



# BioTechnology

*An Indian Journal*

**FULL PAPER**

BTAIJ, 10(17), 2014 [9509-9515]

## Study on the teaching of large-sized class in colleges and universities based on dynamic management theory

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### ABSTRACT

The imbalance of the number of teachers and students in China's higher education will not be easily eliminated in the near future and the large-sized class teaching is so often adopted in higher education. Large-sized class teaching has several negative effects. Follett's dynamic management theory can help to improving the teaching performance of large-sized classes, especially the theories of Group Process, Situational Coordination and Effective Leadership. Focusing attention on the group process of teaching, strengthening situational coordination in classes, enhancing effective leadership is an effective way of improving the teaching performance of large-sized classes.

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### KEYWORDS

Large-sized class;  
Dynamic management;  
Group process;  
Situational coordination;  
Effective leadership.

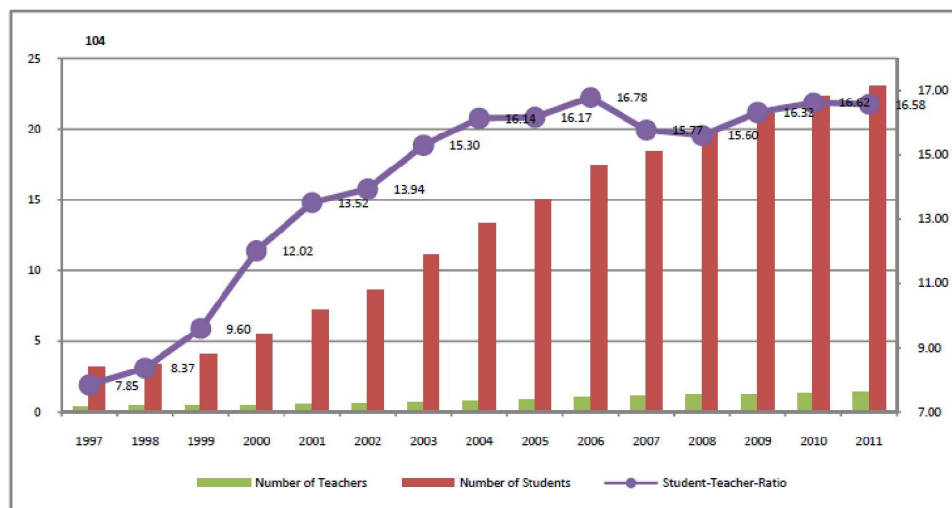
### INTRODUCTION

Since reform and opening-up, higher education in China has achieved rapid development. Since the late 1990s, in order to meet people's growing demand for access to higher education and to change higher education from the "elite" to "universal", China's colleges and universities continued to expand their enrollment. According to statistics published on the website of the Ministry of Education (MOE), the total number of students in colleges and universities in China was 3,174,362 in 1997. After more than 10 years of enrollment expansion, by 2011, the number reached 23,058,078 and the growth rate as high as 627.26%. At the same time, the number of full-time teachers in colleges and universities increased from 1997 in 404471 to 2011 in 1449686

with a significant growth, but still by less than 60% of the number of students.

According to the figure above, the value of student-faculty ratios in China's colleges and universities appeared a slight decrease after the peak of 2006, but was still higher than the student-faculty ratios of 1:14 required in "Some Views on the Current Reform of the Personnel and Distribution System in Higher School" published by the MOE in year 1996, and barely met the requirements prescribed in "The Basic Conditions for the Indices of Ordinary Higher School Running (Trial)" also published by MOE in 2004. Because of the imbalanced distribution of educational resources in China, high student-faculty ratios become a prominent problem, and the direct consequence of the student-faculty ratios imbalance is the unavoidable large-sized class teaching<sup>[1,2]</sup>. In terms

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**Figure 1 : Changing trends of the total number of full-time teachers, students, and their ratios in colleges and universities of China (1997-1997)**

of full-time teachers for professional course in colleges and universities, the problem is more serious. In view of the lag of the training and selection of young teachers in colleges and universities of China, to be sure, in a short time the imbalance of the number of teachers and students in China's higher education will not be easily solved.

Almost all educators are interested in the relationship between class size and teaching performance, and many scholars have conducted valuable researches. Bourke<sup>[3]</sup> studied the relationship between class size, teaching practice, and student achievement. Students in smaller classes were able to have a better result, largely due to the change of the teacher's teaching practice, which included aspects of teachers' classroom questioning frequency, the burden of homework, teaching volume and so on. Ur<sup>[4]</sup> believed that teaching of large-sized classes would bring some problems, but it also had its unique advantages. Meanwhile, teachers of large-sized class couldn't achieve success unless the students worked together to help each other, so as to cultivate the spirit of cooperation and mutual assistance. Large-sized class teaching was challenging and interesting, it provided teachers with opportunities for improvement and creativity of the teaching skills. Ehrenberg *et al*<sup>[5]</sup> further studied the relationship between class size and student achievement. He believed that reducing class size was just one of the means to improve students' study performance, the

whole of the class and school learning atmosphere, students' individual learning motivation, family background etc. could all affect the student's learning outcomes. Fin *et al*<sup>[6]</sup> pointed out that teaching of small-sized class was conducive to enhancing students' academic performance. When reducing class size, engagement in the classroom would be changed significantly, but class participation and academic performance was highly related.

It is noteworthy that most relevant foreign researches focus on primary education, in the field of higher education, however, quite few studies are involved. Although researches of class size in higher education and teaching effect can be scattered in the academic field, but they are mainly for English teaching. Ye<sup>[7]</sup> found that encourage interaction between students was an effective way to improve large-sized class English reading teaching effectiveness. Sun<sup>[8]</sup> expanded the theoretical basis of constructivism interactive teaching. He believed it could provide a useful reference for the negative impact brought about by large-sized class teaching. Xiao<sup>[9]</sup>, based on the general management theory and eclectic approach, used a comprehensive set of management and teaching methods of English teaching model in one large-sized class that the pattern in the student's self-intrinsic motivation, self-management of learning, the learning process monitoring and other aspects had had a positive impact on improving the efficiency of college English teaching in large-sized classes. Hu<sup>[10]</sup>

then discussed how to achieve efficient large-sized classes teaching, taking Vygotsky's "zone of proximal development" theory and Babanski's "teaching optimization" theory as the theoretical basis for the study. She analyzed the key effective teaching behavior proposed by Boridge, and summarized the main characteristics of effective teaching. Zhang<sup>[11]</sup> described content of participatory teaching, analyzed the typical difficulties of participatory teaching in colleges and universities in the implementation of large-sized classes, and put forward the corresponding strategies and solutions.

Overall, the large-sized class teaching in higher education has gradually drawn the attention of educators. Interaction, participation, effective teaching and other difficult problems of large-sized class teaching correspondingly become a key point that scholars generally focus on. But the current studies on the teaching of large-sized class are mainly concentrated in the field of English teaching, instead of a more general universal research. Essence of teaching is an important part of classroom management, and classroom management actually is a process of dynamic management. Teachers as key factors of classroom management, are always in a comfortable feeling to adjust the teaching means and methods. Follett's theory of dynamic management for guiding the large-sized class teaching and effectively improving the overall quality of large-sized class teaching is of great significance. In this paper, research on the teaching of university courses in large-sized classes based on the theory of dynamic management enrich and perfect the system of large-sized class teaching, it has theoretical and practical significance to solve the practical difficulties in the large-sized classes teaching.

### THE MAIN IMPACTS OF LARGE-SIZED CLASS TEACHING

Traditionally, it is generally believed that class sizes are negatively related with teaching performance: The larger the class size is, the worse the effect of teaching becomes. It is undeniable that large size of classes may indeed bring certain negative influence to the classroom teaching, and many teachers and students in large-sized class have certain resistance to it. However, the large-sized class teaching is by no means nothing, and large-sized class teaching

does not always lead to the result that the teaching effect must be disappointing. Justice delivered by Prof. Michael Sandel of Harvard University, which is widely circulated in Internet, is atypical successful example of large-sized class teaching. Therefore, only when we objectively analyze the positive and negative effects of large-sized class teaching, which brings to the teaching effect and quality, we can really manage to foster strengths and circumvent weaknesses, and draw on the advantages and avoid disadvantages. This is the key point to improve the condition and quality of large-sized class teaching.

Based on wide individual interviews and research, it can be summarized that why the classroom teaching participants (teachers and students) think negatively of large-sized class teaching lie in the following aspects:

(1) It is difficult for the teachers to control the situation of a large-sized class. When the class size is small, the teacher will focus him-/herself as much as possible on every student, so as to timely access to visual feedback about the state of students listening to lectures and make corresponding adjustment, and the classroom discipline is thus guaranteed. In the large-sized class teaching, it is difficult for teachers to pay attention to everyone and follow every listener's state due to limited attention. So they only intervene in significantly adverse performance in class (such as napping, talking loudly) and choose to deliberately ignore the performance in class (such as desertion, whisper). Therefore, it is difficult for teachers to do a comprehensive grasp in large-sized class teaching.

(2) The interaction between teachers and students is difficult to achieve. Limited by lecture hours and class sizes, because of the enormous number of students, it is difficult for students to debate and speak freely so that everyone can participate in the class. Teachers can only choose quite limited forms of questioning and selective interaction with students in class. They take a dominant position. Instead, in small-sized classes, teachers and students can easily realize the interactive discussion, free style speech, group discussion and so on. Through these interactive forms of teaching, teachers and students are more equal in class, which can help students to improve the learn-

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ing effect.

(3) The students' learning performance is uneven. Due to the fact that knowledge foundation and learning ability of students are different, in small-sized classes, teachers can learn the differences in a relatively short period of time, and then choose the best scheme of teaching so as to ensure the balance of classroom learning. In large-sized class teaching, because of the lack of effective feedback, it is almost impossible for teachers to learn the difference between the students' knowledge base and learning ability. They can only rely on personal teaching experience and little effective feedback to design the teaching plan, in an effort to grasp the teaching progress and the interpretation of the depth. But it is inevitable for them to attend to one thing and lost another, resulting in large differences in student learning outcomes.

(4) Routine assessment of teachers to students in large-sized classes is difficult to be objective and fair. Final assessment can be evaluated directly by test, but daily assessment usually based on the performance of students and their learning attitude. In terms of large-sized class, because the number of students is big, it is almost impossible to require teachers to know a lot about each student's performance. So teachers would be subjective or lack of objective impartiality in the process of assessment.

(5) Teaching hardware affects students' listening a lot. In modern higher education, teaching hardware should not be a factor that affects the effect of teaching. Teaching in large-sized classes, the classroom should also be enlarged accordingly. If teaching facilities cannot keep up, for example the size of blackboard is not large enough, the projector's brightness is not high enough, the sound amplification equipment is not stable, students sitting at corners and the back of the classroom will be inevitably affected. Over time, their learning enthusiasm will suffer a big blow.

Despite the above mentioned disadvantages of large-sized class teaching, it also has its own advantages. Some scholars are calm and comprehensive to see some positive influence of large-sized class teaching<sup>[9,11]</sup>. In our study, some of the interviewees also talked about the advantages of large-sized class teaching. Posi-

tive views of large-sized class teaching include:

(1) It is of great education value that many students of different situations come together to contact and communicate. The students can learn more on people's values and temperament, thus increasing understanding of people, aware of the existence of more different, and can strengthen the student's inclusiveness.

(2) Students' knowledge, experience, interest, thoughts are different, which are beneficial to take the student as the main body in classroom interaction.

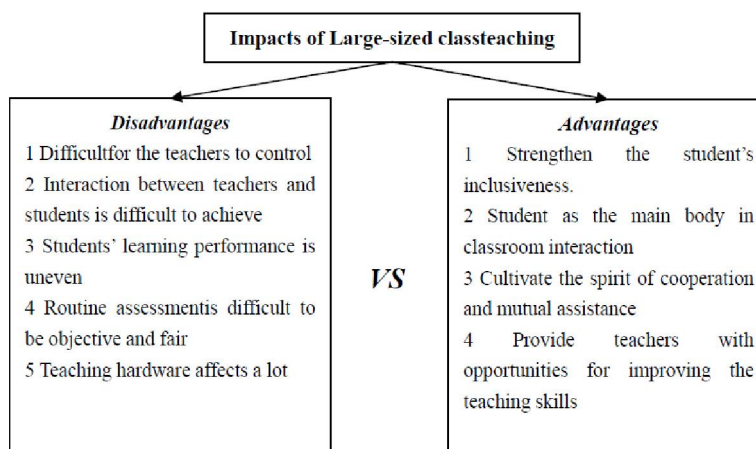
(3) It is very difficult for teachers in large-sized classes to fully consider each student in the classroom. In order to achieve greater gains in study, students must cooperate and help each other, so that they can virtually cultivate the spirit of cooperation and mutual assistance.

(4) Large-sized class teaching is more challenging and interesting. It provides teachers with opportunities for improving the teaching skills. Teachers with high quality and professional teaching skills can get more satisfaction in the process of large-sized class teaching. Without doubt, they are popular among students.

### THE THEORETICAL SUPPORT FOR IMPROVING THE LARGE-SIZED CLASSES TEACHING PERFORMANCE

Mary Parker Follett is a philosopher of management who connects scientific management theory with behavioral science theory. Her dynamic management theory not only provides a new perspective for the study of social life and industrial management, but also brings new enlightenment for the research of wider range, more common sense with human communication features of all kinds of organization management activities. That includes the study of education in the field of teaching how to improve the effect of large-sized class teaching.

Management elements such as people, finance, properties, time and information, are all in a certain time and space, and they will develop and change with the movement of time and space. Dynamic management believes that management is a dynamic process, in which manager and staff will achieve the stated objectives.



**Figure 2 : Disadvantages and advantages of large-sized class teaching**

The subject, object, means and methods of management are all on the dynamic change. The objectives of the organization and management of the target are also in a dynamic change. Therefore effective management must be appropriate. Principle of dynamic management requires managers should constantly renew the idea, avoid the rigid mindset and arbitrariness.

Follett's dynamic management theory is rich in content. Theories of Group Process, Situational Coordination and Effective Leadership have great inspiration to the study of large- class teaching. On the group process, Follett claimed personal potential before released by the collective life, was always just a kind of potential. One could only find his own true nature through collective and get his own true freedom. "People can inspire each other by meeting, discussion and cooperation, and they have unity in the process of the pursuit of common goals". "The group process is influenced by two major principles, namely 'mutual infiltration law' and 'whole theory'". About situational coordination, Follett thinks: the primary task of organization is the coordination of efforts within the organization of the people. Only proper coordination can cause control and authority, rather than through the control and authority to achieve the coordination. About the control and authority, she points out that the control should be based on the environmental requirements, rather than depend on individual will. The control should make people realize that the common interests between each other, thus making conscious work, self-command, self-management. Authority is authority, relying on a post it can play a role, rather than it occupies. Follett further proposed the "law of situation", that indicate the com-

mand from the facts and circumstances, rather than from the publisher will. The validity of instructions, mainly depends on the situation demands. On effective leadership, Follett believes that effective leadership is not dependent on the position or personality, but the ability to play a role or to create unity within the organization. Leadership should not be based on the power (command and submission), but should be based on the mutual influence of the leaders and members in the context of mutual contact. The relationship between leading and being led should be a two-way interaction and reciprocity.

### THE IMPROVEMENT OF LARGE-SIZED CLASS TEACHING BASED ON DYNAMIC MANAGEMENT THEORY

According to the dynamic management theory, following enlightenments can be concluded as we take the three great theories of "group processes", "situational coordination" and "effective leadership" into account when we do the research on large-sized class teaching of higher education.

#### Laying emphasis on the group process of teaching

Lacking interaction between teachers and students is one of the key difficulties in large-sized class teaching. According to the "group processes" theory, lacking interaction in teaching will lead to the separating situation between teachers and students, instead of the interpenetrative entirety. On one hand, teachers will have difficulties in making the optimum teaching scheme as

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they can hardly acquire the learning needs, knowledge background and learning ability of students. On the other hand, students also have difficulties in finding and clearing their learning purpose and insufficiency in knowledge-acquirement as the “group processes” cannot be realized due to the lack of interaction between teachers and students. Since it’s totally impossible to make a wide and in-depth class discussion in large-sized class teaching, to solve the problem, this research suggests that teachers consider more about the method of asking questions and requiring students to answer in order to indirectly realize the group processes, then the teacher will know student’s learning effect and other students will know their own mastery degree during the quizzing process. Or, the problem can be solved through students’ group presentation which a free quizzing process is affiliated. In this way, students become the active lecturer, a thorough interaction and interpenetration will exist not only between the students of the same group, but different groups and students and teachers as well.

### **Intensifying the situational coordination of the class**

According to the traditional class management theory, teachers have an effective control of class through forming the prestige and a certain punishment on students. But the managing method of this kind will have a restraint on the student’s personality and development. The “situation coordination” says that control and prestige should come from coordination; the purpose of control is to realize the self-management; the prestige should come from the positive role it can make. In the large-sized class teaching, it’s difficult for a teacher to notice to every listener due to his limited attention resource. Thus, teacher should pay attention to the situation coordination of the class, the inspiration of his language and his educational guidance will help the listeners realize the importance of class learning in order to coordinate and stimulate their study enthusiasm. In addition, situation coordination should also include adaptability improvement of the teaching equipment used in large-sized class teaching, in this way, the subject of situation coordination is bound to be relative to other education auxiliary department of school. A teacher’s class con-

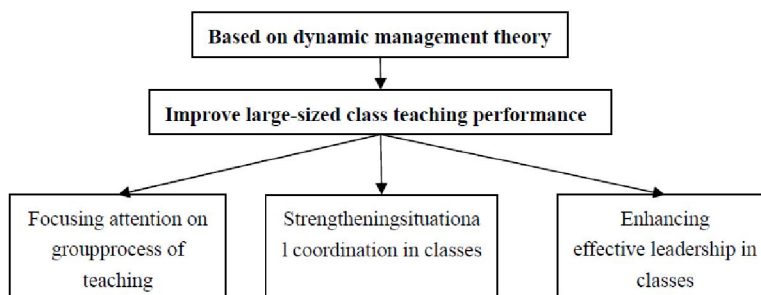
trol should change due to the situation including the complexity of knowledge, the integrated learning state of students, the impact of the external teaching atmosphere and etc. The ultimate purpose of a teacher’s class control is to make students realize that class control is aiming to achieve the common interests between teachers and students, making the teacher educate, instruct and dispel doubt, while making the students apply their learning.

### **Improve teachers’ effective leadership**

Effective leadership in class is an important premise in maintaining the large-sized class teaching effectiveness. Nowadays, many teachers seriously rely on their professional prestige, but can this kind of prestige really improve the teaching effectiveness? According to Follette’s “effective leadership” theory, leadership cannot be based on right (order and compliance), but should be based on the interplay of leader and follower in the interrelation of a certain situation. An effective leadership does not rely on the position or the personality, but the ability of playing a role in the group. As a result, to improve teacher’s effective leadership, the key point is to transfer from teacher’s reliance on professional prestige to student’s compliance to knowledge prestige. That is to make the knowledge taught by the teacher in class become the important reliance in maintaining the teaching effectiveness. To realize the aim, teachers should have a deep understanding of the content which they teach in major class and tightly combine the theory and practice in order to make the students clearly know about the meaning and function of the knowledge taught by them.

## CONCLUSION

Considering the current growth of China’s higher education resources, in some regions and some colleges and universities, it is inevitable for some majors to conduct large-sized class teaching in a certain period. Though negative effects cannot be avoided, to study the characteristics and method of large-sized class teaching to improve teaching skill and teaching effect has a realistic significance. Based on the theory of dynamic management, focusing on



**Figure 3 : Improve the large-sized class teaching performance based on dynamic management theory**

group process of teaching, strengthening situational coordination in classes, enhancing effective leadership are three aspects that teachers should pay more attention to in the large-sized class teaching..

### ACKNOWLEDGEMENTS

This work was supported by the Key Course of Shanghai Municipal Education Commission (Theory and Practice for Liner Shipping) and the Key Research Project of Undergraduate Education of Shanghai (2013).

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