# Research on the Design of Senior High School English Transfer and Innovation Activities Based on Project-Based Learning

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## Abstract

Project-based learning is a learning approach that puts students at the center of their learning and helps them construct knowledge. Students use acquired knowledge to solve problems in real-world situations and produce visual project products. Transfer and innovation are high-level learning activities based on the grasped knowledge. Taking project-based learning as the framework and combining it with specific lesson examples to illustrate the process of development, implementation and evaluation, will further help teachers grasp the key points of design projects and focus on enhancing teaching and learning.

## Subject Areas

Education

## Keywords

Project-Based Learning, Transfer and Innovation, High School English

## 1. Introduction and Literature Review

### 1.1. A Literature Review of Project-Based Learning

A project is a collection of a series of teaching activities carrying teaching objectives. Project-Based Learning (PBL for short) is an effective teaching and learning approach. It is student-centered, around a theme, and maximizes the creation of a real language environment and communication situation [1]. General Senior High School Curriculum Standards—English (2017 Edition) (The following is referred to as the Curriculum Standards) pointed out that teachers

should mobilize students' learning potential more and organize more open and challenging activities such as project-based learning, research-based learning and creative learning [2].

It can be seen that project-based learning should take students as the main part, rely on the context, and finally produce relevant visual products. Compared with traditional teaching methods, project-based learning helps students to learn and apply key knowledge, to improve their abilities in problem-solving, communication and cooperation, analysis and judgment, reflection and regulation, to integrate the development of knowledge and ability, to establish the connection between subject knowledge and the real world, explore independently in real situations, to develop their abilities, and to shape their character and forge their thinking. Finally, achieve the comprehensive development of core competencies [3].

The Buck Institute for Education, a leading US authority on PBL, is committed to building a "framework for high-quality project-based learning". The research found that the project-based teaching activities currently occurring in teaching are not strictly project-based learning, but assignments and activities called "projects". In addition, ill-prepared teachers can backfire on a project [4].

### 1.2. A Literature Review of Transfer and Innovation

The ability to "transfer and innovate" is an important part of students' core competencies and one of the key abilities in English education. Transfer and innovation is an advanced knowledge and experience output activity that is different from basic activities such as learning, understanding and application.

Curriculum Standards pointed out that transfer and innovation activities mainly include reasoning and demonstration, criticism and evaluation, imagination and creation, and other learning activities beyond discourse [2]. It includes complex reasoning (integrated problem solving), systematic inquiry (problem hypothesis, system design and implementation, model building), and creative thinking (critical thinking, evaluation, reflection; imagination, creativity, discovery of distant connections, etc.) [5].

Teachers should design corresponding English teaching activities to help students improve their ability to transfer and innovate on the basis of their ability of learning, understanding and practical application. As a high-level learning activity, transfer and innovation ultimately aim at the reality and strangeness of life situations. Through transfer and innovation activities, students can be guided to transfer their language knowledge and ability to new situations of life problems, so as to deal with more practical language problems [6].

However, in the actual teaching activities to improve the ability of migration and innovation, there are not only unscientific methods, but also irrational teaching processes and even hasty conclusions [7]. In the current English curriculum teaching in primary and secondary schools, the specific knowledge teaching leads to the fragmentation of the knowledge learned by students, and it is diffi-

cult to form the integration ability. Therefore, students cannot use the knowledge to participate in the process of problem-analysis and problem-solving [8].

## 1.3. An Overall Literature Review and Analysis

To sum up, project-based learning and transfer and innovation are both high-level thinking activities, and their roles in teaching activities are consistent. The application of project-based learning in teaching activities to improve students' transfer and innovation ability is conducive to improving students' learning subjectivity and enthusiasm. In quality programs, students learn how to apply knowledge to the real world, use knowledge to solve problems, answer complex questions, and create quality products [4]. In addition, transfer and innovation require teachers to set up unfamiliar situations, and drive students to creatively use the basic knowledge they have mastered to summarize and propose feasible solutions. Project-based learning can provide tools for this process, help teachers produce a more scientific teaching process, and then draw more scientific conclusions. Students can realize "learning by doing" in specific projects. The "whole process evaluation" required by project-based learning further reversed the guidance requirement of "integration of teaching, learning and evaluation", so that students could get timely feedback and realize further adjustment and improvement.

At the same time, it should be pointed out that there are still shortcomings in the existing studies. First of all, researches on the relationship and influence between project-based learning and transfer and innovation are scarce. Few researchers have discussed the two together, and the relationship between the two has not been elaborated clearly. Secondly, it is a must to further clarify the steps of transfer and innovation activity design based on project-based learning. The characteristics and key points of each link and their relations need to be further discussed. Finally, there is a lack of systematic framework research on transfer and innovation learning. The theoretical guidance of activity design for migration innovation is still lacking.

## 2. Pre-Preparation for Project-Based Learning Activities

Teaching materials are an important carrier for cultivating students' core competencies [9]. The Curriculum Standard points out that teachers should fully excavate the cultural information carried by a specific theme and the key points of developing students' thinking quality. Based on the exploration of the meaning of the theme and for the purpose of solving problems, integrate the learning and development of language knowledge and language skills, and establish a close relationship between the specific theme and students' life [2]. The interpretation of texts is the basic preparation for teachers to design project-based learning. The reorganization and expansion of texts according to the subject and discourse of texts can provide a great background for the development of project tasks.

We intend to take the new edition of high school English (PEP) compulsory 2 Unit 3 *The Internet* as an example to study and organize the relevant texts.

## 2.1. Drill the Discourse and Analyze the Text Context to Help Students Master the Knowledge

The theme of Unit 2 is man and society, which specifically involves science and technology, social service and interpersonal communication. Its main discourse is Stronger Together: How We Have Been Changed by The Internet and Write a blog post showing the impact of the Internet on human life from different perspectives. Table 1 shows specific content analysis.

As can be seen from Table 1, the teaching process of this unit focuses on the various influences of the Internet on people. The first discourse explains the function of the Internet to enrich human life, shorten the distance and build an online community. Students can perceive how to express the continuous positive influence of an event on people by using the passive voice of the present perfect tense. The second discourse expounds on the problems brought by the development of the Internet to individuals, reveals the influence of the Internet from another perspective, and guides students to use the learned grammatical structure to express the influence. The two texts confirm the influence of the Internet from different perspectives and help students develop critical thinking and dialectical thinking ability.

Based on the above contextual analysis, we decide to apply How People's Life Has Been Changed by The Internet as the main line for project-based learning.

**Table 1.** The main text interpretation of Unit 2 *The Internet*.

| Title | Discourse | Content | Objective |
|---|---|---|---|
| Stronger Together: How We Have Been Changed by the Internet | Continuous text: narrative text | It tells the story of Jan using the Internet to get in touch with the Internet and starting a club to help other elderly people learn to use the Internet. | Learn vocabulary and phrases. Perceptual Grammatical structure: The passive voice in the present perfect tense. |
| Write a Blog Post | Discontinuous text: blogs | It shows the problems caused by the development of the Internet and gives relevant solutions. | Strengthen grammatical structure: Use the passive voice in the present perfect tense in a specific context. |

## 2.2. Provide Discourse and Construct Regenerative Context to Help Students Adapt to the Knowledge

Regenerative context refers to the language materials under the same or similar new discourse conditions, which are the same or similar content derived from the text context [10]. Teachers should rely on the text context provided by the textbook and make students complete the project task in the unfamiliar context. However, directly placing students in a completely unfamiliar new context will cause students' inadaptation. The establishment of a regenerative context acts as a bridge between the two, helping students to adapt to the unfamiliar context in the first place.

The analysis shows that the topics given in the textbook are all about human and social discourse types, but are limited to the impact of technological development on specific individuals. For example, the first discourse is expressed from the perspective of Jan, while the second discourse expresses individual concerns in the form of a blog. The elaboration of the influence of the Internet on the macro level of society is relatively lacking, so the teacher decides to supplement this aspect and expand students' horizons.

Combined with the real situation of the current development of the Internet, the teacher provides supplementary reading materials on the basis of the interpretation of textbook texts to help students progressively understand the defamiliarization of human relations caused by the Internet and the impact of ChatGPT's innovation. Through reading and learning multimodal discourse, students have an in-depth understanding of the impact of the Internet on human beings from a multi-dimensional perspective. The basic ideas of teachers' project-based learning teaching are shown in Figure 1.

Therefore, teachers completed the preparatory work of project-based learning, namely, sorting out the text, building the basic knowledge system, and helping students adapt to the unfamiliar context, so as to complete the following transfer and innovation activities.
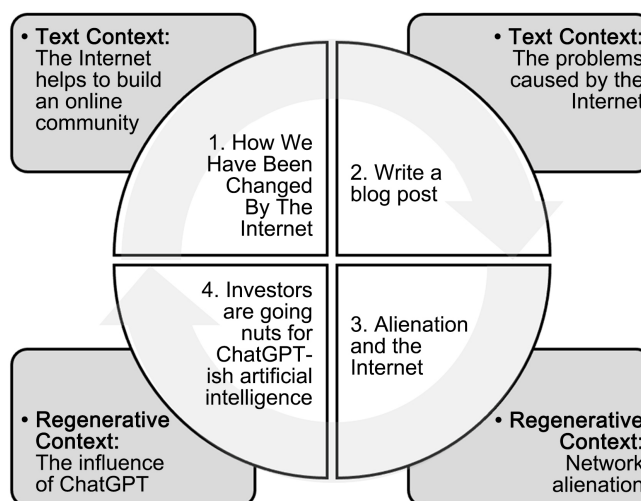


**Figure 1.** Text teaching process of project-based learning.

## 3. Design of Transfer and Innovation Activities for Project-Based Learning

Curriculum reform requires teachers to participate in the integration of teaching resources. If textbooks cannot meet students' learning levels and emotional needs, teachers should conduct secondary development according to the actual teaching situation [11]. The transfer and innovation activities of project learning are the process of teachers' reorganization, development and expansion based on the subject context of textbooks.

In the early stage, students have basically been equipped with the ability to carry out project-based learning through group cooperation. Next, how to carry out the transfer and innovation activities in senior high school based on project-based learning will be proposed.

With the change of the Internet to human life as the main line, the teacher proposed the project tasks: Suppose you are a radio presenter, if you were to make a radio program about the impact of the Internet on human life, what aspect will be covered in your program?

Based on project-driven tasks, students work in small groups to discuss ideas, such as the impact of the Internet on interpersonal relationships, the impact of the Internet on the virtual and real economy, and the impact of the Internet on thinking patterns. The teacher guides different groups to choose different project product themes and makes a dialectical analysis of the selected themes.

Through the preparation and guidance of the first two sections, the teacher guides the students to make creative use of the acquired knowledge to make project products in a group. The teacher clarified the project product to the students, that is, the students in different groups need to use the words and sentence patterns learned to create an audiobook to express the influence of the Internet on human life, and upload it to the network platforms, such as Himalaya, Instagram, podcast, etc. This product integrates English subject with information technology subject, organizes and carries out mixed teaching integrating online and offline, and gives full play to the supporting and service role of modern educational technology in teaching and learning.

### 3.1. Build a Driving Framework to Stimulate Students' Creativity

As the core grammatical structure of this unit is the passive voice in the present perfect tense, it is still difficult for students to use this new grammatical structure directly and independently. Therefore, the teacher gives the following driving framework and textbook vocabulary, gives students sample templates to help students focus on language, and encourages students to create.

e.g.

Title: Our interpersonal relationships **have long been affected** by the Internet

<u>Now that</u> the <u>distance</u> between us **has been shortened** by the Internet in recent decades. Will you <u>keep your parents' company</u> via the platform of the Internet? My dear listeners, **has** your communication with your friends or relatives

**been affected**? In today's program, we are focusing on our interpersonal relationships that have been changed by the Internet.

On one side, the development of the Internet indeed everted quantities of advantages on our interpersonal relationship maintenance…On the other side…

Guided by the examples, students need to think about and focus on the following questions:

What influence has the Internet impacted on our life?

Which aspect will we choose to illustrate?

How will we display the impacts?

What can we do to make our program more attractive?

How can the division of labor among team members maximize our efficiency?

The driving problem involves the project itself and the method problems that students will encounter when completing the project. For the final project output, students will cooperate in a group, pool their ideas, and constantly reflect and adjust during the production process. It not only cultivates students' core competencies such as language ability and thinking quality, but also further uses metacognitive strategies, communicative strategies and other learning strategies. It also achieves the teaching goal of teachers helping students learn by doing.

At this point, the students will complete the preliminary group of the project, the division of labor within the group and the basic project theme selection. The procedures for building a framework to stimulate students' creativity are shown in Figure 2.

### 3.2. Create Project-Type Products to Help Students Carry out Specific Practice

After the teacher conducts text interpretation and helps students focus on language, the subject of project-based learning is completely transferred to the student side. In this stage, students should transfer and innovate according to the main line of tasks and requirements given by teachers, further collect relevant information in their spare time, and actively communicate and discuss with teachers. Teachers should give help and advice in this process, pay attention to their performance in the process of learning, and conduct process evaluations. Generally speaking, the process of project-based learning product production can be divided into the following stages.
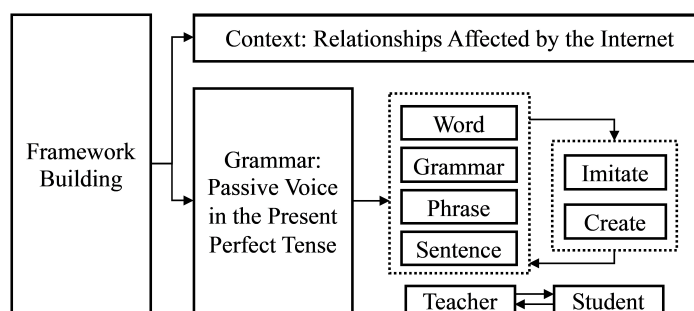


**Figure 2.** The procedures of building a framework to stimulate students' creativity.

**Project motivation:** Students will divide the project and search the materials according to the theme and content established in the early stage. In this process, students focused on training the ability of cooperation, coordination, communication and negotiation among group members.

**Project enabling:** Students will explore the dialectical impact of the Internet on one specific aspect of human life based on the collected data and information and the experience of others and themselves by using various resources. The group discussed the form and content layout of the final radio program. Write relevant scripts, record and edit the project, modify and improve the project, and prepare the output. In the process, in order to understand the influence of the Internet and other modern information technology on human beings, the students make concrete use of modern information technology, and focus on the cultivation of technology application ability.

**Project summary:** Modify and further improve according to the teacher's suggestions, and review the knowledge and skills learned during the completion of the project. In this process, the metacognitive control ability and summary ability are emphasized.

It should be noted that the three processes of project product output are not independent stages, but a connected whole with progressive and logical connectivity. The listed activities are not limited to this stage, and the activities between different stages can be added or canceled. The initiation stage mainly plays a fundamental role in laying the foundation, the advancement stage is the main process of creation and occupies the longest time, and the summary stage plays the role of final review, thus constituting the concrete practice process of project product output.

Teachers conduct lateral assistance and process evaluation in students' practice. The dimensions of teacher evaluation should be diverse. Different from the final outcome evaluation, teachers' evaluation here focuses on guiding students to adjust rather than simply assessing students. The teacher evaluation scale is shown in Table 2.

Teachers should evaluate students according to the aspects shown on the left side. A score should be given ranging from 5 to 1. A decrease in the student's performance level from 5 to 1.5 indicates a decline from excellent to poor, and 1 means poor. The scoring pattern of the evaluation scale below is the same.

### 3.3. Present Project-Based Products and Guide Students to Review and Reflect

Project-based learning requires evaluation to reflect the quality of students' tasks. Task-based language teaching emphasizes that the evaluation of students is mainly based on the results of tasks. Driven by task results, teachers can fully guide students to actively use their language abilities and communicative strategies to complete communicative tasks as the ultimate goal [12]. At the same time, teachers should pay attention to the stages of evaluation and the diversity

of evaluation subjects. Wan Shu pointed out that the outstanding feature of project-based learning is the whole process evaluation, which includes the process evaluation of students by teachers in the previous part and the final evaluation of the final product. At the same time, the subject and content of the evaluation should be diversified, which should be completed jointly by experts, teachers, peers and learners themselves [13].

On the basis of the teacher's whole-process evaluation, students will publicly display the final radio works and accept the communication and evaluation between different groups. The teacher will provide relevant evaluation scales for students to grade others' projects and invite students to summarize the pros and cons of others' works. The communication between different groups further broadens students' vision, deepens students' understanding of the topic, and helps students to review and summarize. The student mutual rating scale should include language unity, article logic and cohesion, word choice and phonetic performance and other dimensions. The student mutual rating scale is shown in Table 3.

So far, the whole process of project-based learning has been basically completed. The overall design process of transfer and innovation activities based on project-based learning is shown in Figure 3.

Table 2. Teacher evaluation scale.

| Assessment Checklist | Criteria | | | | |
|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 |
| **Solidarity:** Team members have a clear division of labor and cooperate with each other well. | | | | | |
| **Language Skills:** Students can use the learned vocabulary and grammar well to create | | | | | |
| **Creativity:** Students can form creative and imaginative ideas by integrating various information. | | | | | |
| **Technology skills:** Students can make good use of editing software and the Internet to create. | | | | | |
| **Metacognition skills:** Students can overcome difficulties and adjust their plans. | | | | | |

Table 3. Student mutual evaluation scale.

| Assessment Checklist | Criteria | | | | |
|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 |
| **Unity:** The structure is integrated, including topic sentences, illustrations and the concluding part. | | | | | |
| **Support:** The reasons are logical and various details are included. | | | | | |
| **Coherence:** Transitional words or phrases are included. | | | | | |
| **Words skills:** The words are precise and concise. | | | | | |
| **Sentences skills:** The sentence structure are varied without errors. | | | | | |
| **Voice performance:** The pace is steady and the pronunciation is excellent. | | | | | |
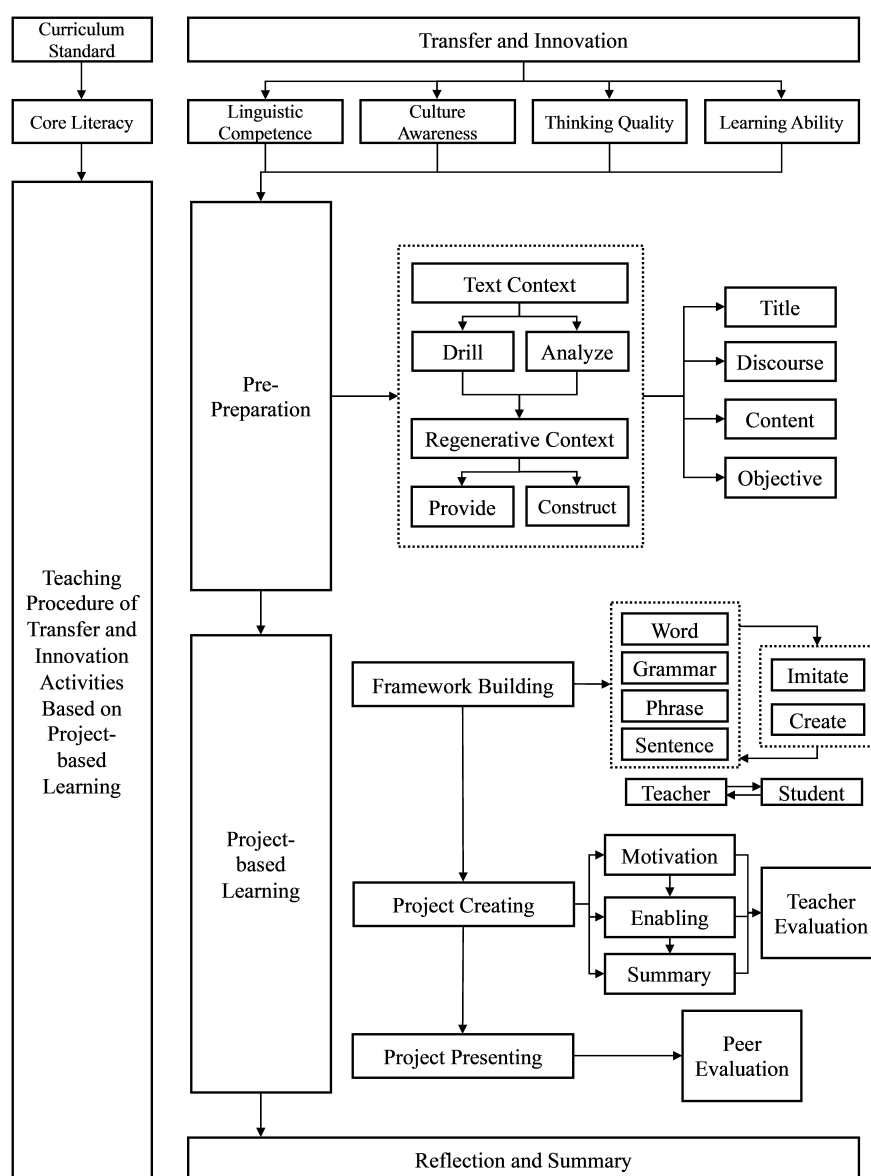
**Figure 3.** Process of transfer and innovation activity in project-based learning.

## 4. Conclusions

The combination of project learning and transfer and innovation provides a new teaching paradigm for teachers to cultivate students' higher-order thinking ability and learning ability. In this process, students are driven by their own initiative and teachers' project tasks, and improve the core literacy of English subjects in the process of deep learning and solving complex problems in real situations. At the same time, students think about how to complete project tasks in different roles, use different learning tools, and reflect on and evaluate their own performance. Finally, this approach will achieve the goal of "teaching evaluation integration" advocated by project-based learning.

The innovation of this paper lies in the combination of transfer and innovation and project-based learning which are all high-level learning activities. The

combination of specific lesson examples to explain how to design teaching provides teachers with new ideas for project-based teaching. It also echoes the recent ChatGPT buzz, allowing the design of the project to show the characteristics of the times.

The deficiency of this paper is that it does not take into account the different levels of students in the project design. At the same time, the design dimensions of the scale are still not diversified enough, and the scale lacks scientific analysis, which should be paid attention to in future teaching.

## Conflicts of Interest

The author declares no conflicts of interest.

## References

[1] Mei, D.M. and Wang, Q. (2020) Introduction to the English Curriculum Standards in General High School. Higher Education Press Ltd., Beijing.

[2] Ministry of Education of the People's Republic of China (2017) General Senior High School Curriculum Standards—English (2017 Edition). Higher Education Press, Beijing.

[3] Sun, T.L. (2019) A Case Study of Project-Based Learning and Its Implications for English Teaching. *Foreign Language Teaching in Schools*, **42**, 33-38.

[4] Buck Education Research Institute (2008) Project Based Learning Teacher's Guide—Middle School Teaching Methods in the 21st Century. 2nd Edition, Education Science Press Ltd., Beijing.

[5] Wang, L. (2016) Exploring Performance and Intrinsic Composition of Disciplinary Competence—Based on the Multi-Integrative Model of "Learning-Applying-Innovating". *Educational Research*, **37**, 83-92+125.

[6] Mei, D.M. and Wang, Q. (2020) Introduction to the English Curriculum Standards in General High School. Higher Education Press Ltd., Beijing.

[7] Zeng, F. (2022) An Empirical Study on the Application of Transfer and Innovation Activities in Thematic Context to English Reading Teaching in High School. Master Thesis, Southwest University, Chongqing.

[8] Wang, Q. (2016) Three Key Words Promoting the Transformation of English Teaching Methods: "Situation", "Problem" and "Activity". *Basic Education Curriculum*, **5**, 45-50.

[9] Wang, Q. (2022) A Comprehensive and Accurate Grasp of English Curriculum Content Is the Premise of Implementing the Curriculum Objectives. *English Language Learning*, **4**, 18-33.

[10] Li, L.Y. (2022) Research on English Transfer and Innovation Learning of Senior High School Students. Ph.D. Thesis, Central China Normal University, Wuhan.

[11] Guo, H.Y. and Wang, Q. (2013) High-School English Teachers' Conception and Practice of the New Curriculum Textbook. Curriculum, *Teaching Material and Method*, **33**, 59-65.

[12] Luo, S.Q. and Zhang, Y.M. (2021) Task-Based Language Teaching in China: Theory, Practice and Research. *English Language Learning*, **10**, 4-9.

[13] Wan, S. (2021) Project-Based English Learning Based on Thematic Meaning Exploration. *Foreign Language Teaching in Schools*, **44**, 1-6.