can make useful statistical data products. Meanwhile, statistical integrity is also a standard of professional ethics. It is necessary to create an environment and atmosphere to maintain integrity, so that each college student can establish a sense of integrity and consciousness, and the establishment of statistical integrity will be implemented in every basic link. Only by combining the theory and method of statistics with the awareness of digital economic integrity can we achieve strong vitality in Statistics, which is the purpose of training professional application-oriented talents majoring in management. This requires the continuous development and innovation of colleagues in the field of statistical teaching and needs college students' active cooperation. Only in this way can we draw a new blueprint for teaching in the digital economy era.

Because of the limited knowledge and ability of the author, the views on how to protect data integrity and how to combine the latest digital economic frontier content with classes are relatively circumscribed in the research process. The measures are not relatively specific. For example, the improvement of the credit and security of the data can be combined with blockchain. The data on the blockchain has a high degree of reliability and security, but how to combine it?

Author Brief Introduction

Liu Xiaoyi, Female, Postgraduate student, Associate professor, Major interests: digital economy and management ecology. Project: this paper is part of the research results of the Social Science Project of Sichuan University of Arts and Science, "Analysis of the Contribution of Higher Education to Local Economic

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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