



The Application of Information Education in the Teaching of Passenger Cabin Sales of Civil Aviation

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Abstract. This paper introduces the concept and process of information education and its application in the teaching of engine room sales. This paper constructs the application process of information education in civil aviation cabin teaching, points out the problems existing in the application of information education, and prospects the application prospect of information education.

Keywords: Information education · Civil aviation cabin sales · Sales teaching

1 Introduction

With the in-depth development of domestic and foreign markets, the marketing direction of civil aviation express has gradually transformed from “product driven” to “market driven” and “customer driven”, which requires the civil aviation express to adopt the marketing strategy centered on market demand. And in the process of enterprise informatization promotion, a large number of sales data have been accumulated in the enterprise business database, including purchasing, inventory, sales and other business information. How to obtain useful data from these data to help enterprises analyze the actual needs of customers and provide diversified and hierarchical personalized service solutions has become an important issue for civil aviation express to increase sales revenue and profit, improve customer satisfaction and loyalty.

InMajor developments.

With the increasing number of software and hardware resources in schools, the amount of data generated each year is also increasing. The main sources of data include the following square character software systems [1–4]. When such systems can play a very important role in teaching management, we should make reasonable optimization according to the actual content of educational institutions, This can better enhance the application effect of digital software, data management system; this kind of system is mainly used to manage the input and output data information and important documents, so that the security of data storage can be effectively improved. The composition of data management system comes from the document format, which can effectively record management information.

1.1 Definition of Data Aggregation

Aggregate data is composed of program supply system, process sensor and other parts. Information management system covers complex and diverse information management tables, information duplication, errors and other issues. Therefore, program control in aggregate data can effectively screen, process and correct the wrong information, and sort out and classify the correct information, So as to better ensure the accuracy of information and data. Hardware resource data: this kind of data mainly includes: computer, router, wireless controller and other parts, and the way of use mainly includes: data exchange, router exchange link interworking and so on. If you want to ensure the smooth network, you can make use of these devices, so as to further mine the data resources, And then better school network and relevant departments to make analysis, decision-making, to provide favorable conditions for support. Other data: this kind of data mainly includes: video resources, defense equipment, mobile Internet data and other frequency management resources. It is an important incidental management resource of data management system, and the network system in some areas is not perfect, so there is no extensive application of video resources, which makes it difficult to play its role.

2 Related Work

2.1 Data Mining Technology

Data mining is a process of extracting useful information and knowledge from massive data. It can help enterprises to carry out micro, meso and even macro statistics, analysis, synthesis and reasoning of data, so as to use the existing data to predict the future and help enterprises win competitive advantages. For example, data mining can be used to analyze the massive data of enterprises, including customer types, demand tendency of various customers, loan repayment forecast, customer credit policy analysis, customer churn analysis, etc.; conduct market research, including commodity market share prediction, market expansion plan simulation, and business strategy research, Including operating cost and income analysis, risk control, fraud screening and so on.

2.2 Data Mining Algorithm

Regression analysis is a method of trying to find some rules from actual data. Regression analysis establishes and analyzes the functional relationship between a response y (dependent variable) and an important factor X . Regression value represents any conditional expectation value. In data modeling, it is often the conditional expectation value of dependent variable under given variable. The prediction attribute is regarded as independent variable and the prediction target is regarded as dependent variable.

Linear regression models are commonly used:

$$Y_i = \alpha + \beta X_i + E_i, i = 1, 2, 3 \cdots n \quad (1)$$

Where E_i is a random variable, which should satisfy the following requirements:

$$E(E_i) = 0 \quad (2)$$

$$\text{cov}(E_i, E_j) = 0, i \neq j \quad (3)$$

Obviously, a good value of α and β should make the error between X , y and the actual data as small as possible, so the value of α and β is directly related to the measurement standard of error.

The expression of multiple linear regression is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_m X_m + E \quad (4)$$

The data mining method in civil aviation cabin sales mainly uses association rule algorithm.

3 Analysis of the Current Teaching Situation of the Course “Civil Aviation Cabin Sales Skills”

3.1 Curriculum Background

In recent years, with the rapid development of China’s aviation industry, carrying out on-board sales has become a common practice for a long time. Most of the domestic and foreign airlines carry out their own on-board direct selling to provide high-quality and low-cost business for passengers. The course “cabin sales skills” is set up based on this background. It is a professional course that must be mastered by the graduates of aviation service related majors who are engaged in civil aviation sales related positions after graduation. The purpose of this course is to broaden the students’ knowledge, Let the students master more professional cabin sales skills, master the purchase psychology of passengers and the solution of environmental problems, so as to provide more intimate purchase experience for passengers and improve the purchase rate of passengers. “Civil aviation cabin sales skills” course is an important course for students majoring in aviation service, which can not only effectively improve the professionalism of communication, Moreover, it can achieve the maximum efficiency of economic development for enterprises. In this regard, relevant educators must pay attention to teaching reform, so that aviation professionalism can be effectively improved [5, 6]. From the current situation of our civil aviation sales course, the course content needs to be reformed according to the changes of the times and consumers, teaching students in accordance with their aptitude and combining with the characteristics of the subject.

3.2 Civil Aviation Cabin Sales Skills

Curriculum assessment is one of the important means to reflect the teaching effect. The important reference of curriculum reform is the students’ curriculum examination results. Therefore, whether the curriculum assessment method is scientific and correct and whether the students’ scores can accurately reflect the real situation is related to the adjustment of curriculum teaching content, the selection of teaching methods and the change of teaching progress. Before the teaching reform of the course “civil aviation cabin sales skills”, the examination method was still based on the closed book written examination [7, 8]. However, for the course like this, which focuses on improving

students' ability, the examination method should not stay in the theoretical knowledge examination on the paper surface, but should choose the more suitable and more comprehensive assessment method to reflect students' level. In addition, there should be a variety of assessment methods. Theoretical knowledge assessment is more suitable for memory based courses. In order to better test the teaching effect of the course, understand the deficiencies in teaching and improve it in time, the assessment method of the course can be changed to the general assessment of classroom performance, sales performance and usual homework performance. Compared with the previous written examination, this method is more scientific and can reflect the real learning level of students.

4 Application of Various Teaching Methods

The original intention of the course of civil aviation cabin sales skills is to provide high-quality skilled talents for the flight attendant industry, so that they can flexibly use what they have shown in their respective jobs and contribute their strength. Therefore, in the course teaching, we should not only teach students the basic knowledge of sales, but also find ways to improve students' sales ability. Colleges and universities should change the traditional teaching method of emphasizing theory and neglecting application ability. The teaching direction should focus on improving students' sales ability. We can try to use the following new teaching methods.

4.1 Case Teaching Method

Case teaching method is that when the students have mastered the basic theoretical knowledge of sales, the teacher can quote specific sales cases to the students. Through the explanation of the cases, the students can be inspired to have a more specific and in-depth understanding of the theoretical knowledge of sales. The plain and direct theoretical explanation is usually boring, not vivid and not vivid, just with the help of cases. The analysis of typical cases can not only explain the truth of sales theory, but also provide students with the direction of thinking and solving problems, so that students can understand how to deal with similar situations accurately and properly in their future work. Case teaching method is an innovative teaching method for the course of "civil aviation cabin sales skills". It can help teachers to concretize abstract theoretical knowledge, which is more convenient for students to accept and understand.

4.2 Situational Teaching Method

The situational teaching method is to create the working situation of simulated bairite, let the students understand and role in advance, get familiar with the cabin sales process, and experience the sales work content. Create different situations, when students really face in the work, there are also coping strategies. The teacher is teaching to simulate the creation of work situation, and the students answer how to do when they encounter this situation. For example, when the flight attendants are selling goods to some passengers, when they are disturbed by the reaction of passengers, will the flight attendants stop selling or insist on continuing to sell? Or do they have a panacea for solving the problem? Throw this

question to the students for thinking and discussion, so that the enthusiasm of students to participate in the classroom will be significantly improved [9, 10]. When the students think for a moment and have their own ideas, the teacher should provide the students with the opportunity to speak and listen carefully to the students' opinions. This kind of flexible question has no case. It is not the teacher's answer, but the standard answer. As shown in Fig. 1. Therefore, the teacher should encourage the students to speak boldly, and divide their answers for reference, so as to provide them with ideas. For example, tell the students that one of the tricks in the cabin sales process is to apologize in advance. The so-called hand does not smile, in advance to express apology, passengers reflect the probability of being disturbed will be much lower.

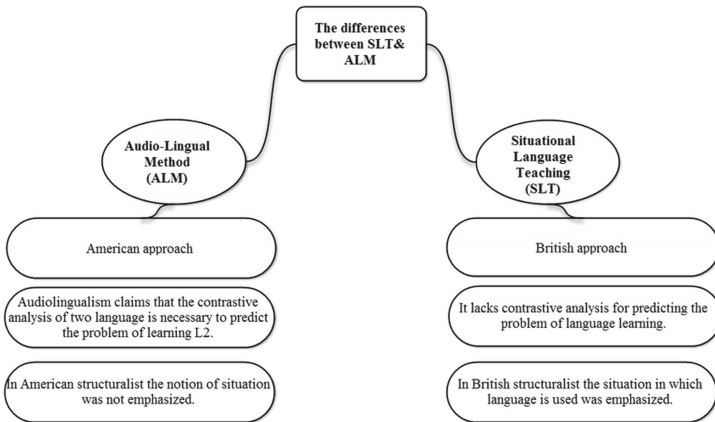


Fig. 1. Situational teaching method.

5 Practice Teaching Method

This teaching method is adopted at the end of the course in order to test what students have learned and strengthen the teaching effect. Students participate in the real cabin sales activities, which is more real and effective than the simulation scene teaching method. It can consolidate the knowledge of time and test the students' adaptability and basic knowledge of sales. The practice link is basically equivalent to work, but students can also find out what is missing in this link. In the work, they can observe more and consult with an open mind. If they don't understand, they can find their own advantages and find their own shortcomings in time, so as to make full use of their strengths and avoid weaknesses in future work, and strive to cope with the real cabin sales [10, 11]. There are many things that can be learned in the process of practice, many of which are not in the classroom. Teachers should tell students the importance of practice, let students pay attention to the practice link, seize the opportunity, exercise and improve their ability level.

6 Summary and Practice Analysis of Big Data Technology

The data on the experimental platform mainly includes application system data, server access log, Snort information, security device syslog log, network access log, port image data and so on. Because the amount of data in syslog log and network access log is relatively large, the journal update speed is relatively fast and the amount of data is large. In the Linux server in the experimental environment, tomcat8, zookeeper 3.4.6 and other programs can be installed and started. Using the scheme of collecting and storing data and logs such as fume + HBase, fume can customize different data senders, collect data, and make simple processing of data in the log system. At the same time, it can also collect data on RPC, text, exec and other data sources. HBase system is more significant in reliability, performance, scalability and so on. On the experimental platform, Tomcat can be selected as the web server, flume can be used to monitor the network logs in real time, and effectively collect and process the newly added logs. Finally, it can be saved in HBase, which can be used in the analysis of spark and other related distributed computing frameworks.

7 Application in Sales Management System

Data mining technology has been widely used in marketing. It is based on the market segmentation principle of marketing, and its basic assumption is that “the past behavior of consumers is the best explanation of their future consumption tendency.

Through collecting, processing and processing a large amount of information related to consumer behavior, the interest, consumption habit, consumption tendency and consumption demand of a specific consumer group or individual are determined, and then the next consumption behavior of the corresponding consumer group or individual is inferred [12, 13]. Based on this, targeted marketing of specific content is carried out for the identified consumer groups. Compared with the traditional large-scale marketing method which does not distinguish the characteristics of consumers, it greatly saves the marketing cost and improves the marketing effect, thus bringing more profits for enterprises.

The main applications of data mining technology in marketing are as follows:

Consumption pattern analysis: it is to carry on the correlation analysis to the long-term customer's consumption situation and the customer's file material and so on related data, unifies the customer's classification, may carry on the analysis and the forecast from the consumptive ability, the expense custom, the consumption cycle and so on, thus provides the basis for the related management decision-making.

Market promotion analysis: using data mining technology to realize the simulation of commodity selection and preferential strategy, according to the model of commodity sales, the simulation results can reveal the problems existing in commodity selection and preferential strategy, and make corresponding adjustment and optimization, so as to maximize the revenue of preferential promotion activities.

Customer churn analysis: according to the existing customer churn data, establish the mathematical model of customer attribute, consumption data and customer churn probability, find out the relationship between these data, and give a clear mathematical formula.

Then according to this model to monitor the possibility of customer churn, if the possibility of customer churn is too high, we can improve customer loyalty by means of promotion to prevent the occurrence of customer churn. This has completely changed the past in the successful acquisition of customers can not monitor the loss of customers, can not effectively achieve customer care.

Customer demand analysis includes: consumption habits, consumption frequency, product type and service mode, transaction history, demand change trend and other factors.

Customer loyalty analysis includes: customer service duration, total number of transactions, customer satisfaction, customer geographical distribution, customer consumption psychology and other factors.

Customer rating analysis includes: customer consumption scale, consumption behavior, customer performance, customer credit and other factors.

Product sales analysis includes: regional market, channel market, seasonal sales and other factors.

8 Teaching Reform of Civil Aviation Cabin Sales Skills Course

8.1 Teaching Content Setting of Civil Aviation Cabin Sales Skills Course

The basic knowledge of cabin sales, the professional ability of cabin sales, the skills in the process of cabin sales, the psychological analysis of customers' purchase and the actual combat of cabin sales. Obviously, it is impractical to teach so much knowledge in the course. Considering that theoretical knowledge is for practical operation, the working environment of students after graduation tests their sales ability more than conceptual sales theoretical knowledge. Therefore, in the curriculum, we should take improving students' sales ability as the goal, and convey sales skills to students as the main purpose. We can focus on explaining cabin sales combat and cabin sales skills. In the teaching of cabin sales practice part, the whole sales process should be explained clearly to students, including pre-sale preparation, sales steps, etc., and specific sales cases should be cited to imitate the sales situation, so that students can have the feeling of being personally involved in the sales and be trained repeatedly, so as to effectively improve the sales ability and level of students. In the content teaching of cabin sales skills, teachers should teach students as much as possible the skills in sales work, including the methods of communication with people, conscious social style training, how to have a comprehensive sales service level and so on. These are the key contents after the teaching reform of "civil aviation cabin sales skills". Only by grasping these key points can we distinguish the theoretical teaching before the reform and improve the teaching quality and students' ability level.

8.2 Using a Variety of Teaching Methods

The original intention of civil aviation cabin sales skills course is to provide high-quality skilled talents for the flight attendant industry, so that they can flexibly use what they have learned in their respective employment positions, and contribute their own strength to

the development of the industry. Therefore, in the course of teaching, we should not only teach students the basic knowledge of sales, but also try to improve their sales ability. In order to achieve this goal, colleges and universities should change the traditional teaching method of emphasizing theory and ignoring application ability. The teaching direction should focus on improving students' sales ability. The following new teaching methods can be tried.

Case teaching method. Case teaching method is that after students have mastered the basic theoretical knowledge of sales, the teacher can quote specific sales cases to students, and inspire students to have a more specific and in-depth understanding of sales theoretical knowledge through the explanation of cases. The plain and straightforward theoretical explanation is usually boring, not vivid and vivid, with the help of case teaching is not the same. The analysis of typical cases can not only explain and understand the truth of sales theory, but also provide students with the direction of thinking and solving problems, so that students can understand how to accurately and properly deal with similar situations in their future work. Case teaching method is an innovative teaching method for the course of "civil aviation cabin sales skills". It can help teachers to make abstract theoretical knowledge concrete, which is more convenient for students to accept and understand.

Situational teaching method. In particular, situational teaching method is to create a simulation of specific working situation, so that students can understand and role in advance, be familiar with the cabin sales workflow, and experience the sales work content. Create different situations, when students really face in the work, there are also countermeasures. Teachers can simulate the creation of working situations in teaching, so that students can answer what to do when they encounter such situations. For example, when the flight attendants are selling goods to some passengers, when they are disturbed by the passengers' reaction, do they stop selling, or do they insist on selling? Or do they have a perfect solution? Throw this question to students for thinking and discussion, so that students' enthusiasm for participating in the class will be significantly improved [14]. When students think for a moment and have their own ideas, teachers should provide students with opportunities to speak and listen to students' opinions carefully. There is no fixed answer to this kind of flexible question. It is not the teacher's answer or the standard answer. Therefore, teachers should encourage students to speak boldly and share their answers with students for reference and ideas. For example, tell students that there is a trick in the cabin sales process, which is to apologize in advance. The so-called people who don't smile will be much less likely to be disturbed after they express their apologies in advance.

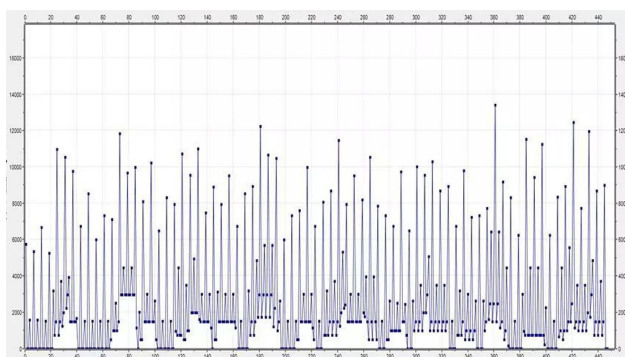
9 Simulation Analysis

In order to evaluate the application effect of data mining technology We can deduce Table 1 from the data obtained in in teaching. As shown in Fig. 2 we give an example to verify the effectiveness of the algorithm proposed in this paper.

We can see from the figure that as time goes on, the variances obtained are almost the same, and the teaching effect is distributed evenly.

Table 1. F-test two sample analysis of variance

	A Class	B Class
Average	74	84
Df	14	14
f	1.2	1.4

**Fig. 2.** Data mining simulation analysis

10 Conclusion

To sum up, the course of civil aviation cabin sales skills plays an important role in flight attendants related majors. However, at present, the teaching process of the course needs continuous innovation of the course content. Combined with the actual situation of students' knowledge, targeted education courses are carried out to effectively guarantee the quality of teaching courses. In addition, we can learn from foreign advanced teaching methods, so that the curriculum can be closer to the development of internationalization, so that students can deal with all emergencies after real employment, ensure the professionalism of aviation personnel, and make students really apply their knowledge to work.

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