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INTERDISCIPLINARY AND INTEGRATIVE FOUNDATIONS OF LINGUODIDACTICS IN MODERN LANGUAGE EDUCATION

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ABSTRACT

Linguodidactics is increasingly becoming one of the most relevant areas of modern linguistics and education, as it is directly and closely connected with the process of language acquisition. In today's rapidly developing world, knowledge of several languages opens new opportunities, while the demand for multilingual competence continues to grow. This article examines the theoretical foundations and historical development of linguodidactics and describes its interdisciplinary relationships with linguistics, psychology, sociolinguistics, anthropology, and computational linguistics.

To achieve this aim, the study sets several objectives: to analyse theoretical definitions of linguodidactics, identify its relationships with linguistics, psychology, sociolinguistics, anthropology, and computational linguistics, and determine the significance of these interdisciplinary connections for language teaching, particularly English for Specific Purposes (ESP).

More than sixty national and international sources, including dissertations by local scholars, research articles, monographs, and publications available on online academic platforms, were examined through descriptive and comparative analysis to identify the interrelationships between linguodidactics and related disciplines.

Findings indicate that linguistic disciplines and psychology exert a substantial methodological influence on linguodidactics, whereas computational linguistics contributes natural language processing tools that increasingly affect all these fields. Sociolinguistics contributes to understanding registers and code-switching practices essential for ESP instruction, while anthropology facilitates comprehension of the cultural and social contexts of language use across different situations and events. These interdisciplinary connections provide a broader theoretical and methodological basis for designing effective language teaching strategies and adapting instruction to learners' linguistic, cognitive, social, and professional needs.

Overall, these interdisciplinary relationships demonstrate that effective language teaching, particularly second-language and professional language instruction, cannot rely on a single discipline. Instead, an integrative and interdisciplinary approach is required to ensure meaningful and professionally oriented language education.

Key words: linguodidactics, interdisciplinary approach, psychology, linguistics, computational linguistics, anthropology, sociolinguistics, language teaching, AI-assisted teaching, code-switching.

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LINGVODIDAKTIKANING ZAMONAVIY TIL TA'LIMIDAGI FANLARARO VA INTEGRATIV ASOSLARI

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ANNOTATSIYA

Lingvodidaktika zamonaviy tilshunoslik va ta'limning eng dolzarb yo'nalishlaridan biriga aylanib bormoqda, chunki u tilni o'zlashtirish jarayoni bilan bevosita va uzviy bog'liqdir. Bugungi jadal rivojlanayotgan dunyoda bir nechta tilni bilish yangi imkoniyatlar ochib beradi, ko'p tili kompetensiyaga bo'lgan ehtiyoj esa tobora ortib bormoqda. Mazkur maqolada lingvodidaktikaning nazariy asoslari va tarixiy rivojlanishi o'rganilib, uning tilshunoslik, psixologiya, sotsiolingvistika, antropologiya va kompyuter lingvistikasi bilan fanlararo aloqalari yoritiladi.

Ushbu maqsadga erishish uchun lingvodidaktikaning nazariy ta'riflarini tahlil qilish, uning tilshunoslik, psixologiya, sotsiolingvistika, antropologiya va kompyuter lingvistikasi bilan aloqalarini aniqlash hamda mazkur fanlararo bog'liqliklarning til o'qitish, xususan, kasbiy yo'naltirilgan ingliz tilini (ESP) o'qitishdagi ahamiyatini belgilash vazifalari belgilandi.

Lingvodidaktika va turdosh fanlar o'rtasidagi o'zaro aloqalarni aniqlash maqsadida mahalliy olimlarning dissertatsiyalari, ilmiy maqolalar, monografiyalar hamda onlayn akademik platformalarda e'lon qilingan nashrlarni o'z ichiga olgan 60 dan ortiq milliy va xalqaro manbalar tavsifiy-qiyosiy tahlil qilindi.

Natijalar shuni ko'rsatdiki, tilshunoslik sohaları va psixologiya lingvodidaktikaga sezilarli metodologik ta'sir ko'rsatadi, kompyuter lingvistikasi esa tobora ushbu sohalarining barchasiga ta'sir ko'rsatayotgan tabiiy tilni qayta ishlash vositalarini taqdim etadi. Sotsiolingvistika ESPni o'qitishda muhim bo'lgan registrlar va kod almashtirish amaliyotlarini tushunishga yordam bersa, antropologiya turli vaziyatlarda tildan foydalanishning madaniy va ijtimoiy kontekstlarini anglashga xizmat qiladi. Mazkur fanlararo aloqalar samarali til o'qitish strategiyalarini ishlab chiqish hamda ta'lim jarayonini o'quvchilarning lingvistik, kognitiv, ijtimoiy va kasbiy ehtiyojlariga moslashtirish uchun kengroq nazariy-metodologik asos yaratadi.

Umuman olganda, ushbu fanlararo aloqalar samarali til o'qitish, xususan, ikkinchi til va kasbiy yo'naltirilgan til ta'limi jarayonida yagona fanga tayanish yetarli emasligini ko'rsatadi. Shu sababli mazmunli va kasbiy yo'naltirilgan til ta'limini ta'minlash uchun integrativ va fanlararo yondashuv talab etiladi.

Kalit so'zlar: lingvodidaktika, fanlararo yondashuv, psixologiya, tilshunoslik, kompyuter lingvistikasi, antropologiya, sotsiolingvistika, til o'qitish, sun'iy intellekt yordamida o'qitish, kodlarni almashtirish.

МЕЖДИСЦИПЛИНАРНЫЕ И ИНТЕГРАТИВНЫЕ ОСНОВЫ ЛИНГВОДИДАКТИКИ В СОВРЕМЕННОМ ЯЗЫКОВОМ ОБРАЗОВАНИИ

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АНАТАЦИЯ

Лингводидактика становится одним из наиболее актуальных направлений современной лингвистики и образования, поскольку она непосредственно и тесно связана с процессом усвоения языка. В современном стремительно развивающемся мире знание нескольких

языков открывает новые возможности, а потребность в многоязычной компетенции постоянно возрастает. В статье рассматриваются теоретические основы и историческое развитие лингводидактики, а также характеризуются её междисциплинарные связи с языкознанием, психологией, социолингвистикой, антропологией и компьютерной лингвистикой.

Для достижения поставленной цели определены следующие задачи: проанализировать теоретические определения лингводидактики, выявить её взаимосвязи с языкознанием, психологией, социолингвистикой, антропологией и компьютерной лингвистикой, а также определить значение этих междисциплинарных связей для обучения языку, в частности профессионально ориентированному английскому языку (ESP).

С целью выявления взаимосвязей между лингводидактикой и смежными дисциплинами проведён описательно-сопоставительный анализ более 60 отечественных и зарубежных источников, включая диссертации отечественных учёных, научные статьи, монографии и публикации, размещённые на академических онлайн-платформах.

Результаты показывают, что отрасли языкознания и психология оказывают значительное методологическое влияние на лингводидактику, тогда как компьютерная лингвистика предоставляет инструменты обработки естественного языка, которые всё больше воздействуют на все эти области. Социолингвистика способствует пониманию регистров и практик переключения кодов, необходимых для обучения ESP, а антропология позволяет осмыслить культурный и социальный контекст использования языка в различных ситуациях. Междисциплинарные связи создают более широкую теоретико-методологическую основу для разработки эффективных стратегий обучения языку и адаптации образовательного процесса к лингвистическим, когнитивным, социальным и профессиональным потребностям обучающихся.

В целом установлено, что эффективное обучение языку, особенно второму и профессионально ориентированному языку, не может основываться исключительно на одной научной дисциплине. Такой подход способствует повышению качества языкового образования и обеспечивает более целостное понимание процессов изучения и преподавания языка. Для обеспечения содержательного и профессионально ориентированного языкового образования необходим интегративный и междисциплинарный подход.

Ключевые слова: лингводидактика, междисциплинарный подход, психология, языкознание, компьютерная лингвистика, антропология, социолингвистика, обучение языку, обучение с использованием искусственного интеллекта, переключение кодов.

INTRODUCTION

The global demand for professionals with multilingual skills across various fields has been growing significantly in recent years. International experience, research, and collaboration among international staff drive the expansion of English for Specific Purposes (ESP) programs across non-linguistic programs and the digital transformation of instruction at higher educational institutions. The fast-paced evolution of artificial intelligence and natural language processing (NLP) tools provides a paramount way to boost classroom instruction. However, the complexity of various learning intelligences, characteristic features, preferred learning styles, student goals and motivation levels still leave the dilemma of how to bring together the intercultural learning environment into effective instruction. Within this shifting domain, linguodidactics appears to be one of the important disciplines responsible for explaining how languages should be acquired and how meaningful instruction should be organised by language teachers. Recent theoretical developments have revealed that linguodidactics is not confined to linguistics alone, but it draws on and is shaped by several neighbouring fields [Vladimirova, 2022: 30].

Existing research has addressed these connections mostly one at a time. A common approach is to discuss the relationship between linguodidactics and linguistics or psychology in terms of methodological foundations for language instruction. Its interdisciplinary characteristics have been explored with sociolinguistics, which is primarily explored with various social communication, culture and language applications, further through register variation and code-switching. Anthropology has been examined through the cultural and social dimensions of language use in everyday situations. More recently, its relationship to computer linguistics is becoming an object of investigation because of its natural language processing tools and the availability to incorporate them into language instruction.

To our knowledge, only a few studies have shown how these interconnected fields operate together; most papers outline them as separate, parallel connections to linguodidactics, without clarifying whether each discipline contributes in the same way, or performs a distinct function within the discipline as a whole. Previous studies have not systematized the interrelationship of linguistics, psychology, sociolinguistics, anthropology, and computer linguistics within a single conceptual framework, nor clarified their differing roles relative to one another. This gap constitutes the scientific problem addressed in the present study.

We therefore analysed the existing research and, with this aim in mind, present the analysis and systematisation of the relationship between linguodidactics and these five fields within a unified conceptual framework. The identification of the distinct functions each performs in shaping meaningful and effective language instruction is the main pursuit of our discussion.

The novelty of this study lies in presenting how linguistics, psychology, sociolinguistics, anthropology, and computer linguistics contribute to linguodidactics in fundamentally different ways rather than as interchangeable influences, while prior scholarship has acknowledged the interdisciplinary nature of linguodidactics in general terms. Linguistics and psychology form its fundamental tier, illustrating how language acquisition itself is understood and how psychology can influence it. Sociolinguistics and anthropology form its contextual tier, governing register, code-switching, and the cultural conditions of language use. Computer linguistics forms its operational tier, supplying the NLP tools that increasingly mediate the other four. The key contribution of this work is to treat computational linguistics and AI-powered language tools as an emerging disciplinary axis of linguodidactics, rather than as a peripheral technological supplement, reflecting the accelerating integration of natural language processing in contemporary language education. Finally, the study broadens the scholarly conversation by integrating national Uzbek and Central Asian sources alongside international publications, thereby addressing a gap in the existing English-language literature on linguodidactics, where this body of regional scholarship has remained largely overlooked.

Theoretical foundations of linguodidactics

Much work has been done to draw firm conclusions about the definition of linguodidactics, so it still remains under deep investigation. While reviewing the

literature and analyses by both national and international researchers, we examined various descriptions of the functioning of linguodidactics. One should note that the term linguodidactics is not a crumbling term; it is a relatively new field. I.B. Vorojsova describes the provenance of the process of its coming into view in the introductory part of her book, titled *The Base of Linguodidactics*, after long arguments between methodology and didactic scholars. As mentioned in her scholarly work, the researchers proposed a contrastive view on whether methodology is an independent field of study in foreign language teaching. Considering its application across all subjects, they conclude that it does not refer to a single area; rather, it reflects a didactic perspective focused on patterns of instruction, teaching, and education rather than on knowledge gained through investigation [Vorojsova, 2007: 30].

More recent evidence suggests the following definitions:

F.M. Litvinko identified linguodidactics in his lecture notes as the theory of language teaching that combines linguistics and didactics, providing a scientific foundation for language teaching strategies, including approaches, goals, planned results, principles, content, methods, and organisational forms. He explains that linguodidactics explores the problems of the goals and content of language teaching (its selection and organisation). The author was among those who characterised the term as the laws governing the mastery of any language, whether first, second, or foreign, and as the development of teaching tools [Litvinko, 2020: 13].

Another contemporary definition of linguodidactics is given by O.V. Mihaleva and is nearly identical to the information provided in the web encyclopedia and by F.M. Litvinko. She adds that it is a theoretical aspect of language-teaching methodology that has been put into practice by combining two areas, such as linguistics and methodology [Mihaleva, 2022: 15]. N.Muzaffarova states that this field concerns principles that help structure an effective educational process to achieve high results in language learning [Muzaffarova, 2025: 16].

The term linguodidactics, according to N.D. Galskova in IGI Global, is a branch of science that studies the patterns of students' adaptation to a new language and culture, in collaboration with their native language and culture. In her review, she reports that the scientific and methodological findings of language didactics are the object and product of the cognitive process at every stage of development [Galskova, 2020: 8].

When looking at publications from bordering countries and national scholars, we can assume that researchers support the view that linguodidactics has not yet reached a conclusive opinion on its status. However, they underline that the 70th was a breakthrough towards integration across all spheres of human activity, and that knowing a foreign language became paramount, leading to the creation of flexible and varied strategies for teaching languages. In the late 70s, N.M. Shansky identifies linguodidactics as a pedagogical science that studies the general patterns of teaching languages, the specifics of the content, methods and means of teaching a particular language, depending on the didactic goals, objectives and nature of the material being studied, the conditions of monolingualism or bilingualism, the stage of learning and

intellectual- speech development of students. He identified the linguistic personality, with a linguodidactic culture, as the central category of this science and began to develop its parameters. N.M. Shansky's definition is not limited to just teaching methods. He sees linguodidactics as a "pedagogical science" that studies the "general patterns of teaching languages". This systemic view considers a wide range of factors, including content, methods, means, didactic goals, and the specific context of monolingualism or bilingualism. This holistic approach is a cornerstone of effective pedagogy. It recognises that teaching is not a one-size-fits-all process [Shansky, 1972: 27]. It has a deep connection to other fields, making it more approachable and useful for designing a specific lesson. In this vein, M.U. Jurayeva's assumptions seem to be realistic, who mentions L.V. Scherba's study that learning a language for educational purposes is possible only with the help of language tactics, an integrative science that aims to describe both the mechanics of language acquisition and the management of these mechanisms in the learning environment [Jurayeva, 2022: 11; Scherba, 2024: 25]. K.B. Khasanova and D.A. Safarova describe linguodidactics as a general theory of language teaching, as mentioned above, which involves developing the methodological basis of language teaching and studying its links with didactics and methodology, as well as basic linguodidactic sciences [Khasanova & Safarova, 2023: 13]. The concept developed by V.Rainike, which is described by G.Aytzhanova's paper, is based on the idea of the existence of three independent and mutually related scientific disciplines comprising the theory of foreign languages teaching: 1) theory of language acquisition, or linguodidactics; 2) foreign language didactics; 3) methods of certain language teaching, or private methods [Aytzhanova, 2016: 1].

The creation of an integrative teaching methodology fostered a deeper consciousness of the linguistic-didactic relationship with other subjects. S.M. Zokirova highlighted the following: At the end of the 20th century, many new directions and approaches emerged in global linguistics; Uzbek linguistics is no exception. Linguistics began to develop from a structural paradigm to an anthropocentric paradigm. If the main attention of system structural linguistics is focused on pure linguistic issues, then in the centre of research in the anthropocentric direction lies the relationship between the language and the person who owns it, the mechanisms of speech creation, the place of language in society, language and culture, and the nationality of the language [Zokirova, 2023: 34]. According to linguists, due to the language's extrinsic development, new dialects have arisen, which are listed in the table by

E.B. Borunova. The researcher prepared a concise table of principles and subjects related to linguodidactics, worked out by N.D. Galskova and N.I. Gez [Galskova & Gez, 2006: 9]. N.D. Tashlanova describes them as scientists of the "golden generation." They made an integral contribution to Russian science by analysing and systematising methodological concepts and categories in the field of teaching foreign languages and meaningfully connecting them [Tashlanova, 2023: 28]. This evolution makes linguodidactics a subject of deeper investigation because the effectiveness of language instruction is theoretically based on a map of other field relations and connections. In a seminal work on linguodidactics, E.B. Borunova

identifies a correlation with philosophy, linguistics, psycholinguistics, sociolinguistics, psychology, and linguocoso-psycholinguistics [Borunova, 2010: 3].

In our research, we have investigated the most contemporary fields that can empirically relate to linguodidactics. In educational and scientific resources, there are many interpretations and pieces of evidence connecting these subjects to linguodidactics. In her list, one of our national scholars, S.M. Zokirova, includes neurolinguistics, paralinguistics, anthropocentric linguistics, contrastive linguistics, and computer linguistics [Zokirova, 2023: 34].

METHODS

The paramount aim of this article is to examine the theoretical foundations of linguodidactics and its interconnection with other subjects. The research will establish a synthesised, comparative relation of the fields that have a paramount influence on language teaching. Treating each field in isolation brings a clear illustration of which field is discussed and how interconnected it is with didactics.

We reviewed approximately 60 publications between 1972 and 2025 involving foundational works and the research enriching the linguodidactic field. The most recent investigations were described as related to computational linguistics and artificial intelligence. Both national and international sources were included, including peer-reviewed academic papers, monographs, lectures, dissertations, and online linguistics platforms and forums. Most periodicals were found in scholarly works from Central Asian countries, Russia, and Latin America, as linguodidactics is not widely recognised as a specialised area of investigation in many countries, where the same field is called language teaching. Sources were included only where linguodidactics, language teaching, and methodology with specific disciplinary relations were under review. General linguistics texts without clear pedagogical relations were excluded.

The article relies on a descriptive approach, comparing various scholarly definitions and research findings, and attempts to establish a relationship between linguodidactics and related disciplines. The comparative and thematic analysis of the reviewed publications identified common theoretical frameworks, dissimilar perspectives, and common patterns across various disciplines. This process involved five disciplines: linguistics, psychology, computer linguistics, anthropology, and sociolinguistics, as they are, in our view, the most theoretically relevant to language teaching.

In relation to the methodology of our research, this descriptive-comparative approach relies on secondary interpretation of existing scholarship rather than a systematic review protocol such as PRISMA and does not conduct data collection; the full discussion with analytical views is outlined in the discussion section.

It is vital to review background data on the contemporary understanding of linguodidactics and its foundational steps in the methodological work. The background review explains why it is necessary to situate disciplinary comparison. Investigating these theoretical fields provides a clear picture of general patterns in General English teaching and specific language teaching, addressing the integration

of field characteristics in the era of digitalisation and computational addiction.

RESULTS

When displaying details, we would like to highlight some fields that have a significant impact on humanity's future and the revolution in language science.

Linguodidactics and linguistics

The first and paramount connection is with Linguistics, because the theoretical basis of linguodidactics forms the foundation of linguistics. As Z.D. Popova states, applied language-teaching disciplines draw their instructional tools from general linguistic theory to make student learning acquisitions comprehensible both to coder and decoder [Popova, 2007: 22].

Linguistics studies and analyses the structure of language and the background of a particular nation. As a discipline, it provides insights into a language's structure, sounds, formation, morphology, lexis, sentence usage, meaning, and pragmatics. Imagine a life without a language. A complete society would not be without a language or history. Every society has its unique dialect, which we call the mother tongue, and the sounds, sentence structure, and word meanings that are passed down from one generation to the next. The work of linguistics is vital and complex in this transmission. Linguistics analyses the human communication system and its changes, advances, and phenomena that affect language structure. For this purpose, linguodidactics, as a theory, should be closely linked to linguistics.

First of all, *phonetics and phonology* analyse the functions of speech sounds and their articulation. Speakers manage their tongue, lips, teeth, and other speech organs, as well as the acoustics of speech, to produce a word that is comprehensible in a particular region or society. It is important to collaborate with didactics as every dialect is based on phonological description and varies from one society to another. Even though many languages share some similar sounds, people can differentiate one language from another by paying attention to voice pronunciation, word placement, dialect, and accent.

According to D. Westermann and I.C. Ward, phonics provides a great advantage in language learning and should be taught scientifically because languages differ in the production of sounds that make up meaningful words, sentences, and texts [Westermann & Ward, 1933]. In fact, phonics and phonology serve as a code between coder and decoder. The study of Phonetics was made comprehensible through an introduction to reading for Ethiopia's children, which is widely described in Reading for Ethiopia's Achievement Developed Technical Assistance Project [Ramos-Mattoussi et al., 2017: 24].

It is important to understand how speech sounds are pronounced and perceived as this:

- explains how learners perceive sounds based on their early experiences in learning the mother tongue;
- describes how learners must compare new sounds to known sounds when they are learning in another language;

- ensures accuracy across languages for how we describe and classify speech sounds;

- explains the phonemic part of grapheme-to-phoneme awareness necessary to learn reading and writing.

In learning and planning linguodidactics, phonetics and phonology should be considered significant competencies because terms and terminology related to Latin, Greek, and other languages require close attention to ensure correct spelling and pronunciation, thereby avoiding business misconceptions in any specific field. During ESP (English for Specific Purposes) courses, instructors should incorporate phonetic training to help students master field-specific vocabulary with proper pronunciation, thereby enabling effective communication.

The next connection can be visualised in *morphology and syntax*. They both study the structure of words and sentences. Morphology concerns the structure of words and the rules governing their inflectional changes. Syntax deals with rules that make meaningful sentences. It looks at word placement to identify phrases and clauses. Morphology and syntax are interconnected. Q.Rahmanullah remarks that morphology provides the foundation of syntax, clarifying its purpose and establishing the framework for syntactic interactions. As a result, morphology requires syntax to develop, and syntax requires morphology to construct. Since morphology studies morphemes, it is closely related to lexicology, etymology, and semantics, among other branches of linguistics. Morphology and syntax are of central concern because, without their existence, the creation and modification of words would be a great hardship to learn and apply to a language [Rahmanullah, 2024: 24]. Thus, linguodidactics cannot be seen without these fundamental areas, as they provide the main principles of sentence construction, coherence, and workability that make the conversation comprehensible, relevant, and meaningful.

Linguodidactics and psychology

N.A. Bozhenkova et al. emphasise that “psychological and pedagogical knowledge” is a determinant of linguodidactic technologies. This knowledge is considered indispensable for effective teaching, especially at the initial stage of language acquisition. They discuss that the “psycho-cognitive structure of personality influences multicultural personality. It is essential to take into account that a learner is an individual part of a learning process with a unique “lingua didactic culture and evolving psycho-cognitive structure. The main goal of instruction is to advance the realisation of their inner motivation and intellectual potential. Moreover, many scientific papers establish linguodidactics as a science that integrates pedagogical principles with psychological insights. It’s not just about teaching methods, but also about the underlying cognitive and developmental processes of language acquisition [Bozhenkova et al., 2020: 5]. A.M. Tevelevich, for example, highlights how linguodidactic competence is formed through a synthesis of psychological and pedagogical knowledge. The connection to psychology is further evident in the emphasis on adapting teaching to students’ specific psychological and developmental needs. Factors such as bilingualism, the stage of learning, and even students’ “ethnomental characteristics” are considered crucial in

shaping the content and methods of instruction. This ensures that teaching is not a uniform process but a psychologically informed, adaptive one [Tevelevich, 2005: 29]. Student language outcomes in speaking are also considered a psychological barrier by H.F. Makayev and G.Z. Makayeva in their research, which concludes that the language barrier is an individual, subjective inability to use already-acquired language skills. It is a psychological barrier to speaking that manifests itself at both the initial stage of learning and at an advanced level of language study. Very often, the speech barrier manifests as an inability to express basic thoughts or opinions. It also exists in one's native language and is often referred to as "dog syndrome" (everything is clear, but I can't say anything). The results showed that the teacher-created psychological atmosphere, both in class and during extracurricular activities, and the competent use of technical techniques, allow the research goal to be achieved [Makayev & Makayeva, 2022: 15]. To conclude our investigation on psychological connections to linguodidactics, we provide the following table of scholarly work which makes a more visual interpretation based on scholarly work:

A brief description of psychological relationship with linguodidactics

Psychology
The psychology of speech
The speech, both oral and written, of an individual is important in linguodidactics because it analyses an individual's ability to perceive information and to produce speech using phonological procedures, as well as the choice of audience, lexicological reasons, purpose, and content procedures.
Pedagogical psychology
how a particular methodology works in a chosen subject area and an individual's reaction with memory, attention, motivation and cognitive development, considering individual differences
General psychology
psychological reference to the individual's general problems with motivation, memory, attention, emotion, personality, needs, incentives and self-regulation
Cognitive psychology
the influence of language, thought, and perception (Sapir-Whorf Hypothesis); how language functions within information perception and remembering
Social psychology
how language functions in different social groups; learner behavioural reaction to psychological safety in a particular group

Linguodidactics and computer linguistics

Another area that is becoming globally important but is not yet fully designed and developed is *computer linguistics*. The word linguistics in this context suggests the need for linguists in a computer's work to calculate, learn, and output languages. We decided to describe it because the research we work on directly relates to computer systems and their operation. According to Wikipedia, Computer Linguistics is an interdisciplinary field concerned with the computational modelling of natural language and the study of appropriate computational approaches to linguistic questions. In general, computational linguistics draws upon linguistics, computer science, artificial intelligence, mathematics, logic, philosophy, cognitive science, cognitive psychology,

psycholinguistics, anthropology, and neuroscience, among others. Computer linguistics and linguodidactics interact strongly, as computer linguistics provides tools for processing natural language. It cannot be done without human interaction, even when information is coded into a computer. Linguists and data analysts do challenging work analysing text data, such as language patterns, grammar rules, intonation patterns, and categorising them into types of speech, as well as applying other applied linguistic procedures. According to ICT, digital tools can assist in designing flexible courses, providing constructive feedback, and creating interaction modes with a human in the form of podcast and digital story language software [Paluanova, 2025: 21].

However, the machine cannot act as an intelligent box without human interaction and a clever mind that revolutionises linguodidactics. Combining linguistic expertise with computational power, this field is revolutionising language learning. By harnessing data-driven techniques, it is creating more personalised and effective approaches to teaching and mastering languages. NLP has already advanced in General English teaching, which is seen in many language teaching tools, while ESP instruction is establishing its roots in pedagogy through corpus-based methods. In 2005, L.Gavioli was one of the researchers who conducted foundational research on students' independent choice of real specialised texts, which resulted in students' motivation and engagement in comparison to ready-made discourse [Gavioli, 2005]. B.Carter-Thomas conducted an investigation on vocabulary choice using corpus-informed approaches and strategies for teaching them [Boulton et al., 2012: 4].

N.Kübler and A.Volanschi, in turn, make use of both general and specialised English and French corpora to “provide potential applications in specialised translations and specialised translation teaching” by exploring uses of verbs in general and specialised languages – Earth Science in this case [Kübler & Volanschi, 2012]. In our current research, we are using corpora for Information Technology students to increase their specialised language and vocational communicative competencies in English in ESP classes. They are mostly used as independent research tasks. The first results indicate that authentic texts and realistic practicum work increase student language learning and integration of the specific field.

AI-powered language-learning platforms, while tutoring, cannot function meaningfully without proper linguistic methods and approaches to meet students' needs for identifying error language patterns and providing corrective feedback, relying on a sequence of effective methodologies. We agree that Artificial Intelligence is one of the best intelligent software tools; however, without proper investigation and control of student applications, it shows more plagiarism and copy-paste work instead of being used as an effective language learning tool.

In the national view, B.Sh. Juraev and H.A. Shaymardanov conclude their publication with disappointing opinions. They state, “There is a shortage of specialists and research papers in this field, even though some research and educational establishments have succeeded in computational linguistics. The only computational linguistics program is the master's program at Tashkent State Uzbek Language and Literature University. Doctoral papers have been submitted in other areas of

computational linguistics at the same university. However, much remains to be done to catch up with international standards in the field and address these limitations. So, there will be a need for researchers in computational linguistics and programs that train these specialists. There is also a need to open Bachelor's programs that prepare specialists in computational linguistics" [Juraev & Shaymardanov, 2022: 10].

It is proposed that computational linguistics will be a prosperous discipline, as it is difficult to imagine a future without digitalisation due to technological advancement. Consequently, the need for new branches and professionals in numerical positions will increase to address new terminology, contexts, and semantics.

Linguodidactics and anthropology

Regrettably, the connection between anthropology and linguistics publications and research remains somewhat limited, even though it is at the forefront of discussions among psycholinguists; still, there are a few online resources that offer a comprehensive picture. For example, S.N. Das composes that linguistic anthropologist study language in context, revealing how people's ways of communicating and expressing themselves interact with human culture, history, politics, identity, and much more [Das, 2016]. V.Pagliai describes the integration of linguistics and didactics as a central unit for language acquisition and cultural exchange. She defines anthropology as a subfield that emphasises the relationship between language and culture, investigating how language shapes social recognition and its cultural background. Anthropology, she states, focuses on real-world language use and its connection to other fields [Pagliai, 2012: 20]. T.E. Vladimirova highlights the social importance of Anthropology by exemplifying individuals' self-development and the interaction between teachers and students, which leads to a more personalised learning experience [Vladimirova, 2022: 30]. A French researcher, J.-L. Chiss, states that anthropology relates to linguodidactics through the concept of "literature", which influences the understanding of reading and writing in language classes. Consequently, genre type has a paramount influence on language comprehension, which is an important consideration in ESP classes [Chiss, 2019: 6].

A comprehensive understanding of communication, its cultural influences, social norms, beliefs, and history helps build a more effective approach to language and provides effective solutions for foreign language acquisition, especially for international language use within nations.

Linguodidactics and sociolinguistics

The knowledge of Sociolinguistics is one of the main areas in professional linguodidactics for an ESP teacher. The core purpose of ESP is to provide communicative skills relevant to their speciality based on vocational vocabulary and academic context. Educators adjust their lesson plans based on the intended content and learner needs, ranging from formal to informal, from professional to casual, and using authentic materials. R.Nordquist notes that linguistic registers are characterised by specialised vocabulary, turns of phrase, colloquialisms, and jargon. Language teachers' responsibility is to equip learners with the necessary and appropriate

registers to acquire skills for adequate vocational communication [Nordquist, 2025: 18]. P.Osorio and J.Martins describe sociolinguistics as a framework for understanding language variation and as a didactic approach that emphasises the contextual understanding of language use [Osório, & Martins, 2019: 19]. Turkish researcher M.Kahraman outlines the importance of sociolinguistic awareness as the key to effective teaching, while differentiating between formal and practical language. Developing communicative competencies, he says, depends on how purposefully an educator integrates sociolinguistic principles into language education, principles that are applicable to real-world social and cultural dynamics [Kahraman, 2024: 12].

Another sociolinguistic area of consideration is code-switching; sociolinguistics studies how multilingual speakers use their language abilities across different languages, switching between them. In contemporary language methodologies, educators try to avoid using the native language in classes; however, there are occasions when using L1 is crucial and unavoidable to prioritise meaningful comprehension rather than leaving a student with misinterpretation. Modern pedagogy has already recognised translanguaging practices.

G.Bombini suggests that linguodidactics integrates with sociolinguistics by highlighting the importance of classroom interactions and their influence on the interpretation of language use contexts. Despite abundant pedagogical knowledge, the lack of classroom interaction will lead to less communicative social practice, a key output element in language acquisition [Bombini, 2018: 2].

Interdisciplinary relations of linguodidactics

The analysis shows that the relationship between linguodidactics and the five disciplines can be viewed as a complementary system. Linguistics and psychology provide the theoretical basis for understanding language structure and acquisition, while sociolinguistics and anthropology explain the social and cultural conditions of language use. Computational linguistics extends these relationships into the digital domain through corpora, NLP, and AI-assisted language learning.

Taken together, these connections demonstrate that effective language education requires the integration of linguistic knowledge, learner-related factors, social and cultural context, and technological resources. Such integration is particularly relevant to ESP, where language instruction must correspond to both learners' professional needs and the authentic communicative practices of their field.

DISCUSSION

The research in this review indicates that linguodidactics cannot be adequately theorised through any single disciplinary lens. Rather than functioning as a set of parallel, equally weighted influences, the five fields examined appear to relate to linguodidactics in structurally different ways. Linguistics and psychology emerge as *foundational* disciplines: they shape the methodological core of language instruction – how sounds, structures, and meaning are taught, and how learners cognitively and emotionally process that instruction. Sociolinguistics and anthropology, by contrast, operate as *contextualising* disciplines: they do not so much assist in lesson planning

as in determining what content, register, and cultural framing are appropriate for a given learner and setting. This distinction helps explain why, as N.A. Bozhenkova [Bozhenkova et al., 2020: 5] and A.M. Tevelevich [Tevelevich, 2005: 29] dispute, psychological insight is treated as a determinant of linguodidactic competence itself, whereas R.Nordquist [Nordquist, 2025: 18] and M.Kahraman [Kahraman, 2024: 12] treat sociolinguistic awareness as a condition for the appropriateness of teaching rather than as an underlying mechanism that guides suitable content selection.

Computer linguistics is discussed as a distinct position in this framework; however, it is becoming an essential field of discussion. Unlike the other four fields, it was described in the reviewed literature not as sitting alongside linguistics, psychology, anthropology, and sociolinguistics, but as a field that processes and operationalises the products of all of them simultaneously, which is seen in most language learning software programs using neurolinguistics. This interdisciplinary role explains why AI-assisted language platforms cannot function meaningfully “without proper linguistic methods,” as noted above – computational tools depend entirely on the theoretical foundation the other disciplines supply. They form the basis of the entire language teaching approach. However, B.Sh. Juraev and H.A. Shaymardanov [Juraev & Shaymardanov, 2022: 10] highlighted their concern regarding the shortage of computational linguistics specialists and dedicated academic programmes in Uzbekistan, suggesting that this intersecting potential is currently underexploited at the institutional level, particularly for ESP contexts where the demand for such tools is arguably greatest, involving content-based teaching specialised in specific topics. Moreover, digitalised language learning and AI-assisted educational platforms do not support the Uzbek language, which creates confusion in machine translation, let alone specific vocabulary teaching.

A further pattern worth discussing is the visible imbalance in the scholarly attention each discipline has received. As this review shows, the connection between linguodidactics and psychology or linguistics is well documented and relatively settled, whereas the anthropology- linguodidactics relationship remains comparatively underexplored, drawn largely from a handful of sources such as V.Pagliai [Pagliai, 2012: 20], T.E. Vladimirova [Vladimirova, 2022: 30], and J.-L. Chiss [Chiss, 2018: 6]. This scarcity is itself a finding in our work, which suggests that the cultural dimension of language teaching-how learners’ social identity, beliefs, and history shape acquisition-is theoretically under-integrated relative to its practical importance, especially in multilingual and multicultural instructional settings such as those found across Central Asia.

For practising ESP and language teaching instructors, the interdisciplinary picture that emerges has direct pedagogical implications. Lesson planning that draws only on linguistic and psychological principles is under threat, producing linguistically accurate but contextually wrong, meaning-lost instruction. How can it happen? Since register, code-switching norms, and cultural expectations are shaped by sociolinguistic and anthropological factors that sit outside those two disciplines. In contrast, planning that attends only to context without linguistic and cognitive involvement risks

producing culturally sensitive but methodologically weak instruction. This reinforces the view, echoed by N.M. Muzaffarova [Muzaffarova, 2025: 17], that effective lesson design requires deliberately synthesising insight across disciplines rather than treating any one of them as sufficient.

It is also worth emphasising the limitations of the present analysis. The descriptive-comparative method relies on secondary interpretation of existing scholarship rather than original empirical data, and the reviewed literature is concentrated in Central Asian, Russian, and Latin American sources, reflecting the fact that “linguodidactics” as a term is not widely used outside these traditions. Conclusions drawn from this compilation may therefore not transfer cleanly to English-medium scholarship, where the same territory is more often discussed under “language pedagogy” or “applied linguistics.” Future work is recommended to compare terminological traditions across these literatures. Considering them as distinct rather than synonymous would help clarify whether the disciplinary relationships identified here are a feature of linguodidactics itself or a different field of the regional literature, and inform new research.

CONCLUSION

Linguodidactics emerges as an integrative and interdisciplinary field that develops through its interaction with linguistics, psychology, sociolinguistics, anthropology, and computational linguistics. Linguistics and psychology provide its foundational basis, while sociolinguistics and anthropology contribute contextual perspectives. Computational linguistics increasingly extends this framework through digital, corpus-based, NLP, and AI-assisted tools.

For English for Specific Purposes (ESP), such integration is particularly important because effective instruction must address learners’ linguistic, cognitive, social, cultural, and professional needs. Authentic corpora and AI-assisted technologies can support more individualised and professionally relevant learning when combined with appropriate linguistic and pedagogical principles.

At the same time, anthropology and computational linguistics remain comparatively underexplored in linguodidactic research, particularly in the Uzbek and Central Asian context. Further empirical research should therefore focus on developing integrated ESP frameworks that connect interdisciplinary knowledge with corpus technologies, NLP, and AI-assisted language education.

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