# INTEGRATING LEARNING THEORIES FOR EFFECTIVE INTERDISCIPLINARY ESP INSTRUCTION

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**Abstract:**This article examines the theoretical foundations that support interdisciplinary approaches in English for Specific Purposes (ESP) pedagogy. Drawing upon constructivism, social constructivism, Kolb's experiential learning theory, Vygotsky's Zone of Proximal Development (ZPD), and classical cognitive development theories, the paper argues that an interdisciplinary ESP model is strengthened when language learning is integrated with professional and disciplinary knowledge. The article further demonstrates how these theories reinforce each other in shaping an ESP curriculum suited for economics and business education. Implications for pedagogical design and practical classroom applications are discussed.

**Keywords:**ESP; interdisciplinary learning; constructivism; sociocultural theory; ZPD; experiential learning; cognitive development

The interdisciplinary approach, considered as a level of interdisciplinary cooperation, is necessary for understanding its theoretical basis, organizing the educational process on a scientific basis, enriching the content of educational materials,

and conducting the pedagogical process in a high-quality manner. In particular, since the language in ESP is taught in connection with the professional direction, it is necessary to harmonize it with such areas as economics, management, tourism, and medicine. Knowledge of the theoretical foundations of this approach, firstly, helps in choosing the right didactic methods of teaching a foreign language through professional content, developing educational materials that meet the needs of students, and using effective methods. Secondly, the interdisciplinary approach is not limited only to scientific knowledge, but also includes psychological processes such as motivation, attention, interest, and independent thinking. In addition, in order to organize experimental work within the scope of the dissertation topic in the future, to provide effective methodological recommendations, and at the same time to organize foreign language teaching in a way that is focused on professional needs, it is important to deeply analyze this approach and substantiate it theoretically.

Interdisciplinary teaching methods create a basis for developing the student's thinking, actively acquiring knowledge, and understanding the interconnectedness between different areas. It is difficult to imagine the effective organization of interdisciplinary teaching within the framework of ESP without Vygotsky's theory of cultural-historical development, Piaget's stages of cognitive development, and Bruner's principles of discovery learning. Based on these theoretical views, the student master not only language knowledge, but also professional content, and performs communicative tasks close to real life.

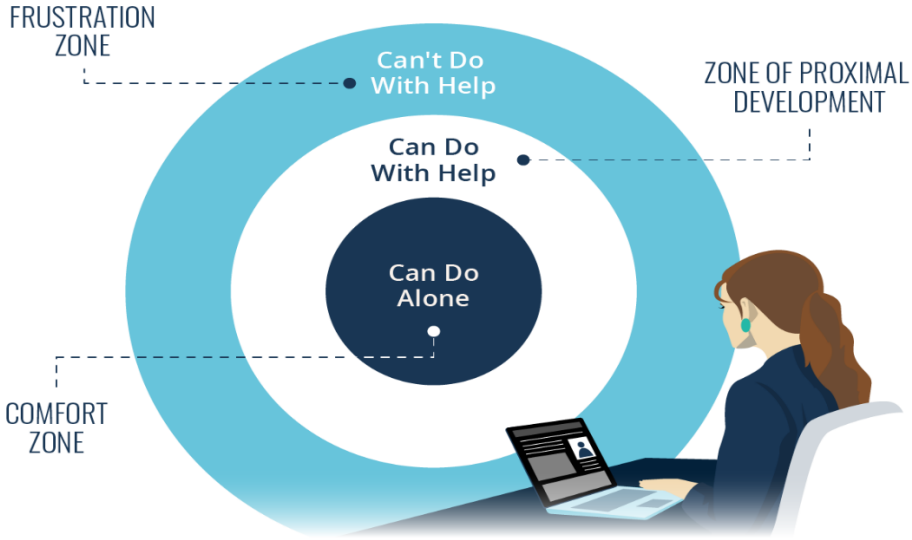
Interdisciplinary teaching methods are based on the theories of constructivism, social constructivism, cognitive development, and experiential learning, which promote active organization, cooperation between several disciplines, and the idea of discovering content through experience.

Constructivism theory is based on the active formation of knowledge and concepts in students through interaction and experience. The constructivist approach has actually been used to teach mathematics and STEM subjects(Szabo,2023). The main reason for this is that this approach requires the formation of knowledge and skills mainly through problem-solving (Kaufman,2004), and this aspect is considered very important in teaching exact sciences. However, considering that ESP teaching is also based on a student-centered approach, this field also fits the constructivist approach of creating knowledge and skills based on interaction with the environment ( Zivkovich, 2014). Active globalization and increasing competition in every field encourage students to be creative and innovative, to think critically and analytically, to find solutions to real-world problems using effective methods. Constructivism in ESP teaching is also expressed by various related terms such as content-based learning (CBL), problem-based learning (PBL), and this approach is mainly preferred over independent learning.

Interdisciplinary teaching in ESP is combined with constructivism, which encourages students to integrate knowledge from different disciplines, reconstruct their understandings, and construct new knowledge through inquiry and problem-solving. For example, students can analyze a historical event from the perspectives of history, sociology, and economics, creating a more nuanced understanding than a single disciplinary approach.

When discussing the theory of constructivism, it is worth mentioning the concept of the Zone of Proximal Development (ZPD), which is important in Vygotsky's interdisciplinary approach. In some scientific literature, this theory, called the Zone of Proximal Development, is described as the difference between what a student can do independently, without help, and what he can do with adult guidance or in collaboration

with more capable peers.



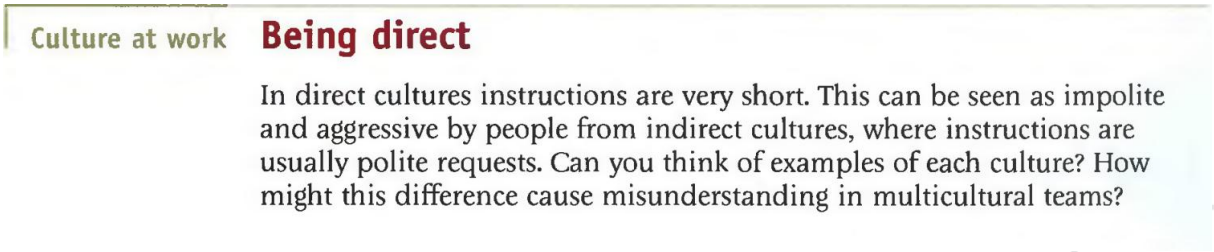

The tasks that a learner can perform independently indicate the level of his development, the stage of development he has reached, while the ZPD determines the level of tasks that he can perform with external assistance, as well as the potential skills that he can master in the near future. This theory is based on the fact that learners can effectively achieve higher levels of knowledge and skills in an environment of cooperation and support. A correct understanding of the ZPD for learners helps teachers to correctly formulate instructions and create favorable conditions for the development of their knowledge and skills(Fiveable,2024) . This is especially important when organizing independent learning, since in independent learning, more attention is paid to collaborative tasks. During independent learning tasks, students collaborate with their peers who are stronger than them and at the same time have the opportunity to learn a lot from them. An example of implementing the ZPD in practice is a business negotiation role-play. Students are divided into groups and the teacher explains to them the purpose of the negotiation and the expected result. In the next stage, students can conduct a basic conversation

without the help of the teacher, but they may not have the necessary strategies and vocabulary for a formal negotiation. To guide students to work within the ZPD, the teacher first introduces them to useful phrases for negotiation ("We are willing to consider…", "That offer is below our expectations…"). To show students negotiation strategies, a video clip depicting a business negotiation can be shown. In the next stage, the teacher can organize and demonstrate certain parts of the negotiation as a demo with the help of students with a higher language level and more confidence. Then the students role-play the discussion. In short, the ZPD is about building on students' existing abilities and encouraging them to complete more difficult and novel tasks by providing them with additional guidance, modeling, and support. Over time, the teacher's support for this task disappears and students are able to complete the task independently.

Another interdisciplinary teaching theory based on the ideas of constructivism is social constructivism, which emphasizes the role of social and cultural contexts in the formation of knowledge and skills. The integration of cultural elements into the process of teaching a foreign language occurs due to the fact that language and culture are inseparable phenomena (Batirova,2020) . Therefore, social constructivism should be consistent with the main goals of ESP teaching. Because students organize themselves to use language as a means of communication with representatives of other languages and cultures (Soler et al, 2007) Especially in global companies where representatives of different nationalities work and intercultural communication occurs, employers pay special attention to the cultural awareness skills of employees, and in turn, it is advisable to form and develop this skill in the process of teaching a foreign language. Bayram, one of the supporters of social constructivism in language teaching, argues that: - teaching culture forms students as intercultural citizens who do not allow various cultural barriers to affect the communication process . Indeed, in

ESP teaching, especially in English for the economic orientation, the behavior of representatives of different nationalities in different situations, assessment of the situation, diversity of hierarchical relationships, the concept of punctuality, attitude to leadership and subordinates, individualism and collectivism approaches, attitude to humor, use of gestures and facial expressions, and similar cultural elements should be covered and discussed during the lessons.

The task below is in line with the principle of social constructivism, and it is asked to discuss the differences in giving instructions and orders of representatives of cultures that rely on different approaches (direct and indirect) in communication. Students discuss the problem related to the cultural context in English during the task and draw appropriate conclusions.



Culture at work **Being direct**

In direct cultures instructions are very short. This can be seen as impolite and aggressive by people from indirect cultures, where instructions are usually polite requests. Can you think of examples of each culture? How might this difference cause misunderstanding in multicultural teams?

David Kolb's theory of experiential learning (Kolb & Fry, 1974) is also considered one of the theories that plays an important role in ESP teaching, allowing the theory of constructivism to be put into practice. Unlike the traditional approach based on memorization and organization of grammatical rules, this theory promotes the acquisition of knowledge and skills through performing tasks based on real-life situations and using language in a professional or academic context. This fulfills the main goal of ESP, which is to form and develop the ability to apply theoretical knowledge in practice. During the learning process, students involuntarily engage in communication through professional content and strengthen their language skills in a practical way when performing tasks such as giving

presentations, organizing project work, conducting role-playing games and simulations. During role-playing and simulations, students also have to solve professional linguistic problems in order to solve professional problems (Tarnopolskiy, 2015)According to Kolb's theory, a 4-stage process is followed when performing complex tasks. For example, in the context of ESP, students are asked to make a business presentation on a certain topic.

Stage 1 is the experimental stage (Concrete Experience), in which students demonstrate a presentation they have prepared independently and gain new experience. As Kolb emphasized, the experimental stage serves as a basis for observation and reflection. These observations are assimilated and turn into a "theory" from which new conclusions can be drawn for action (Kolb & Plovnick,1974) This stage is the stage where students are most actively involved, regardless of the task, because students discover new concepts, information, and skills at this stage.

In stage 2, Reflective Observation, the teacher and students express their opinions and interpretations of the presentation. At this stage, it is important to cover the requirements of the assessment criteria. For example, the content of the presentation, design, vocabulary, art of delivery to the audience, intonation, gestures, and time criteria can be considered. In the absence of the teacher's participation at this stage, students can analyze and evaluate the work they have done and draw the necessary conclusions for themselves.

Stage 3 is the stage of forming theoretical concepts and conclusions (Abstract Conceptualization), in which students, independently or with the participation of the teacher, draw conclusions to form, develop, or improve the knowledge and skills necessary for the presentation, taking into account the mistakes and weaknesses of stage 2. At the same time, based on the results of the 2nd stage, they create their own

theories for the implementation of subsequent tasks and new experiments. As a result of the analysis, new ideas are born or existing concepts are changed and adapted. In the 4th final stage (Active experimentation), students improve their presentations, correct their mistakes and shortcomings and re-present them based on the theoretical knowledge they have learned, or prepare a presentation on a new topic based on conclusions and analysis. In short, in the last stage, students apply the new knowledge and skills they have acquired and the theoretical conclusions they have gained in practice to perform the assigned task.

Although Kolb's theory has been widely disseminated, there are also many critical opinions expressed about it. The educational process may not always take place on the basis of the 4 predetermined stages (Javes,1987) , it has been pointed out that students may simply skip some steps, go back, or repeat some of them several times ( Bergsteiner, 2010)

Another important theoretical basis of the interdisciplinary approach is the theory of cognitive development. Piaget's stages of intellectual development and Vygotsky's social-cognitive approaches are the most important theories in understanding and effectively organizing the process of learning a foreign language. It is no exaggeration to say that the theory of cognitive development, in turn, serves as the basis for the above-mentioned theories and serves to better understand these theories. Because these approaches are a set of approaches aimed at developing students' cognitive activity, that is, the skills of processing, understanding and applying knowledge within the framework of ESP teaching. Cognitivism and the theory of cognitive education emphasize that the human mind is not an inactive product created by the environment, it processes information and interprets it in its own way based on its own experience in the formation of knowledge. That is, our cognitive activity

involves such mental operations as analysis, organization, systematization and storage, which are actively involved in determining our knowledge and behavior.

The main content of the theory of cognitive development According to J. Piaget, human thinking passes through stages of logical development, and at these stages knowledge is acquired through experience (Piaget,1972) These stages of development include the following:

| | | | |
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| 1 | **Sensor-Motor stage** | 0-2 years | Perception of the w through the senses and development of basic m skills. |
| **2** | **Preoperational Stag** | 2-7 years | The emergence of langu and the emergence o symbolic thinking. |
| **3** | **Concrete Operationa Stage** | 7-11 years | The development of str logical thinking skill improving the balanc between assimilation a accommodation. |
| **4** | **Formal Operational St** | 12 years | The development of abstract thinking, the integration of informati scientific thinking and creation of theories. |

In ESP teaching, this approach helps students build new knowledge by independently solving real-world problems in professional contexts. For example, a student studying economics is given the task of working with statistical data on international trade. Through this task, he gets acquainted with economic terms in English, analyzes diagrams, and draws certain conclusions. In this process, he develops not only his linguistic knowledge, but also his analytical thinking. Vygotsky's theory of cultural-historical development emphasizes that cognitive development is formed through social interactions. Language and thinking are interconnected and develop in the process of communication with the teacher and peers(Vigotskiy,1991). This idea is expressed in ESP lessons in group work, role-playing games, and problem-based learning (PBL) tasks. For example, if students organize a dialogue in the medical field in the format of "consultation on the diagnosis and treatment of a disease", this will develop their ability to use professional vocabulary in the context of communication, as well as the ability to understand and solve medical problems.

In the context of ESP, the theory of cognitive development is also analyzed in connection with the "multi-level cognitive load theory". In order not to overload the working memory of students when acquiring new knowledge, it is necessary to build lessons from simple to complex. This indicates the harmonious harmony of the theories of Piaget and Vygotsky in real educational conditions.

The cognitive approach encourages the ESP teacher to design lessons based on the following principles:

-introducing new content based on prior knowledge;

-applying knowledge in context;

-using interactive tasks that provide social interaction;

-introducing activities that require reflection and self-assessment.

The 1st year students of the University of World Economy and Diplomacy were given a project-based assignment on the topic “Prosperity or Preservation”. At the 1st stage of the assignment, students select one of the local industrial companies in small groups and study its impact on the environment. At the 2nd stage, they collect information about the measures taken by this industrial enterprise to reduce its impact on the environment. At the last stage, based on the collected information, students themselves develop and present proposals to reduce the environmental damage of the enterprise's activities. This assignment includes several stages of cognitive development (research, analysis, synthesis and creation). As a result of working in stages, students are relieved of overload and the effectiveness of the task increases.

At the same time, the use of modern learning platforms and interactive materials (simulations, video lessons, online journals) in ESP also expands the possibilities for applying the principles of cognitive development. Through such methods, education moves not only to the stages of acquiring knowledge, but also to its active acquisition, application, and evaluation(Anderson and Krathwohl, 2001)

Thus, the practical implementation of the theory of cognitive development in ESP education plays an important role in preparing students for professional activities through language, in forming their analytical thinking, independent decision-making, and real-life problem-solving skills. Such an approach forms the basis of the ESP model based on independent learning and demonstrates the theoretical basis of interdisciplinary integration.

Conclusion

In conclusion, the theoretical foundations of an interdisciplinary approach to foreign language teaching are related to various approaches.

Constructivist and experiential learning theories - viewing the student as an active subject;

Interdisciplinary integration models - theoretical substantiation of the possibilities of connecting different areas;

Systemic and contextual thinking - understanding language in a broad socio-cultural and academic context;

Transformative learning - ensuring the personal growth of the student. The ability to skillfully apply these approaches at different stages of the educational process creates wide opportunities for teachers and students in teaching ESP in language teaching and learning.

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