

UDC 81.33

DOI <https://doi.org/10.32782/2522-4077-2024-209-52>

## APPLIED LINGUISTICISTS FOR THE FUTURE EXPERTS IN THE FIELD: SUBJECT DEFINITION AND COURSE SELECTION

### ПРИКЛАДНА ЛІНГВІСТИКА ДЛЯ МАЙБУТНІХ ФАХІВЦІВ ГАЛУЗІ: ПРОБЛЕМИ ДЕФІНІЦІЇ ТА ВИБІР НАВЧАЛЬНИХ ДИСЦИПЛІН

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Applied linguistics is one of the most relevant branches of modern science as well as a practical discipline with an enormous potential. It is its multifaceted nature that accounts for both a large number of academic training areas of future specialists in the field and the difficulties associated with defining the goals of such training, which, in its turn, implies the selection and narrowing of a number of academic subjects necessary for a future professional, who should be able to apply the acquired knowledge in practice and to be sought-after and competitive in the labor market. The first important step towards the effective professional training of specialists in applied linguistics should be the definition of the concept of «applied linguistics», as well as the concepts closely related to it both semantically and in terms of their subject matter, but fundamentally different from the point of view of the choice of teaching methodology and selection of educational disciplines. These are concepts such as «computational linguistics» and «computer linguistics» as well as «mathematical linguistics», which denote fields that combine the subjects of study of different disciplines, for example, computer science, mathematics and statistics, and accordingly change the trajectory of knowledge and skills acquisition necessary to work in the spheres. Another important aspect of the problem of teaching professional subjects for the future applied linguists is that the number of academic hours or credits is certainly insufficient to ensure thorough teaching of all necessary disciplines, even of a particular direction of applied linguistics. On the other hand, such an approach does not seem rational, because at the current stage of development of applied linguistic disciplines, it is specialization and profiling that can provide a specialist with a successful career in a chosen field of activity. Therefore, a careful choice of areas of specialization, a selective approach to the subjects that should be included in the educational and professional program, as well as constant optimization and updating of professional educational disciplines and their content are the key aspects to the successful training of modern specialists in the field of applied linguistics.

**Key words:** applied linguistics, computerized linguistics, computational linguistics, language technology, applied linguistic discipline, professional training.

Прикладна лінгвістика – одна з найактуальніших галузей сучасної науки та прикладна дисципліна з потужним потенціалом. Саме її багатоаспектний характер обумовлює як і велику кількість напрямів академічної підготовки майбутніх фахівців сфери, так і труднощі, пов'язані з увиразненням цілей такої підготовки, а значить і вибором та звуженням низки навчальних предметів, необхідних для того, щоб майбутній професіонал міг застосувати набуті знання на практиці і бути затребуваним та конкурентоздатним на ринку праці. Першим важливим кроком до ефективної професійної підготовки фахівців з прикладної лінгвістики має бути увиразнення поняття «прикладна лінгвістика», а також понять, тісно пов'язаних з ним як семантично, так і за предметним наповненням, але принципово відмінних з точки зору вибору методології навчання та підбору навчальних дисциплін. Це такі поняття як «обчислювальна лінгвістика» та «комп'ютерна лінгвістика», а також «математична лінгвістика», які позначають галузі, що сполучають у собі предмети вивчення різних дисциплін, як-от інформатики, математики та статистики, і відповідно змінюють траєкторію знань та вмінь, необхідних для роботи в них. Ще одним важливим аспектом проблеми викладання фахових дисциплін для майбутніх прикладних лінгвістів є те, що обсяг навчальних кредитів є відносно обмеженим для того, аби забезпечити ґрунтовне викладання всіх необхідних предметів навіть окремого напрямку прикладної лінгвістики. З іншого боку, такий підхід і не видається раціональним, адже на сучасному етапі розвитку прикладних лінгвістичних дисциплін саме спеціалізація та профілізація здатні забезпечити фахівця

успішною кар'єрою в обраній сфері діяльності. Отже, ретельний вибір напрямків спеціалізації, селективний підхід до предметів, що мають бути включені до освітньо-професійної програми, а також постійна оптимізація та оновлення фахових навчальних дисциплін та їх змісту є ключовими аспектами успішної підготовки сучасних фахівців у галузі прикладної лінгвістики.

**Ключові слова:** прикладна лінгвістика, комп'ютерна лінгвістика, обчислювальна лінгвістика, лінгвістичні технології, прикладна лінгвістична дисципліна, фахова підготовка.

**Problem under consideration.** Applied linguistics, which deals with the implementation of traditional linguistic tasks in practice, and also develops methods for solving practical problems related to the use of language, has always been distinguished by a wide range of directions: both classical (graphics, lexicography, translation, deciphering, development terminology, etc.) and the most recent ones (linguistic support of various types of information systems, machine translation, solving linguistic problems in artificial intelligence systems) [4; 9]. Therefore, it is undoubtedly one of the most fast-changing and promising areas of human activity with an insatiable practical demand of experts in the field. On the other hand, the scale and vastness of areas of applied linguistics determine the complexity of professional training of the specialists and the problem is far more complex, if we go deeper into the principles and techniques of teaching applied linguistics [2, p. 20; 1, p. 67–68]. For the task of effective training of future applied linguists to be fulfilled, several important criteria must be taken into account.

**The latest research analysis.** General problems of applied linguistics have been deeply studied by a great number of both home and foreign linguists, yet we are more interested in the academic overview of scholars researching in the field of recent advances in applied linguistics teaching and training. Here we can mention the home scholars like N. Bidyuk, O. Bilous, T. Bryha, N. Filipova, M. Kondratenko, N. Mehesh, A. Mishchenko, O. Trishch, N. Tsymbal, A. Zahnitko and others. Among the foreign researchers dealing with issues of applied linguistics there are C. Brumfit, G. Cook, K.A. Davis, M.A.K. Halliday, S. Hunston, D. Larsen-Freeman, M. McCarthy, N. Schmitt, H.G. Widdowson and others. The branch is so versatile and dynamic that new aspects of research occur every year and the trend is likely to accelerate in the future.

**The article is aimed at** outlining significant factors which should be taken into consideration while drawing up a curriculum for the students of applied linguistics and identifying the ways these factors build up the academic and practical trajectories in the future specialists training as well as seeking out the techniques capable of making the academic process as effective as possible within the frame of the objectives outlined.

**The main body of the article.** As it has been previously mentioned the first and possibly the crucial problem of applied linguistics teaching methodology is the choice of area where the future experts are going to work. A huge difficulty arises from the broad and diverse range of activities within the framework of applied linguistics. The thing which could greatly facilitate the process of activity identification is obviously to clarify the definition of the name of the speciality as well as of the subject matter it implies.

Thus, in foreign language studies the term «applied linguistics» is mostly used in a general, broader sense to mean any research or study of languages having practical application in different spheres of human activity ranging from traditional issues of writing (graphics), methods of teaching native and non-native languages, lexicography, translation, deciphering, building up terminology as well as state language policy. In this view any practical usage of any language or linguistic means belong to the realm of applied linguistics [3, p. 292]. In the narrow sense the term «applied linguistics» is commonly used to signify the activities closely connected to language acquisition and language teaching issues, which are traditionally covered by the home term «linguodidactics». Our home linguistics tradition goes as far as to apply the term «applied linguistics» to the branches of human activity and study which merge linguistic issues and the research results and methods used in computer and math-

ematics studies. Thus the term mostly refers to the automatic processing of text information (machine translation, automatic referencing, etc.) [3, p. 292–295]. Given the fact that this understanding of applied linguistics is firmly connected to the usage of mathematical, statistical and computational methods of implementation of linguistic processes, the other terms like «computerized linguistics» or «computational linguistics» as well as «engineering linguistics» are not uncommon as well [3, p. 292–293]. In foreign linguistic studies, it is the area which is normally called «computational linguistics» and is viewed as a structural part of applied linguistics [14]. To avoid ambiguity the term «language technology» is also used. Language technology denotes the integration of computer science and the phenomenon of linguistics in all manifestations and the terms «computational linguistics» (CL) and «natural language processing» (NLP) are applied to the sub branches of language technology which deal with how human language transforms into a computer program [15]. Natural language processing, which evolved from computational linguistics, uses methods from various disciplines, such as computer science, artificial intelligence, linguistics, and data science, to enable computers to understand human language in both written and verbal forms, while computational linguistics has more of a focus on aspects of language; natural language processing emphasizes its use of machine learning and deep learning techniques to complete tasks, like language translation or question answering [13, p. 1047]. The major aim of language technology is to create software tools that can process human language. Language technology is the realm of the following tasks: data fusion and text data mining, information extraction, question answering, report generation, speech recognition, speech synthesis, spoken dialogue systems, text categorization, text indexing, text retrieval, text summarization, translation technologies [13, p. 1047–1048]. This terminological discrepancy brings a great deal of ambiguity not only to the term identifications as such, but also to the outlining of the subject matter of the academic discipline. On the one hand, it gives us more chances to choose and specify the area of specialization of the future applied linguistic expert, on the other hand, the ambiguity requires clarification and refinement of all the expertise the students should get in the process of academic training.

Logically, one might speak about two directions in the applied linguistic specialization: the so-called «linguistically conditioned training» and «computationally conditioned training». Under the first approach the emphasis of academic training is shifted onto the whole bulk of language training disciplines, yet always with an applicational component [7; 12]. Those might be translation and interpreting courses, comparative language courses, terminology and lexicography. The supplementary module could consist of a set of computational courses which might vary from basic computer usage courses to editing of coding for linguistic purposes. In the second, computationally conditioned, training the academic focus is shifted onto the applied mathematical and computational disciplines. Together with the basic language component which might include translation or/and interpreting courses as well as linguistic subjects necessary for effective computational work with language units like lexicography and corpus linguistics, CAT systems, etc., the leading role is given to the mathematical, statistical and computer programming subjects. Even though the primary goal of this type of academic preparation is to train an IT-specialist in the field, the expertise should in the first place include the skills of language algorithm building and language algorithm processing [5].

It is equally important to mention that both types of professional academic training will be fully successful only on condition that a future specialist has solid knowledge of the language or languages they work with as well as sufficient practical skills in using it, which could be a problem as this means that the educational efforts in the first step of professional preparation might be directed to the attaining of the necessary language proficiency level and, if carried out simultaneously with the professional applicational training, could hinder the overall progress in studying.

Once the subject matter of the field has been clarified and the objectives of professional training have been set, it is not less important to carefully draw up the curriculum of the speciality. If we take, let's say, «linguistically conditioned training» the ultimate goal of it is to train a linguist with an excel-

lent command in languages and translation skills who is not only capable of solving basic linguistic problems of text interpreting but can also provide services linked to text editing, text creation and text processing, corpus and dictionary compiling, ciphering, all with the usage of basic IT-technologies. One of the possible ways the curriculum could be built up is to group the skills and knowledge to be obtained into branches or modules. These modules would interact both cyclically and hierarchically. The basic level module is language proficiency one which should continue throughout the training. It would be more efficient if the subjects of this module actively interact with their objectives with the professional practical modules. Anyway, the contents and variability of the module would greatly depend on the basic level of the students, their ability to gain progress and the hours allocated to this kind of training [12]. The second module can be called «basic professional knowledge» and should include the subjects which will acquaint the students with the whole scope of problems and activities they could be involved in as the experts in the field as well as facilitate professional skills acquisition at the later stages. Those could be «familiarization» subjects like «Introduction to Translation Studies», «Introduction to Applied Linguistics», etc. Seemingly overtheorized and superficial they could be of good use to the students, for they aren't always aware of the range of functions they could perform as the specialists in applied linguistics and it could give them the right impulse for the future studying as well as self-studying [11]. Clearly, to reach this important objective the disciplines under consideration should reflect this job diversity and be as updated as possible.

The third module, which we might call «intermediary», aims at consolidation of both theoretical knowledge and practical skills the students have gained within the junior years of training. The module might include professional linguistic disciplines which would provide the students with comprehensive and systematic insight into the sphere they are going to work in as well as extend and deepen their knowledge of its linguistic background. Here the choice of subjects could be made in favor of practical translation disciplines as well as the disciplines on text linguistics. The latter cover quite a range of applied linguistics problems, though can also serve as an introduction guide to the practical application of the obtained professional skills. In this view, they would be perfectly combined with the field practice where the students will definitely apply the consolidated knowledge and revised skills to solution-oriented problems.

The fourth module is related to the scope of linguistic disciplines which require holistic knowledge of languages, advanced translation skills as well as strong awareness of basic tasks and problems in the sphere of applied linguistics. The subjects like «Technical Translation», «Business Translation», «Lexicography», «Terminography», etc. are supposed to be on the list. With these subjects the students will enhance their language proficiency, advance their professional linguistic knowledge and skills, outline their future job perspectives. On condition the students are inclined to choose the translator's job, the subjects could help them immerse themselves into the narrower field and assess all its weak and strong points in practice. The second cycle of the translation practice in field at this stage would considerably increase the efficiency of the overall training process.

The fifth module of subjects, which should be introduced in the senior years of training, is a logical and ultimate segment of the professional training of the future expert in the field of applied linguistics. It includes the chain of practical disciplines which acquaint the students with practical tools necessary to successfully implement their knowledge and skills into the working process. In the first place, these are the tools for computer assisted translation (CATs) as well as a range of editing, post- and pre-editing programs [10]. Undoubtedly, possession of skills of working with the applied linguistic instruments, will integrally round-off the cycle of practical training of the future experts as well as provide them with the higher level of competitiveness in the labor market.

Last but not the least is the sixth module which could be explicitly called «IT-technologies for Linguists». It is a continuous module lasting almost two years which aims at providing the students with maximum practical IT-skills necessary for their work in the sphere of applied linguistics. This module is a unit of computational linguistics worked out to be comprehensive and accessible to someone with

non-advanced mathematical and IT expertise [5; 6]. Needless to say, that the knowledge and skills obtained in the module are rather of an experienced user than of a developer; yet it also provides basic coding proficiency sufficient to perform the simplest IT-developer functions in some areas of applied linguistics. It is probably the most important as well as the most vulnerable training module, as it needs to be thoroughly planned and carefully implemented to fill the lacunae in the practical IT-skills of the students and to give them enough confidence to be independent performers in the sphere. One of the possible ways to achieve these ambitious goals is through a chain of principles stated as follows. In order to implement the first steps in programming, the students need to learn the general principles and methods of programs creation, features of computer data processing, principles of binary coding, conditional and cyclic program management structures, various data structures that must be chosen correctly for effective tasks-solving. The basics of programming are the same regardless of the programming language is selected. The ability to program in one language enhances an opportunity to easily master the other, since the basic methods of coding programs are almost identical for different languages [8, p. 5–6]. The language most suitable to become this basis is Python, as the code is easy to create and read, it is intuitive and effective for solving various linguistic problems. The steps of mastering Python are built on the principle «from simple to complex». The first step covers the basic concepts of programming, in particular, the properties of the language and the integrated programming environment, features of using variables, conditional and loop structures. The second step is devoted to the use of such data structures as lists, tuples, strings and dictionaries. Special attention is paid to the processing of strings, showing which additional tools for text research it can provide. The third step presents the features of text processing. The students learn how to create frequency dictionaries for a certain text array; data encryption; processing of data stored in text files; professional text processing via regular expressions construction [8]. As we can see, starting with the simplest tasks the students eventually become quite competent in all most demanded spheres of applied linguistics, which, certainly cannot allow them to fully function as programmers, but can give the confidence and ability to work towards this direction independently if required.

The final consideration on methodology of applied linguistics academic course is closely linked to the specificity of the area of specialization. As it has been repeatedly mentioned, applied linguistics belongs to the spheres of human activity with the highest degree of development speed and variability. It necessarily leads one to constantly revise the objectives as well as the methods of achieving the highest efficiency in applied linguistics training. This revision implies the need to redefine and specify the subject matter of the field and areas of students' specialization, to streamline the process of academic discipline selection as well as of the choice of the training methods used. It also concerns the innovations and introduction of new subjects and new training modules which would meet the advanced requirements of the ever-changing job market.

**Conclusions and further research prospects.** Let us summarize the most important provisions of the research. The given article does not intend to be totally objective, its aim is rather to give rise to further considerations on methodological enhancement of academic training in the sphere of applied linguistics as well as to sum up and share practical experience in providing such kind of training. Thus the milestones of methodology development of the applied linguistics speciality are as follows: a careful and thoughtful refinement of the subject matter of the speciality and its primary objectives, followed by a scrutinized choice of discipline modules and of the disciplines themselves. The latter also heavily depends on the overall time allowed to study and practise this or that particular skill and on the initial level of language proficiency with the students. Eventually, it is significant to timely update the objectives and needs of the sphere of applied linguistics to immediately and adequately respond with the appropriate revision and change in the academic contents, training methods and techniques.

The given research can prompt further studies into the methodology of academic training of future experts in the sphere of applied linguistics, particularly in its most innovative fields, like artificial

intelligence, machine translation, natural language processing, information retrieval, speech recognition, speech generation. etc.

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