# Analysis of Regularity of Daily Performance and Final Grade

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**Abstract.** Grade is an important index to evaluate students' learning quality. It is very instructive to study the logical relation and regularity of daily performance, final grade and total grade for grasping student learning dynamics and determining the learning crowd of different levels. This paper uses the data of cloud class of financial management through regression analysis method to study the learning law of the three levels of people and gets a conclusion that students whose score less than 70 need to use cloud teaching platform for process learning and students whose score above 90 should improve the content and means of activities.

## Foreword

All along, influenced by the traditional teaching mode, many college students rely on a short-time review before the final exam to pass. Their test scores are very high, and they are very good at the examination. However, the ability of active thinking and innovation has not been fully improved, and a large number of students with high scores and low abilities have been brought up [1].The talents cultivated in this learning style are not suitable for the talents needed by the society. The proper check method of daily performance can promote students' study initiative, develop positive learning attitude and improve the learning efficiency [2].Especially with the rapid development of mobile terminal technology in recent years, all kinds of electronic devices are flocking to our life, students use these devices to chat online, go shopping, sing songs, make friends and so on. These are constantly squeezing away our little study time [3].How to solve the unavoidable problem of distracting students from mobile phone, iPad, etc. Turning unfavorable factors into favorable factors is particularly important. Therefore, we put forward the method of strengthening procedural learning and examination to solve this realistic contradiction with the help of Mosoteach (a mobile information platform as mobile teaching assistant) [4].With the use of the platform in the past year, I have found some regular connections in the aspect of student's grade, and it is very instructive to analyze the relationship between the daily performance and the final grade for the practical teaching [5].

## Methods of Researchment and Sources of Data

## Methods of Researchment

**Regression Analysisbers.** Because the object of our research is the cloud class (a virtual class in Mosoteach), and the concept of class is to emphasize the procedural learning and assessment, so the procedural resources and activities are carried out through the acquisition of EXP (a form of score about participation in learning in Mosoteach),and the impact of normal procedural learning on the final grade is the problem that we need to analyze and summarize at the end of the semester. Therefore , the research adopts the EXP of the centesimal system as the argument "x" and final grade as the dependent variable "y" of regression analysis(refer with: Eq. 1).

$$y=a+bx. \tag{1}$$

**Scatter Plot Method.** This study selects the EXP and final grade of 203 students in two teaching classes of financial management. And I use the scatter plot method understand the distribution of students' academic achievement intuitively and find out the concentrated tendency and outliers of students' achievement.

**Sources of Data**

The course scores of the subjects are composed of two parts: the final grade and the daily performance. The total grade = 70% of the final grade + 30% of the daily performance. This paper mainly studies the relationship between the daily performance and the final grade. We assume that daily performance are replaced by the EXP of the cloud classes in the centesimal system. Therefore, the data in this study are derived from the financial management class data of Mosoteach (class invitation code is 610529,851265) and the data of the school administration system.

**Grade Distribution Analysis**

In order to prevent the one-sidedness law, this paper selects two teaching classes of financial management curriculum that have been carried on the cloud class teaching.

**Analysis of Scatter Plot of Daily Performance and Final Grade**

Draw a scatter chart of the relationship between the EXP and the final grade based on the EXP and final grade material of the two administrative classes (refer with: Figure. 1, Figure. 2).
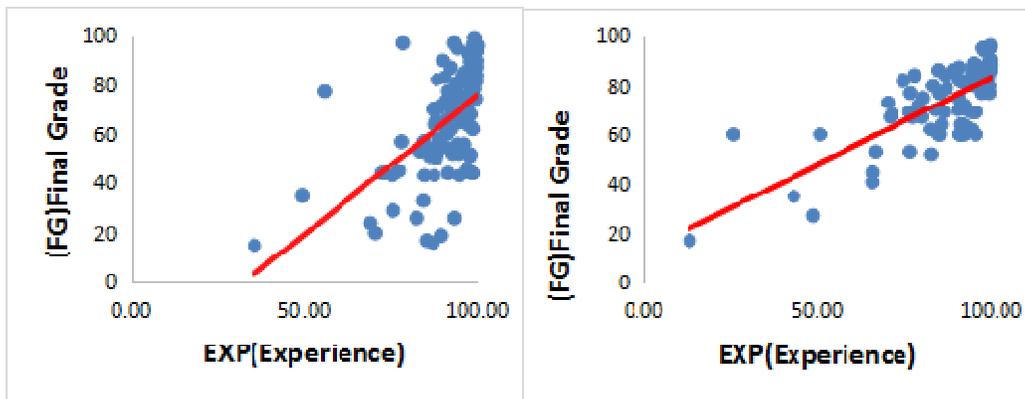


Figure 1. Class one of financial management.          Figure 2. Class two of financial management.

According to the description in the figure, we can see that the two classes show a common law: except for a few students, the grade of most students are relatively concentrated. And from the trend line, the higher the score is, the more obvious it is, and finally the phenomenon of concentrated distribution of fractions is formed.Therefore, it is necessary to study what causes the distribution of the points outside the concentrated area in the figure, and also to study the logical relationship between the EXP and the final grade in the centralized area.

**Analysis of Correlation between Daily Performance and Final Grade**

Based on the data of EXP and final grade, the index of the two classes is obtained by simple regression analysis with EXCEL (refer with: Table 1).

Table 1. Correlation coefficient table.

| project | Class one of financial management | Class two of financial management |
|---|---|---|
| Function expression | y = 1.1239x - 36.988 | y = 0.7069x + 12.446 |
| $R^2$ | 0.3051 | 0.5479 |
| r | 0.5524 | 0.7402 |

The data show that there is a high degree of correlation between the EXP and the final grade, especially in Class two. The difference between the two classes is that the overall performance of the first class is relatively high when setting up the class, so this class has formed a group value in the high district. But this does not affect the appearance of the general law of the two variables.

**The Regularity of the Change of Daily Performance and Final Grade**

Using EXCEL to summarize EXP, the final grade and total grade figures are as follows( refer with: Figure. 3, Figure. 4).
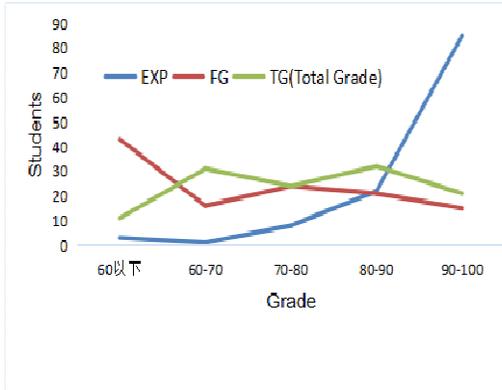


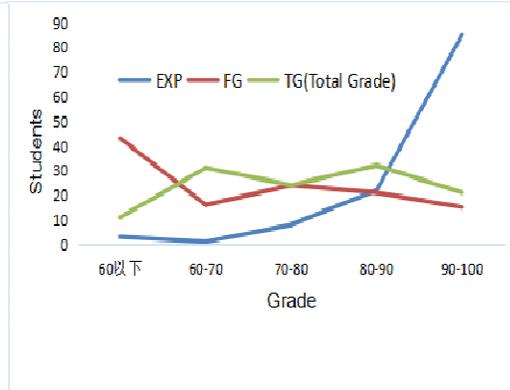Figure 3. Chart of the grade relationship in class one.    Figure 4. Chart of the grade relationship in class two.

It can be seen from the figure that the fluctuation law of the three curves of the two classes is basically the same, so we can think that the conclusion obtained by the data analysis is basically reliable, at least the law formed in this class is true. The law is that the proportion of students with high grade in cloud class is on the high side, indicating that students attach great importance to the accumulation of EXP in cloud class; the final grade show a flat "M" type. That is to say, there are two stages of normal distribution in 0-70 and 70-100 stages; among the students with high EXP in cloud class, the proportion of students with high final grade is on the low side.

We can also observe that more students with higher EXP, but not all of the students' final grade in this part is the highest, the reason is that this group of students only pay attention to attaching EXP, rather than on the quality of EXP. Analyzing the Wechat and microblog of these students discovered the existence of truth. There are some students with a low EXP, which is the Figure. 1 and Figure. 2 shows the obvious reclusive point. There are two reasons for these phenomena, one is that they do not study at all, the purpose and motivation of study are not clear, and the other is that this group of students have the habit of attacking at the end of the term and have not yet formed a high degree of attention to procedural learning and assessment.

The normal distribution in the emergence stage shows that there is a peak in both the parts of low score and high score. The reason is that some students' study goal is to pass the test, so the peak of the part of low score just appears at 60, and the vast majority of students, they study hard, and have a clear purpose of learning, so the peak of score appears in the 80 or so.

At the same time, because there are no calculation and synthesis questions in cloud class, and the proportion of final exam comprehensive questions is 20 percent and they are more difficult, so the proportion of students with high score above 90 is relatively low.

**Summary**

We should pay more attention to the students at both ends in design and teaching of the class. By studying the law of two-stage normal distribution, we can draw the following conclusions: the students with scores of 70 to 90 can make good use of the platform of cloud class for procedural learning; the learning attitude and purpose are not very clear of the students whose score below 70,

and their initiative of learning needs to be improved; the students whose score more than 90 have a clear purpose of learning, study hard, and have a correct attitude.

The study found that many of the students below 70 points were also students who complain about the Mosoteach, and even those who reject procedural learning and examination, which proves that they are exactly the part we must pay attention to. They are also the students most in need of revising and changing their learning attitude with the Mosoteach. We should work hard on the design of learning interests and learning processes to attract this group of students. This is a challenge that our educators must face and also an opportunity for us to make progress. We should provide more differentiated learning resources for students with more than 90 points.

## Acknowledgements

## References

[1] Jitian Wang, Tingting Gong, The regularity analysis of experience value and final grade-an empirical study based on the Cloud class of Financial Management [A]. In Cloud Teaching Theory and Practice Research[C]. Beijing: Beijing Technology and Business University press, 2017, pp.9-12.

[2] Lei Yin, A study on the relationship between Learning attitude and Learning Achievement, Journal of Psychological Science. 31 (2008) 1471-1473.

[3] Information on http://mp.weixin.qq.com/s/yI2igZ1QZc3aRdi23DtoSQ

[4] Information on http://mp.weixin.qq.com/s/yI2igZ1QZc3aRdi23DtoSQ

[5] Haijun Liu, Research on Correlation between Regular and Final Grades for Food Machinery and Equipments Course, Farm Products Processing. 399 (2016) 67-71.