Feasibility Analysis of Task-based Teaching of Business English Relying on Interactive Virtual Reality Logistic Model Algorithm

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Abstract: In order to improve the feasibility analysis effect of business English task-based teaching, this paper combines the interactive virtual reality Logistic model algorithm to analyze the feasibility of business English task-based teaching. Moreover, this paper combines the virtual interactive teaching mode to describe the entire physical process of light propagation in the scene through rendering equations. Rendering the scene actually translates into solving the rendering equation. In addition, this paper combines the model to analyze and verify that both bidirectional path tracing and Metropolis ray tracing are suitable for describing and calculating in this form of path integral, and apply it to business English teaching. Combined with the experimental research, it can be seen that the business English task-based teaching model based on the interactive virtual reality Logistic model algorithm proposed in this paper can effectively improve the effect of business English teaching.

Keywords: interactive virtual reality; logistic model algorithm; business English; task-based teaching
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1 INTRODUCTION

In the age of digital devices, we have the opportunity to enable better learning through technology. Virtual reality (VR) seems to be the next step in the development of education. Learners can learn language knowledge anytime and anywhere according to their needs in order to improve their language ability, which will be the inevitable trend of future education development. In the literature [15, 18], the authors elaborate on VR teaching cases, pointing out that education is driving the future of VR more than any other industry other than games, and the introduction of VR into classrooms will also promote changes in the way of education. As far as education is concerned, information technology is a tool for education. According to the tower of experience theory, virtual reality will be a powerful classroom tool. In the literature [12], the authors found that students using immersive virtual reality completed tasks twice as fast as students using traditional computer programs. This shows that more and more scholars are paying attention to the efficient linkage between VR technology and education.

Due to the limitation of time and space environment, not all business English learners have the opportunity to study in China. Considering this situation, it is urgent for business English teachers to create an immersive business English environment that replaces the target language environment [17]. Using virtual reality technology and multimedia information network to build a virtual context can provide a simulated business English learning environment for distance teaching. In the virtual environment, simulated avatars are provided for learners to operate, communicate through keyboard and mouse, and generate relevant communicative dialogues in a relatively real communicative context [4].

The task-based teaching method has changed the traditional teaching method with teachers as the main teaching mode, but adopted a new mode: first, teachers input understandable input to students, so that students can review old knowledge and learn new knowledge in the process of , activate their own language system, and then students gradually complete the step-by-step tasks set by the teacher. This method allows students to use the target language for communication in the process of exploration and discovery, so as to achieve the purpose of communicating in the target language fluently, and then acquire the target language more naturally [3]. Through such a student-centered class method, students can have a deeper understanding of each target language they speak and use, and truly understand the context in which this sentence should be used. At the same time, students can gradually form their own target language language system in the process of performing tasks and exploring continuously, greatly improving their target language level. In the task-based teaching method, "tasks" are a very important part of the whole class. This requires teachers to be familiar with the connotation of tasks and the principles of task setting. When setting tasks, they should carefully consider and measure repeatedly to better promote Teaching [6].

Reference [7] defines a task as a special action or event to process and understand language. Any activity that helps students learn the target language knowledge and complete the teaching goal can be called a task, whether it is an easy vocabulary. Recognition exercises, or complex group work activities belong to the scope of the task. Reference [10] has a special definition of tasks. He believes that tasks set only to complete teaching objectives cannot be called real tasks, and only those set to cultivate students' communicative ability are not much different from communicative activities in real life. The task is the real task. Reference [16] proposes that a task is a process, that is, a process in which learners solve problems and complete activities by thinking independently or cooperating with their classmates according to the activities and problems set in advance by teachers, combined with their existing knowledge. Reference [5] divides tasks into real-world tasks and teaching tasks. It is believed that some tasks are real tasks that can often occur in real life, which are also the tasks that students should master and complete the most, and some tasks are virtual tasks set up just for teaching, which can also be helpful for students to acquire the first A second language helps a lot, but should be as close to real-world tasks as possible. Reference [11] regards the task as a special teaching activity, and divides the implementation process of the task into three stages: before the task, during the task and after the task, which makes it clearer that the tasks in different stages have different emphases. Literature [2] believes that the setting of tasks should help students to use the target language to accomplish their own communicative purposes, and the focus of tasks should focus on the meaning function of language rather than form. The above-mentioned experts and scholars have different emphasis on the analysis of "task", and the definitions obtained are also different. Generally speaking, the current scholars tend to hold the view that the "task" in second language teaching is a special activity, the goal of learning, and an essential part of communicative activities. They all attach great importance to cultivating students' ability to communicate in the target language through "tasks", rather than putting vocabulary and grammar in the first place. At the same time, many scholars have emphasized that in the process of "task" implementation, students must be placed in the center and main position of the classroom, so that students have more freedom and can complete the "task" more autonomously, so that the "task" can be achieved. The function of is maximized to help students improve their language communication skills [18]. In this process, the teacher only plays a guiding role. When the students have big deviations and mistakes in the execution of the "task", the teacher will come forward to adjust and guide, so that the subsequent tasks can be continued and successfully realized. Reference [14] believes that "tasks" are activities or questions that teachers set up in the process of language teaching, based on students' language proficiency, combined with actual life, and are closely related to life and used for classroom language learning. Students acquire corresponding language knowledge in simulated meaningful communication activities and improve their ability to communicate in target language. With the definition of "task" clear, we can further analyze and research the definition of task-based teaching method: that is, "task"-centered, through corresponding questions or activities, students are brought into language closely related to real life. It is a teaching method that allows students to independently acquire the corresponding language knowledge and acquire the ability to use the target language for language communication. On the basis of understanding the definition of task and task-based teaching method, we can better carry out research on other aspects of task-based teaching method, and successfully apply it to the teaching of primary business English comprehensive courses [11].

The task-based teaching method has been greatly influenced by the constructivism theory in the development process. It advocates to ensure the dominant position of students in classroom teaching, teachers to set realistic tasks related to life as much as possible, and students to complete tasks through group communication and cooperation. In the process of learning the target language knowledge, complete their own knowledge construction [13]. This kind of teaching method helps students to use the target language to communicate, and helps to absorb knowledge and solidify memory. On the contrary, if the learner can only passively accept simple and scattered knowledge, the learner cannot effectively construct his own knowledge system, and the learned knowledge will be forgotten quickly. Influenced by the constructivist learning theory, the task-based teaching method also advocates that the teaching process should follow the principle of step-by-step. Mobilize what you have learned and further construct your own knowledge system [8].

Encourage independent learning, collaborative learning and cooperative learning. If the student does not really participate in the classroom activities, it is difficult for him to construct meaning from it. That is to say, the construction of meaning requires learners to discover problems autonomously, continue to engage deeply in the knowledge they are learning, and study the creation and application of this knowledge [9].

This paper combines the interactive virtual reality Logistic model algorithm to analyze the feasibility of business English task-based teaching, and constructs an intelligent model to improve the quality of business English teaching.

2 INTERACTIVE VIRTUAL REALITY LOGISTIC MODEL

2.1 Rendering Equations and Monte Carlo Global Illumination Algorithm

The rendering equation describes the entire physical process of light propagation in the scene, and rendering the scene can actually be transformed into a solution to the rendering equation. The Monte Carlo method is a numerical calculation method that uses the probability method to solve the integral. The excellent characteristics of the Monte Carlo method make it widely used in the global illumination algorithm. The following describes the rendering equation and Monte Carlo method and its application in lighting calculation. At a certain point on the patch, the radiance emitted in seconds along the direction can be defined as follows (as shown in Figure 1).

$$L(x' \to \theta) = L_e(x' \to \theta) + \int_{\Omega_x} f_r(x', \psi \leftrightarrow \theta) L(x' \leftarrow \psi) \cos(N_{x'}, \psi) d\omega_\psi \tag{1}$$

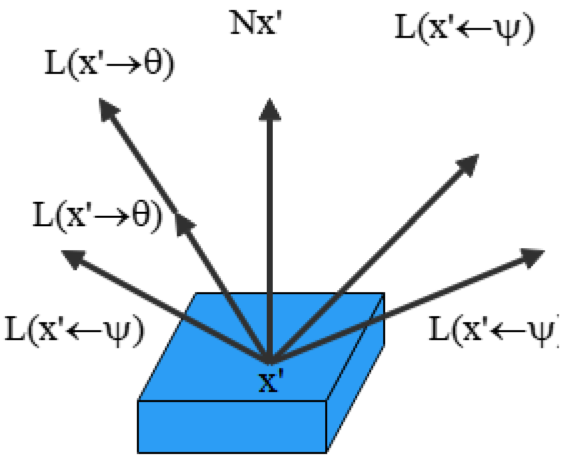

Figure 1: Radiation image.

It is also possible to convert the rendering equation from the integration of the hemisphere direction to the integration of all the patch areas in the scene, so that another equivalent form of the rendering equation can be obtained (Figure 2):

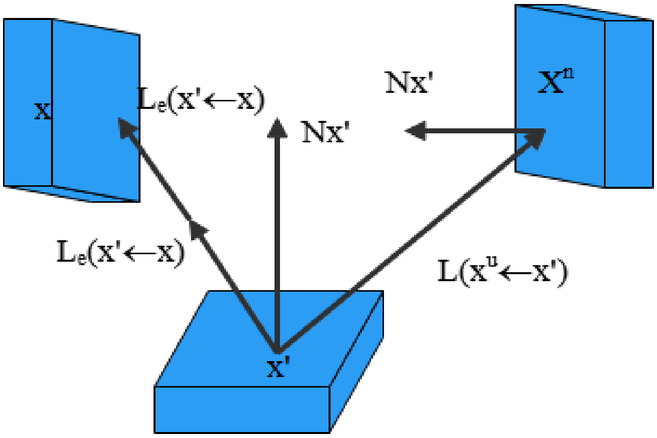

Figure 2: Equivalent form of rendering equation.

$$L(x' \to x) = L_e(x' \to x) + \int_A f_r(x'' \to x' \to x) L(x'' \to x') G(x', x'') dA(x'') \tag{2}$$

$$G\left(x',x''\right)=V\left(x',x''\right)\frac{cos\left(N_{x'},\overrightarrow{x'x''}\right)cos\left(N_{x'},\overrightarrow{x''x'}\right)}{r^{2}_{x'x''}} \tag{3}$$

$V\left(x',x''\right)$ is 1 if point x and point x'' are visible to each other, otherwise it is 0.
By solving the above rendering equation, the radiance of a point on any surface in the scene in any direction can be obtained. In order to calculate the average radiance value over the area of each pixel, the radiant flux of this pixel needs to be calculated. This radiant flux can be obtained by integrating the radiances of all surface points and directions visible from the pixel. The formula is as follows:

$$\Phi\left(S_j\right)=\int_{A_j}\int_{\Omega_j}L\left(x'\rightarrow\theta\right)cos\left(N_{x'},\theta\right)d\omega_\theta dA\left(x'\right) \tag{4}$$

In practical applications, a flux response function $W_e(x\rightarrow\theta)$ is introduced. If $(x,\theta)\in S,W_e(x\rightarrow\theta)$ is 1, everything else is 0. Using this function, the radiant flux for that pixel can be defined as the integral over all surface point and direction pairs as follows:

$$\Phi\left(S_j\right)=\int_{A}\int_{\Omega_2}W_e^{(j)}\left(x'\rightarrow\theta\right)L\left(x'\rightarrow\theta\right)cos\left(N_{x'},\theta\right)d\omega_\theta dA\left(x'\right) \tag{5}$$

In this way, the average radiance value of each pixel can be obtained by the following formula:

$$L_{avg}^{(j)}=\frac{\int_{A}\int_{\Omega}W_e^{(j)}\left(x'\rightarrow\theta\right)L\left(x'\rightarrow\theta\right)cos\left(N_{x'},\theta\right)d\omega_\theta dA\left(x'\right)}{\int_{A}\int_{\Omega}W_e^{(j)}\left(x'\rightarrow\theta\right)cos\left(N_{x'},\theta\right)d\omega_\theta dA\left(x'\right)} \tag{6}$$

It is also possible to convert the radiant flux of the pixel from the integral over the direction to the integral of the camera's receiving area like the rendering equation, as follows:

$$\Phi\left(S_j\right)=\int_{A\times A}W_e^{(j)}\left(x'\rightarrow x\right)L\left(x'\rightarrow x\right)G\left(x,x'\right)dA(x)dA\left(x'\right) \tag{7}$$

Among them, x is a point on the camera's receptive surface.
Expanding the rendering equation recursively (Equation 2) and substituting it into the radiant flux equation (Equation 8), the following form can be obtained:

$$\begin{aligned}&\Phi\left(S_j\right)=\int_{A^2}W_e^{(j)}\left(x_1\rightarrow x_0\right)L_e\left(x_1\rightarrow x_0\right)G\left(x_0,x_1\right)dA\left(x_0\right)dA\left(x_1\right)\\&+\int_{A^3}W_e^{(j)}\left(x_1\rightarrow x_0\right)G\left(x_0,x_1\right)f_r\left(x_2\rightarrow x_1\rightarrow x_0\right)\\&G\left(x_1,x_2\right)L_e\left(x_2\rightarrow x_1\right)dA\left(x_0\right)dA\left(x_1\right)dA\left(x_2\right)\\&+\ldots\end{aligned} \tag{8}$$

The ultimate goal is to get the following form:

$$\Phi\left(S_j\right)=\int_{\Omega}f_j(\overline{x})d\mu(\overline{x}) \tag{9}$$

In this way, the solution of the integral equation is transformed into an integral. Ω_k is the set of all paths $\overline{x} = x_0 x_1 \ldots x_k$ of length k. μ_k is defined as $d\mu_k(x_0 \ldots x_k) = dA(x_0)\ldots dA(x_k), \Omega$ is defined as the set of all Ω_k. f_j is called the contribution function, which is composed of several products of $G(x,x')$ and $BSDF f_r$, then multiplied by $W_e(x' \to x)$ at the beginning of the path (the eye end), and multiplied by $L_e(x' \to x)$ at the end of the path (the light source segment). For example, (Figure 3)

$$f_j(x_0 x_1 x_2) = L_e(x_2 \to x_1) G(x_1, x_2) f_r(x_2 \to x_1 \to x_0)$$
$$G(x_0, x_1) W_e^{(j)}(x_1 \to x_0) \tag{10}$$

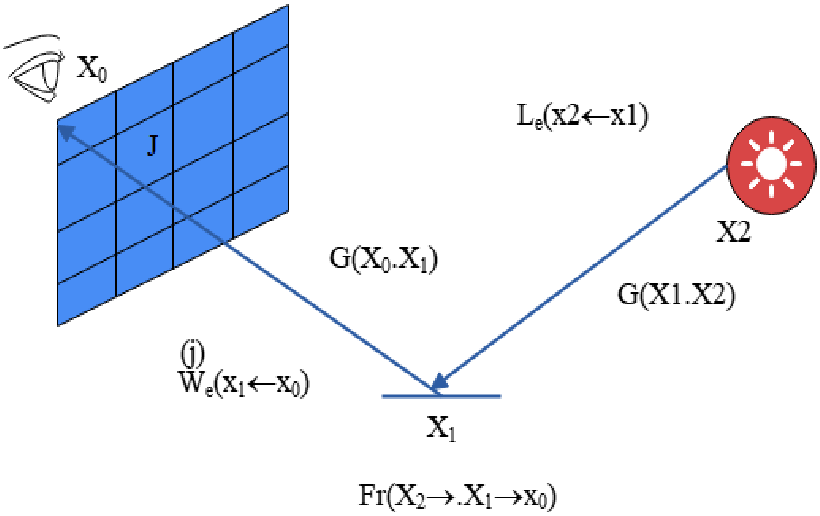

Figure 3: Contribution function composition.

The advantage of the path integral form is that it transforms the problem of rendering the entire scene into a problem of sampling a path space consisting of paths of various lengths. Both bidirectional path tracing and Metropolis ray tracing are well suited to be described and computed in this form of path integration.

2.2 Monte Carlo Ray Tracing

Regardless of the integral equation form or the path integral form of the rendering equation, the biggest difficulty in obtaining the rendering result is the solution of the multi-dimensional integral. Getting the theoretically correct result requires computing an integral over infinite dimensions, and since the integrand has no analytical expression, we cannot get the correct solution analytically. At this time, the Monte Carlo method has become our only choice.

Monte Carlo method is a very important numerical calculation method guided by probability and statistics proposed in the 1940s. Monte Carlo methods use random sampling to solve the computational problem of integrals. Using this method, equations that are mathematically intractable or unsolvable can be easily solved.

The basic idea of Monte Carlo is: After a function $f:S\rightarrow\mathbb{R}$ and a random variable $x\sim p$ are given, the mathematical expectation of the random variable function f(x) can be approximated by the function mean of the random variable sample, as follows:

$$E(f(x))=\int_{x\in S}f(x)p(x)d\mu\approx\frac{1}{N}\sum_{i=1}^{N}f\left(x_i\right) \tag{11}$$

We can replace f(x)p(x) with the function g(x) so that we get:

$$\int_{x\in S}g(x)d\mu\approx\frac{1}{N}\sum_{i=1}^{N}\frac{g\left(x_i\right)}{p\left(x_i\right)} \tag{12}$$

In this way, we have obtained a method to approximate the integral value by taking the mean value of multiple samples, and the Monte Carlo method is also applicable to the high-dimensional integral solution, except that x_i is the sampling point of the high-dimensional space.

To get a more accurate estimate of the integral, we must increase the number of sampling points in the Monte Carlo method, namely N. At the same time, we must try to reduce the variance of $g\left(x_i\right)/p\left(x_i\right)$, that is, we must try to make $p\left(x_i\right)$ and $g\left(x_i\right)$ have similar shapes. In this way, more samples will be taken in places where $g\left(x_i\right)$ is large, that is, more samples will fall in more important areas. This strategy is called importance sampling.

It can be easily shown that the standard deviation of the Monte Carlo estimation method is proportional to $1/\sqrt{N}$. This shows that if we want to reduce the estimation error to 1/2 of the original, we have to pay 4 times more sampling calculation than the original. The slow convergence speed becomes the biggest disadvantage of the Monte Carlo method. However, the Monte Carlo method is not limited by the integral dimension, and the convergence rate has nothing to do with the integral dimension. Moreover, its simplicity and ease of implementation make the Monte Carlo method the best method for computing global illumination problems.

The process of Monte Carlo ray tracing is to use the Monte Carlo method to sample the pixel plane, reflection, refraction direction, light source, etc. instead of integrating in the rendering equation. The basic Monte Carlo ray tracing algorithm is described as follows:

1) First, it samples the pixels we want to calculate. There are many sampling methods, such as random sampling, hierarchical sampling, etc. Sometimes, this process also includes sampling of the receiving surface of the camera and sampling of time.
2) The algorithm determines that a ray enters the scene from the viewpoint and the sampling point just obtained.
3) The algorithm finds the position of the closest surface that intersects the ray. If the hit surface is a light source, the algorithm notes the L_e of the light source and returns. If it's not a light source, the algorithm randomly samples a direction based on the surface's material properties (BSDF) and notes the f_r and pdf for this pass.
4) The algorithm repeats the process 2) until the light source is hit.

Basic Monte Carlo ray tracing methods are not very efficient. The main reason is that there will be multiple reflections, but the refraction will not hit the light source, especially in places where the light source area is relatively small. We can solve this problem by sampling the light source. After each ray hits an object to get an intersection, we can pick a point on the area light source. Then, we judge whether the shadow line connecting the intersection and the light source is blocked. If it is not occluded, the direct lighting of the light source to the surface intersection of the object can be calculated. In this process, the pdf of this reflection is calculated by using multiple importance sampling.

Basic Monte Carlo ray tracing starts the tracing process from the viewpoint, and there is a tracing method that does the opposite, which we call light source ray tracing. This method is equivalent to the Monte Carlo ray tracing we introduced in the previous section.

In fact, these two methods have their own limitations, and they are difficult to deal with for special cases in some scenarios. We use the following symbols to form a regular expression to represent the case of the various points that make up the path. E represents the viewpoint, L represents the light source point, D represents the diffuse surface point (which can reflect light in any direction), and S represents the specular surface point (which can only reflect light in a specific direction). Monte Carlo ray tracing from the eye can handle these cases of $E[(D|S)^{\circ}D]L$, but it is not ideal for these cases of $E\left[(D|S)^{*}S\right]L$. These cases appear as caustics in the image, and light source ray tracing from the light source can handle $E\left[D(D|S)^{*}\right]L$ but not $E\left[S(D|S)^{*}\right]L$ well. These situations appear as specular surfaces in the image. Bidirectional path tracing is a combination of these two ray tracing methods, which can solve both cases very well.

2.3 Bidirectional Path Tracing Algorithm

The bidirectional path tracing algorithm can generate caustics and specular surfaces well.

A sub-path $x_0x_1\ldots x_{n_E-1}$ of length n_E is generated from the eye, and a sub-path $y_0y_1\ldots y_{n_L-1}$ of length n_L is generated from the light source. Then, we connect each node on these two sub-paths separately. Only two nodes on two sub-paths that are not occluded by other objects can be connected.

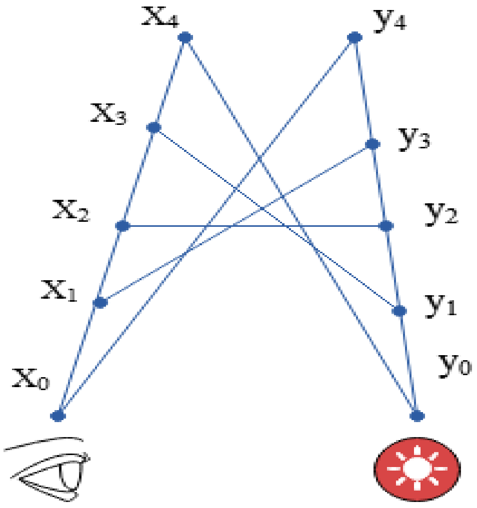

Figure 4: Bidirectional path tracing.

In this way, we can get a set of paths with different lengths, (as shown in Figure 4, a path with a length of 4), and there are multiple paths of the same length in this set. For example, if we want to get a path of length k, we can choose a path of length s from the light source sub-paths. Then, we select a path of length t(t=k-s+1) from the eye sub-paths. Because of $s=0,1,\ldots,k$, for a path of length k, we can have k+1 choices, and each choice of s actually represents a different sampling strategy for the path space. Each of these strategies has its applicable situation, and has its own role in producing a certain special effect. By combining these strategies, we can get a more adaptable rendering algorithm and get a better rendering effect. These strategies can be broadly divided into three categories:

s=0, such as $x_0(E)x_1\ldots x_k$. This case is basic Monte Carlo ray tracing, where the light source is hit in the process of generating the eye sub-path.

-t=1, such as $x_0(E)\leftrightarrow y_{k-1}\ldots y_0(L)$. This case is light ray tracing, directly connecting the viewpoint and light sub-paths. In addition, here $t\neq 0$, because we do not consider the case that the viewpoint has a certain area, but regard the viewpoint as an abstract point.

$-s=1,\ldots,k$, such as $x_0(E)x_1\ldots x_i\leftrightarrow y_{k-1-1}\ldots y_0(L)$. This is the general case, and it is necessary to pay attention to whether the two points of the interconnection are visible.

We can combine several different sampling strategies by means of multiple importance sampling. The pdf used to generate the path $\overline{x}_{s,t}$ is $p_{s,t}$, and $p_{s,t}$ can be obtained by multiplying the product of the pdfs of the light source sub-paths of length s multiplied by the pdfs of the eye sub-paths of length t. We can calculate the contribution to pixel j of a set of paths generated by a pair of light source sub-paths and eye sub-paths by:

$$F_j=\sum_{s\geq 0}\sum_{t\geq 0}w_{s,t}\left(\overline{x}_{s,t}\right)\frac{f_j\left(\overline{x}_{s,t}\right)}{p_{s,t}\left(\overline{x}_{s,t}\right)} \tag{13}$$

By combining a variety of sampling methods, various complex scenes and various complex lighting forms can be well handled. Next, we introduce the generation method of $w_{s,t}\left(\overline{x}_{s,t}\right)$ in detail.

The value of $w_{s,t}\left(\overline{x}_{s,t}\right)$ is determined by the pdf of the s+t+1 sampling methods that may be used to generate path $\overline{x}_{s,t}$. We define p_i as the probability density function for generating path $\overline{x}_{s,t}$ using the light source sub-path of i nodes and the eye sub-path of s+t-i nodes:

$$p_i=p_{i,s+t-i}\left(\overline{x}_{s,t}\right)i=0,\ldots,s+t \tag{14}$$

Veach and Guibas introduced a variety of strategies for computing the weight function $w_{s,i}\left(\overline{x}_{s,t}\right)$, and the following is the most efficient one:

$$w_{s,t}\left(\overline{x}_{s,t}\right)=\frac{p_s^{\beta}}{\sum_i p_i^{\beta}}=\frac{1}{\sum_i\left(p_i/p_s\right)^{\beta}} \tag{15}$$

In the calculation, β is generally taken as 2, and since the difference between all p_t is only a few terms, it is more efficient to calculate p_t / p_s to calculate $w_{s,i}\left(\overline{s}_{s,l}\right)$.

3 TEACHING MODEL

Collaborative perception and collaborative interaction are the core of computer-supported collaborative work. In the environment supported by computer technology, especially in the computer network environment, a group works cooperatively to complete a common task, and its goal is to design an application system that supports various cooperative work. The business English task-based teaching model based on the interactive virtual reality Logistic model algorithm proposed in this paper is shown in Figure 5.

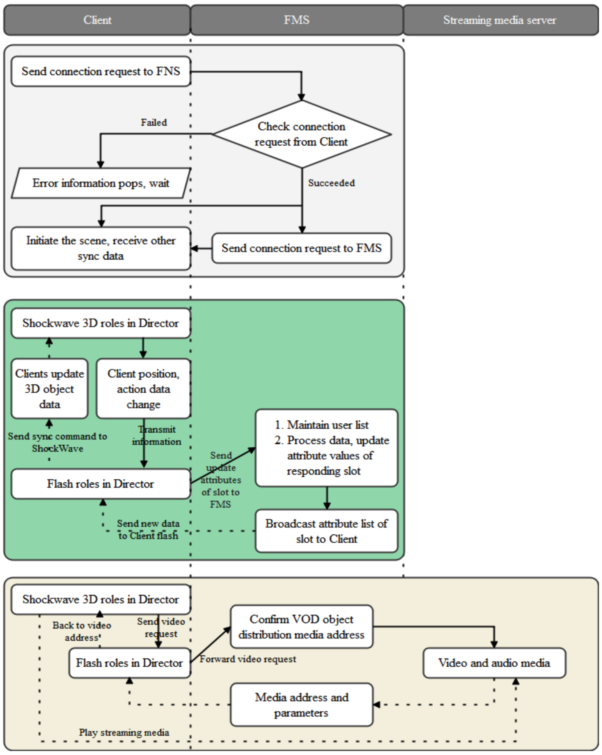

Figure 5: Business English task-based teaching model relying on the interactive virtual reality Logistic model algorithm.

Taking the learner's learning motivation as the main body and core, the task-driven teaching method further deepens the learner-centered teaching concept advocated by the constructivism theory. It is believed that learning activities should be designed and carried out closely around the learner's learning motivation on this basis, so that the learner can complete the learning task sequence with the appropriate help of the teacher under the strong motivation of learning. Finally, the meaning construction of the target knowledge content implied in the learning task sequence is realized.

Therefore, the task-driven learning activity model constructed in the 3D virtual environment should clearly reflect the induction, reinforcement and maintenance of the learning task sequence on the learner's learning motivation. The task-driven learning activity model is shown in Figure 6.

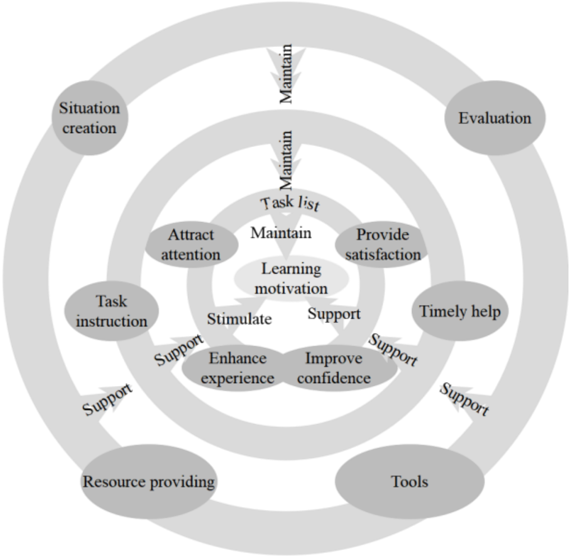

Figure 6: Task-driven learning activity model.

On the basis of the guidance of activity theory, according to the task-driven learning activity model constructed in the 3D virtual environment, this study draws on relevant teaching design patterns to propose a task-driven learning activity design framework in a 3D virtual environment, which is used to guide teachers to design task-driven learning activities for the 3D virtual environment, as shown in Figure 7.

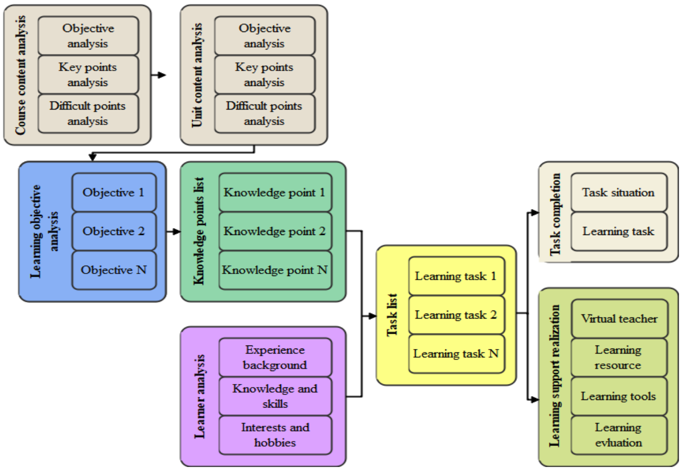

Figure 7: Learning activity design framework.

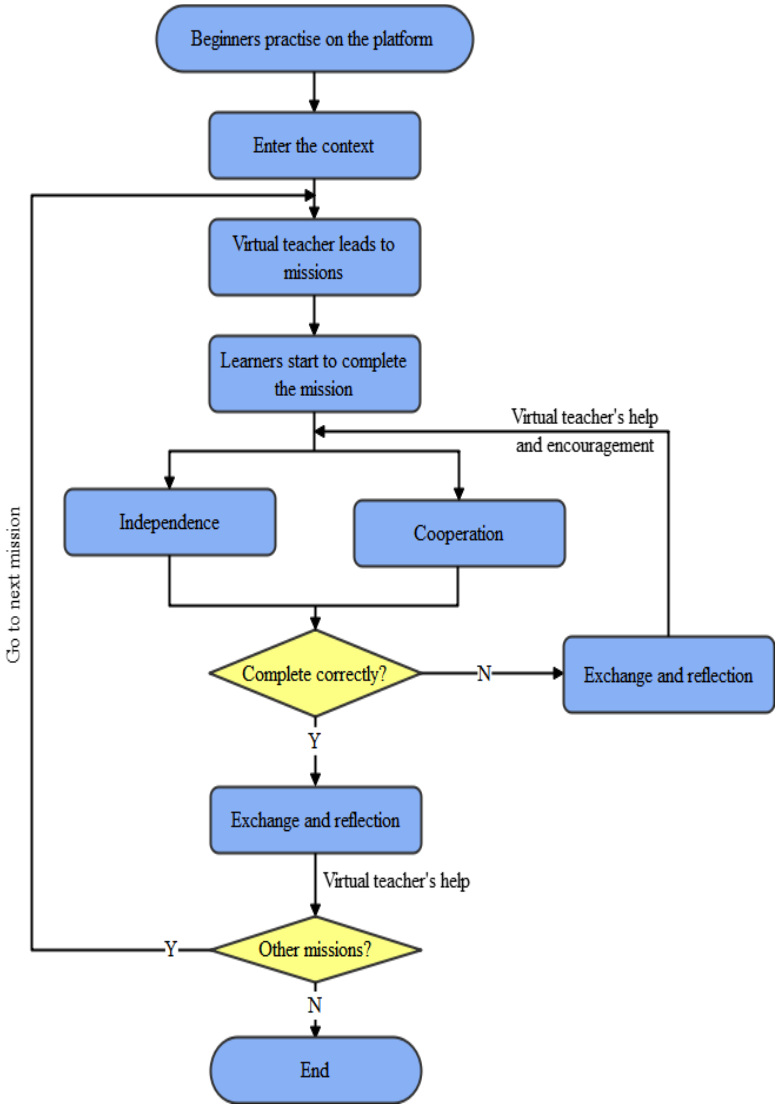

Figure 8: Flowchart of the development of learning activities.

Combined with simulation teaching, the effect of the business English task-based teaching model based on the interactive virtual reality Logistic model algorithm proposed in this paper is verified. The statistical teaching effect is shown in Table 1.

Through the above research, we can see that the business English task-based teaching model based on the interactive virtual reality Logistic model algorithm proposed in this paper can effectively improve the effect of business English teaching.

Num	*Teaching effect*	*Num*	*Teaching effect*
1	*86.352*	*21*	*82.706*
2	*85.080*	*22*	*86.846*
3	*85.995*	*23*	*80.016*
4	*85.355*	*24*	*84.612*
5	*81.431*	*25*	*83.736*
6	*80.184*	*26*	*80.081*
7	*81.346*	*27*	*89.614*
8	*89.529*	*28*	*84.419*
9	*82.758*	*29*	*88.058*
10	*81.534*	*30*	*83.895*
11	*88.528*	*31*	*80.842*
12	*82.804*	*32*	*83.360*
13	*84.897*	*33*	*85.063*
14	*80.412*	*34*	*80.736*
15	*87.688*	*35*	*89.248*
16	*85.344*	*36*	*87.716*
17	*83.503*	*37*	*86.345*
18	*87.278*	*38*	*87.903*
19	*83.211*	*39*	*82.082*
20	*88.480*	*40*	*85.101*

Table 1: Verification of the effect of the business English task-based teaching model relying on the interactive virtual reality Logistic model algorithm.

4 CONCLUSION

The development of micro-lectures, a structured digital resource, has enabled many scholars to conduct in-depth explorations from various aspects, and put forward the slogan of small-class teaching and large-scale teaching. However, there are still insufficient micro-course teaching resources in business English teaching. The focus is on the low operability of micro-lecture teaching resources, poor interaction with learners, lack of learner emotion, poor self-awareness and weak learning motivation. Language learners need a language environment. Studies have shown that the target language environment can help learners acquire the target language better and faster. This paper combines the interactive virtual reality Logistic model algorithm to analyze the feasibility of business English task-based teaching. The research results show that the business English task-based teaching model based on the interactive virtual reality Logistic model algorithm proposed in this paper can effectively improve the effect of business English teaching.

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