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## Application and impact of Gantt chart in task-based team English learning

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### ABSTRACT

Currently, English proficiency is a basic quality of students. While the English learning mode of task-based team in the new era can improve the students' interest and efficiency in learning, still there are problems that will affect students' motivation and enthusiasm of learning, such as un-standardized teaching model and incorrect method. This paper introduces the concept of the Gantt chart to manage the English teaching of the task-based team. By using the Gantt chart we can conclude and analyze the progress and quality of learning, realize the problems and shortcomings in learning, and summary solutions. Let students learn with tasks cooperatively, thus to improve their learning efficiency. First this paper introduces the concept and characteristics of task-based team learning and the Gantt chart, then introduces an example of the application of the Gantt chart in task-based team English learning to analyze and observe the application value of Gantt chart, and finally summarizes the impact of the Gantt chart, which generally is the ability of revealing, warning and controlling. In a word, the Gantt chart can be combined with task-based team English learning to better manage students' learning progress, improve students' learning efficiency, and develop their concept of cooperation.

### KEYWORDS

Gantt chart; English; Task-based; Team learning.



## INTRODUCTION

As the society develops, the whole nation and parents are attaching greater importance to education. Knowledge is wealth and students are facing increasing pressure in their study. English learning is an important part of people's study and life in the globalized world today and in the future. It is both the focus and the difficulty of learning, so there are higher requirements in students' English learning. Based on the above, this paper introduces the concepts of the Gantt chart and the task-based team learning. Gantt chart is also known as the bar chart, the horizontal axis implies the time, and the vertical axis in this paper is the learning condition. From the Gantt chart, we can make learning plans, as well as clearly see the progress and quality of learning<sup>[1]</sup>. The task-based team learning can be understood in two ways. First, learning is not aimless, but with tasks. Students are always confused in learning, but with tasks, students are more directed, and they can make the greatest efforts to achieve their goals and to improve learning efficiency. The second is cooperative learning. Knowledge itself can be shared, and the modern society is giving more emphasis on sharing too. Knowledge sharing can increase the knowledge of both sides, and develop students' awareness of cooperation. Students tend to make similar mistakes, and cooperative learning allows students to influence other students with their own problem-solving ideas, so the knowledge is more easily absorbed and understood<sup>[2]</sup>. In a word, the Gantt chart can be combined with task-based team English learning to improve students' learning efficiency, and develop their concept of cooperation.

### THE THEORY FOUNDATION OF THE GANTT CHART AND TASK-BASED TEAM LEARNING

#### Introduction of the Gantt chart

Gantt Chart, also known as bar chart in China, is a tool that most commonly used for projects time management. Projects time management is a work to ensure the quality and quantity of projects, and to ensure them can be completed on schedule, and it also requires the project must be green and resource-conserving, without causing damage to the environment. The Gantt chart is an important tool in projects time management<sup>[3]</sup>. In the early 20th century, Henry L. Gantt proposed the concept of the Gantt chart. The Gantt chart is a two-dimensional graph, the horizontal axis is the time of the project, and the vertical axis is the progress of the project. Its content usually includes a list of project activities, and the start and closing time and the duration of the work<sup>[4]</sup>. Figure 1 is a most common Gantt chart, which reflects the construction of the project. We can see clearly the starting and closing time of the construction, as well as the ongoing process. The whole Gantt is orderly arranged. On the time and space dimensions, the construction progress is directly expressed in the visual image, and we can easily see the number of people in the team, the planned duration and the construction schedule. Also, it is very easy to draw a Gantt chart for front-line construction workers, and the related project management team can easily get information from the Gantt chart, such as the staff number, required materials, and the demand of materials. But using the Gantt chart for project time management also has some shortcomings, for instance, it is unable to show the relationship between the various sectors of the construction. Some construction sectors are interdependent or constrained with each other, and in that case, construction managers cannot perform data analysis tasks like sensitivity analysis.

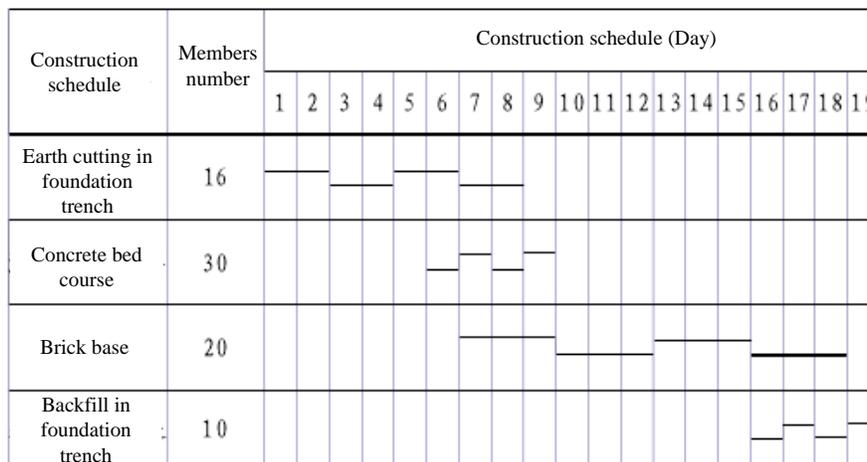


Figure 1 : Gantt chart for project construction schedule management

#### Task-based team learning

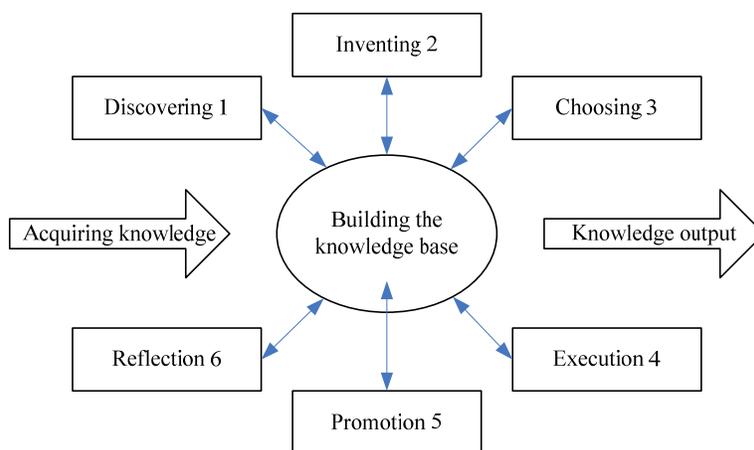
Task is a frequent seen noun that we understand as: a thing or several things we do in everyday life to achieve some certain purpose. In the " Modern Chinese Dictionary ", the definition of task is: "designated work or responsibility"<sup>[5]</sup>. From this we can see that to complete a task is not simply to do one thing or a few things, but to do them with a purpose to achieve a particular goal, and we need to think about what we want to achieve in this activity. Therefore, only with a purpose can a

thing becomes a task. In this paper, the task specifically refers to the task of learning English, and the purpose is to improve English learning. Our task is what we have to do to reach the goal of improving our English learning.

Here we must put forward the concept of task-based learning. According to the above, task-based learning is to learn with a task, so the key factor of task-based learning task is the design and implementation of the task. Since the purpose is to learn English, then what specific goals we must set in every learning process? Only when the task is refined that the task-based learning can play its full strengths in learning practice. For example, we can design tasks with variety and flexibility to improve the efficiency, and more importantly, the use value of learning English, which is the communicative and application use<sup>[6]</sup>.

Today's society emphasizes teamwork. It requires the cooperation of talents in different professions to produce a perfect work. Learning English is the same, for it requires not only professional teachers to teach knowledge but also relevant supportive staff to guarantee the operation of teaching without any error. So the division of labor must be clear to build a healthy and positive teaching and learning system. Of course, the most important parts in the learning system are students, for their contacts between each other are closer than their contacts with teachers and parents. Knowledge sharing is the trend of the era of knowledge explosion, so students should think about how to share knowledge, and in which way can knowledge and information be further spread and learned. Team learning can help students to rationally allocate knowledge resources, to ensure the equal distribution of resources, to share resources with fellow students and make collaborative development, and thus to achieve the goal of stable improvement, so that the team learning can gain competitiveness and vitality.

Task-based team learning is an emerging learning concept which emphasizes two key factors that are learning in practice and team learning. Knowledge can only generate value when applied in practice, and practice can feed back information into the study to improve learning. Students making up teams to complete the task of having real-life dialogues in English class can improve their ability to use English<sup>[7]</sup>. Figure 2 shows the building of the students knowledge base, during which the students will unconsciously acquire the knowledge. With exercises and reflection after class, a knowledge base is built. In the future when English is used in examinations or real life, he/she can timely output the knowledge to pass the exam or to communicate with others in English.



**Figure 2 : The building of the students knowledge base**

In summary, combining the Gantt charts and task-based team learning, and combining the advantages of the Gantt chart, the task-based work, and the team learning, can achieve high efficiency of students' English learning. Students can significantly improve not only their exam grades, but also the practical application of English.

### EXAMPLE OF GANTT CHART APPLIED IN ENGLISH TASK-BASED TEAM LEARNING

Here, the paper interprets the application of Gantt chart in the task-based team English learning with a specific example. The example is a Gantt chart for an English learning program of a learning institution. The time lasts from the beginning of the year to the end, 12 months in total.

#### Schedule of the project

The following Figure 3 is the project manager's planning assignment, which is the project schedule we mentioned above.

From Figure 3 we can see that from January to February, we would be practising listening and single choice questions, while in early February we would have cloze exercises, which would end in May, with reading comprehension synchronized with it (from March to June). The study section of error correction is relatively short (from June to August), with translation synchronized with it (from July to August). The project manager made the study section of oral English relatively long (from August to November), for it would need a lot of time to practise and have relatively greater use in the

future. The writing section would start from October to the end of the year, lasting a period of three months. In the end of the year, the manager would test the project and summarize experiences and lessons.



Figure 3 : Gantt Chart of the task-based team English learning team in accordance with the project schedule

Actual progress

Project progress at the end of June

When the project just started, it stuck to the plan, and the task of single choice questions was completed well in the first two months. However, because the beginning of the project schedule is relatively simple and rough, and there is no necessary refinement of the project activities, other sectors could only have a simple and general understanding of the actual progress of the project. Besides, the project team uses highly abbreviated words in the progress report. So we can see that the listening comprehension section was not completed on schedule, with one-month-long delay. The manager should realize that listening comprehension is the focus and the difficulty of English study. And in task-based team learning, it is an important part of cooperative learning for students would communicate with each other to practise listening. Comparing with the plan made before, two months is obvious short to practise listening, and does not meet the student's study habits. It is difficult for students to complete such an important learning task within two months. Given this situation, the management should make clear regulations on the progress report submitted by the project team. In other words: to make the plan more practical and valuable, the project team should express specific implementation details, and make plans according to the actual situation of the students and the learning tasks. The comparison between the planned schedule and actual progress after the project changed is shown as Figure 4.

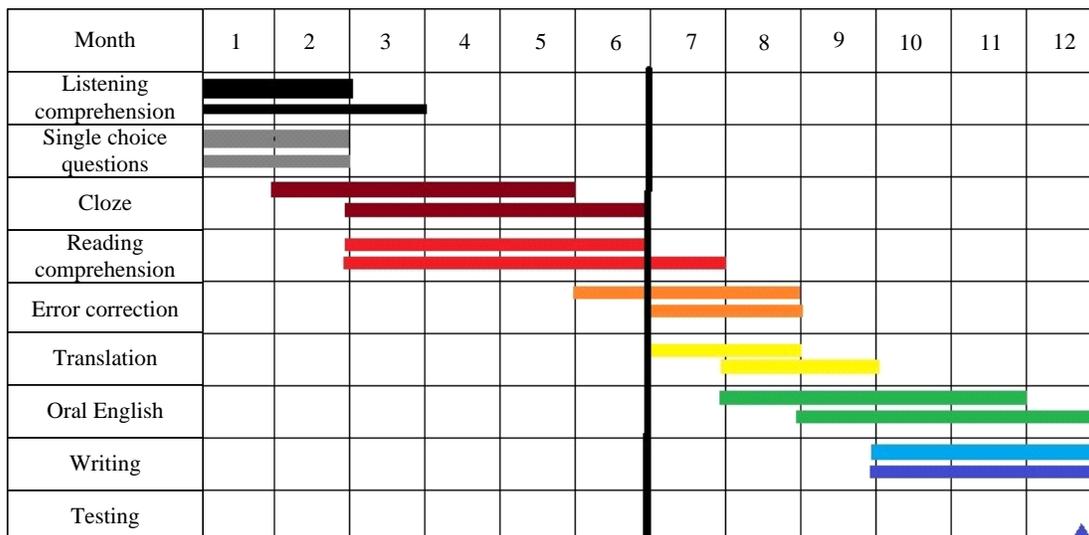
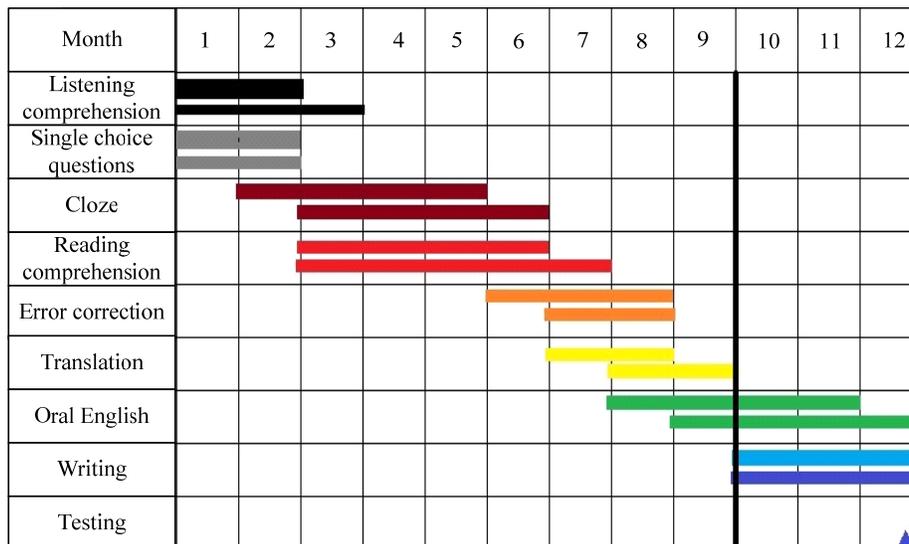


Figure 4 : The comparison between the planned schedule and actual progress after the project is changed (testing the learning process in the first half year)

Figure 4 shows the comparison between the planned schedule and actual progress after the project is changed, and we can use it to test the learning process of task-based team English learning in the first half year. From the progress report of the project team and our communication with the project group we learned that in the first half year, the listening comprehension, single choice questions and cloze sections were completed, the error correction section was ongoing, and the translation section was upcoming. The main changes are: the reading comprehension section that lasts for half a year was not completed, and the delay of the listening comprehension section led to the delay of the follow-up work. If students are forced to study intensely on classes, they cannot timely absorb the knowledge, and the effect will be the opposite. The cloze and reading comprehension sections were postponed for a month, and the error correction section failed to timely begin according to the plan. From the figure above, we can see that the actual progress already fell behind the schedule, and the plan might not be completed in time and students' learning efficiency could not be guaranteed without appropriate adjustments. And this would cause huge impact on the educational institution, so we must adjust the teaching plan, methods and mode of task-based team English learning according to the Gantt chart.

### The progress of the project by the end of September

Because some problems emerged in the study of the first half year, the management tested the project in the second half year and decided to check the process of English learning, with the Gantt chart. The following is the reason. The learning tasks were not well completed in the first half year, and it would be too late to test the project in the end of the year, so the management of the project chose to use the Gantt chart to check the English learning progress in the second half of the year (the end of September). The following figure is the Gantt chart based on the progress of task-based team English learning by the end of September. The comparison between the planned schedule and actual progress after the project changed is shown as Figure 5.



**Figure 5 : The comparison between the planned schedule and actual progress after the project is changed (testing the learning process in the second half year)**

Figure 5 shows the comparison between the planned schedule and actual progress after the project is changed, and we can use it to test the improvement of the learning process of task-based team English learning in the second half year while there were problems in the process of the first year. From the progress report of the project team we can learn that in the first half year, the listening comprehension, single choice questions, cloze, reading comprehension, error correction and translation sections were completed, the oral English section was ongoing, and the writing section was upcoming. The main changes in the second half year are: the reading comprehension section was postponed for a month, as well as the error correction section, but due to the adjustment of the learning process, the tasks that were planned to be completed within three months were completed within two months; tasks in July and August are relatively heavier, and the translation and oral English sections had to be delayed for a month, while the writing section went on schedule. From the figure above, we can see that after the actual progress has lagged behind the arrangement, and the project manager realized that the plan might not be completed in time and students' learning efficiency could not be guaranteed without appropriate adjustments. So the manager decided to adjust the teaching plan, methods and mode of task-based team English learning according to the Gantt chart. The main adjustments are: enhancing teaching efficiency by accelerating the teaching of the relatively easy sections (for instance, the error correction section was planned to be completed in three months, but it actually took only two months); but the unreasonable arrangements before already caused influence on the latter study, so it is not scientific to blindly catch up with the schedule, and the project manager chose to extend the translation and oral English sections for another month, and finally successfully completed the task by the end of the year.

### **Impact of Gantt chart in task-based team English learning**

Task-based team learning is the focus of English learning, as well as the effective means for students to acquire English knowledge. How to effectively guide students to thoroughly learn and make good use of English has become an important issue concerned and discussed by today's education industry. The Gantt chart is also one of the chart analysis methods, which are widely used. Under the new teaching blueprint today, the education authorities attach great importance to the chart analysis and highly approve the use of the chart pedagogy.

The influence of the Gantt chart in the task-based team English learning is mainly reflected in the following four aspects: The first, the Gantt charts can show the process of students' learning in an intuitional image, which is easy for the project manager to reasonably regulate the learning progress; effectively organize the implementation of teaching; and make the tasks at different periods clear for all members of the project team. The second, the Gantt chart has the forewarning function. Once the Gantt reports a problem, the management personnel can timely make regulations. Therefore, the Gantt chart can warn and remind both the project team and the superior department. So in task-based team English learning, the Gantt chart often becomes the main method for the project management staff to report students' learning progress. The third, the Gantt chart is also a powerful tool for project progress control. It can show the plan schedule and the actual progress at the same time, by contrast schedule and actual progress on the Gantt chart. Because various situations may appear in English learning, it is common that the plan may not catch up with the changing situation, based on the Gantt chart. And we can regulate the project more efficiently and effectively with the help of the comparison between the planned schedule and actual progress on the Gantt chart. The fourth, with the Gantt chart, the project manager can clearly see the learning progress information. Such as whether the listening comprehension exercises started on schedule; whether the reading comprehension section has ended when the project team gave reports; if it has already ended, whether its duration is longer than originally planned; and how is the students' learning effect.

### **CONCLUSION**

The 21st century needs innovation, and this paper puts forward the innovation in the management of English learning, which is the use of Gantt chart in task-based team English learning management. First this paper introduces the concept and characteristics of the Gantt chart and task-based team learning, then introduces an example of the application of the Gantt chart in task-based team English learning to analyse and observe the application value of Gantt chart, and finally summarizes the impact of the Gantt chart, which generally is the ability of revealing, warning and controlling. In summary, the Gantt chart is a simple and effective teaching methods in the task-based team English learning in the new era, for it can make the learning process simplified, principled, and characterized. Controlling the learning process with the Gantt chart can make students' learning more targeted, effectively improve the students' speed to receive new knowledge, effectively help students to complete task-based team learning accurately, stimulate students' interest in learning, and guide they to form excellent study skills, thus to effectively improve their ability of learning English.

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