Application Research on the Project Management Method in the Development of Tianjin Vocational Training Package

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Abstract: Tianjin vocational training package project is an important content of Tianjin Million Talents Training Plan, which imitates the mature experience of Australia. Tianjin vocational training package is a new model for vocational education, and its achievement directly affects the effectiveness of training. In this paper, we adopt the method of project management, choose the theory of project management, explore new model of vocational training package development. First, choose the applicable theory and method from the basic theory of project management; Secondly, through the analysis and research of the case, the rationality and effectiveness of the project management method are verified. Through these studies, it is helpful to develop and manage vocational training packages.

Introduction

Vocational training package is established under the framework of national professional standards, based on training package, professional standards, training standards, teacher allocation standards, equipment and environmental standards, and establish a modular and menu based vocational training system. The characteristics of the training are optional supermarkets and integration of theory and practice. Training content, training methods, training process, assessment methods, training resources will be centralized packaging, theory and practice are "tied homework" in vocational skills training. The aim is to guarantee the pertinence, standardization, effectiveness and sustainability of Vocational training. In the course of developing the vocational training package, the methods and techniques of project management are introduced and discussed, which can better accomplish the development of vocational training package. [1]

Project management is the whole process from the project investment to the implementation of the project, including the project tasks, resources and cost planning, organization, control and evaluation, in order to achieve the project objectives and acceptable quality level in a certain period of time and budget. In the process of the development of occupation training package, through the application of job analysis and project management theory to explore, can come to the preliminary conclusion that the occupation training package is developed to complete the task in the limited resources and limited time. The project involves five major tasks: project leadership, planning, organization, manpower and control. [2] The focus is on the effective use of project management skills, methods and tools for project planning, schedule planning and maintenance of project activities. Therefore, according to the needs of practical work, at the same time, according to the principle of applicability, the following methods of project management are adopted, and good results have been achieved in practical applications.
1 Application of project cost management method

In the early stage of project construction, the project cost management method was started before the problem research work. In order to ensure that the project can be successfully completed under limited research funding, detailed planning is carried out before the implementation of the project. The national professional standards shall be combined with the development and construction of local regional economy, and the necessary upgrading and adjustment (increase, deletion, reservation) shall be carried out in conjunction with the posts to meet the real needs of vocational training. To determine the research enterprises and employees, formulate research plan, including research time, enterprise contacts, questionnaires. Among them, the content settings of questionnaire should consider applicability, easy to understand, easy to accept, to maximize the reflection of the respondents’ true ideas and judgments; at the same time consider the breadth and depth of research work. Breadth is mainly reflected in a certain number of enterprises, covering different properties and different scale enterprises, such as state-owned and private companies, etc., In the limited research question, as far as possible the investigation and research pays attention to each kind of question situation, will provide the reliable support and the basis for the follow-up work's expansion and the evolution. Depth is mainly reflected in the rational arrangement of several representative enterprises to do in-depth research, adequate questionnaires, in-depth investigation, mining potential and valuable problems and situations. The combination of breadth and depth can make the funds effectively controlled, not only to meet the maximum scope of research, but also to ensure the effective implementation of the depth of investigation. At the same time, funding for research projects into full play effect, not only covers the most relevant enterprises, and to do in-depth research on the representative enterprise, ensure the vocational training package development based on real, objective, representative, depth, reached the purpose of investigation work.

2 Application of network planning technology

Network planning technology is a management technique for project planning and control, which is based on Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT). Since the time of the development of the training package has been determined, it is usually from one year to one year and a half. The focus of the project is on time and cost control. Therefore, the project as a whole applies to the CPM, plans the project task flow chart, identifies the work node, defines the tasks and expected results, and makes the development process clear and task controllable.

At the same time, due to the rapid evolution of new technology, the development process of uncertain factors, such as many subprojects, research difficulties, personnel changes, technology upgrades, resulting in operating time uncertainty in the early stages of the project, time can only be estimated, so the focus is to solve the problem quickly, control time. Therefore, Sometimes part of the project is suitable for using PERT.

For example, in the formulation of "communication equipment inspector" vocational training package. Communication equipment contains 25 kinds of communication equipment, and the subitems are too many. In the face of such difficulties, decided by the meeting of experts, according to the number of employees, all kinds of communication equipment post demand, technology development trend, analysis and selection of 25 kinds of communication equipment, the wireless communication device to be determined the direction of project work. Therefore, regular experts meeting will be able to ensure the progress of the project.

In addition, use of network planning technology in the development process of teaching resources, making the project task flow chart to determine the node, creating sharing platform of teaching and training resource, makes the development process clear, task control.

In summary, the combination of CPM and PERT is used to obtain the best control over time and cost, thus ensuring the controllability of the project as a whole.
3 Application of project time management method

3.1 Application of GTD time management method

In order to ensure the project completed on time, the specific activity definition, activity sequencing, time estimation, schedule and control of the time of the work, from GTD (Get Things Done) time management methods, improve work efficiency. According to the GTD time management idea, we found in the vocational training package development project, many tasks, personal memory and attention is very limited, but can't remember a lot of things to do many things. Things may be very important to later find that there is not enough time for distribution. The unimportant things are done a lot, and sometimes because the former one is not done well, the work increases and goes into a vicious circle. So careful planning is important. Such as resource package development, pre-construction column, the division of tasks, and then under the guidance of the target, and complete each work step by step. In this way, it will do a good job for the difficult task. In this way, we can prepare resources in a systematic and purposeful way when our resources are insufficient. So, GTD is a good idea.

GTD is called 'no pressure', just because when you do it, you don't bother to think about other things, specific methods are as follows: (1) it will organize things properly and logically arranged. How to put the tasks assigned by supervisor, some good ideas and some valuable items properly and logically arranged. (2) Organize these matters into one by one tasks to make you clear at a glance. (3) Turn tasks into work lists. Make a to-do list and allow you to have the list on any occasion and complete your work efficiently. The working process of GTD includes: 1.Collecting; 2.Processing; 3.Organizing; 4.review and checking; 5.DO. The organization is the main work. In the face of complex tasks, how can we quickly and accurately judge how important they are to choose and sort them? Tasks can be divided into urgent tasks and important tasks. On this basis, you can quickly and accurately identify which tasks are primary and which are secondary ones. Emergency mission means: if you can't finish it on time, it will reduce or even lose value to you or others. An important task is that if it is successfully completed, you or someone else will make a big profit. The higher the benefits, the higher the importance of the task. There are four different combinations of urgent tasks and important tasks:

(1) urgent and important tasks, which should have the highest priority, should be done from now on.

(2) urgent but unimportant tasks that need to be accomplished now, but priority is lower than urgent and important tasks.

(3) important but not urgent tasks, their priorities are not the highest, but they should be important in your schedule.

(4) neither urgent nor important tasks, do you really need to do these things?

Figure 1. Two-dimensional coordinate diagram of importance and urgency.

So, we can set up a two-dimensional coordinate diagram of importance and urgency, as shown in Figure1, first of all important and urgent matters. Do things in order, sort tasks, discard unnecessary tasks, sort out the remaining tasks, and prioritize important and urgent tasks. There is also a saying that 80% of things require only 20% effort. While 20% of things are worth doing, priority should be given to them. Therefore, be good at distinguishing these 20% valuable things, and then allocating the
time according to the value. It is more important to do well than to do it well. Consider the effect first, then consider efficiency.

3.2 Application of Gantt chart time management method
Gantt chart is also called Bar Chart. The activities of the items are listed on the left, and the bars on the right represent the active durations. The above is the time unit for the project progress. The left end of the line is the start date of the activity, and the right end is the end date. For example, the tasks of antenna system installation can use the Gantt chart. As shown in Figure 2, the amount of work that can be expressed from one point of time to another. The starting point or end point of an activity can be indicated. Including: list of activities, schedule, duration and progress, to achieve refinement and specific assessment indicators.

![Gantt chart of antenna system installation](image)

Figure 2. The Gantt chart of antenna system installation.

4 Application of project communication management method
In order to ensure the collection and delivery of project information, communication planning, information transmission and progress reporting are implemented. Vocational training package project belongs to small and medium-sized project type, according to the nature and scale of this project, matrix management mode is more appropriate. Based on the matrix project management model, to establish a project team, the project team members have different life background, cultural background, have different personality, to make the team to form a cohesive team in a very short period of time, must pay attention to the cultivation of team values and common vision, and this is the spiritual guarantee to accomplish the project goal. Team members highly trust and respect each other, and can work together to create a harmonious, relaxed and friendly working environment. The project team has a strong sense of belonging and pride in the team, sharing knowledge, experience and information, and sharing the success of others and teams. Acknowledge differences, encourage different opinions, and allow them to express freely. Different opinions and opinions of team members can be respected and accepted. In the face of conflicts and problems, through sincere and friendly feedback to help team members recognize their strengths and weaknesses, and help the team achieve the project goals.

5 Application of other project management methods
Modern project management includes nine aspects: whole management, scope management, schedule management, cost management, quality management, human resource management, communication management, risk management and purchasing management. In general, scientific research projects, technological transformation projects, product development projects, educational service projects and
government procurement projects are small and medium projects. Large projects include construction projects, industrial projects and other projects. Vocational training belongs to the educational service project, so it is necessary to flexibly select the knowledge system of project management when designing and developing. According to the nature of the vocational training package project, we focus on the scope management, schedule management, human resource management and communication management. In addition, it also involves project quality management, project risk management, project procurement management and project human resource management. In the training package development project management, the project team is very important. With the project team, it is possible to plan, implement, monitor and implement projects with high quality. This requires a reasonable human resource plan to meet the staffing requirements of the project. The construction of the project team should pay attention to: (1) The composition of the project team should be conducive to project management decisions and information communication, and all team members have a sense of responsibility and accomplishment of the mission of the project. The project team must be "flat"; (2) The project team members to participate in the project implementation of the entire process, very familiar with the environment, goals and action items; (3) Team members to provide solutions for cross functional departments; (4) strong sense of teamwork; (5) good communication; (6) common values. In the project of vocational training, we use “the responsibility allocation matrix” to allocate human resources. The project roles determine what each person does, and the responsibilities of the project must be assigned to the project team's specific staff. “The responsibility assignment matrix” is to indicate the roles and responsibilities of all project participants. Although roles and responsibilities may change over time, but they remain relatively constant for a certain period of time. At the same time, the person in charge of the system from superior departments, and the division of funds Commissioner and management division, formed a strong support for the project development team.

References
