

## Forming a Foreign Language Teacher's Professional Competencies in a Multilingual Educational Environment

Anna Gizatullina<sup>1</sup> & Alfiya Sibgatullina<sup>2</sup>

### Abstract

This paper considers forming the professional competencies of students of the faculty of foreign languages of the teacher training university in the multilingual context. The study used the following methods: a conversation with students and teachers, participant observation, a questionnaire (99 respondents), methods of mathematical statistics for the processing of empirical data, study and analysis of current publications on the issue. Data were received on students' competence in languages; the prevailing issues in learning a second foreign language at different stages (courses) of training were revealed. The paper analyzes the results of applying the methodology of training a foreign language teacher based on the co-studying languages and the implementation of the multilingual approach to the formation of students' professional competencies in the process of curriculum training and pedagogical practice at school. Statistical processing of the obtained data confirmed the positive impact of the applied training methodology on the formation of professional competencies of future foreign language teachers.

**Keywords:** *multilingual education context, language co-study, integration, authentic text, interactive technologies.*

### Introduction

Recently, a concept of multilingualism has become a defining approach to the study of languages. Many researchers are actively engaged in this issue, in particular, (Borisov et al., 2017; Hufeisen, 2000; Hufeisen & Marx, 2005; Kärchner-Ober, 2009; Malyh, 2011, 2013; Molchanov 2009;). Multilingualism is not just a variety of languages that can be achieved by increasing the number of languages offered to a pupil or student. The multilingualism arises with the expansion of the personal language experience from the language used in the family to the language used in society, and further to mastering the languages of other peoples.

---

<sup>1</sup> Assoc. Prof., Kazan (Volga region) Federal University, Elabuga Institute, Russia, [annagiz@rambler.ru](mailto:annagiz@rambler.ru)

<sup>2</sup> Assoc. Prof., Kazan (Volga region) Federal University, Elabuga Institute, Russia, [a.sibgatullina@bk.ru](mailto:a.sibgatullina@bk.ru)

From this point of view, the goal of language education is changing, and accordingly, the role of a foreign language teacher is changing. Before, the main objective was to give a student some knowledge and skills; today, the important goals of teaching foreign language (FL) are the following: the formation of a friendly and tolerant attitude to the values of other cultures, creating the basis for the formation of interest in improving the foreign language level, in learning the second/third foreign language, in using the foreign language as means of obtaining information that allows expanding one's knowledge in other subject areas (The order..., 2010). All this allows saying that the goal of training a modern foreign language teacher is the formation of such professional competencies of a teacher that would enable him or her to contribute to the formation and development of a student who has a multilingual communicative competency (Gapsalamov et al., 2017a; Kilinc et al., 2018), including the experience of teaching in a multilingual education context, as well as the methodical experience of teaching foreign languages in groups where students speak different languages and study several foreign languages.

The objectives of this training are the following:

- training students pursuing a degree in "Pedagogical Education" in teaching foreign languages in the multilingual education context;
- formation of universal and professional competencies of a future teacher related to this training;
- improving the knowledge about studied foreign languages on the basis of such training.

Thus, one can see a contradiction between the need for the teacher to work in a multilingual educational environment and the inability to prepare students for this in a traditional way based on teaching that does not take into account the influence of languages on each other.

Hence the aim of the research is to develop a methodology for preparing students of the Faculty of Foreign Languages for teaching foreign languages at school, taking into account and reliance on the multilingual character of the educational environment.

Achieving the goal of the study involves a consistent solution of a number of problems:

- 1) study the environment for teaching students in foreign languages;
- 2) determine whether this environment can be considered a multi-lingual one;
- 3) to clarify the attitude of students towards learning on a multi-lingual basis;
- 4) to identify the difficulties experienced by students in the study of a second foreign

language in a multilingual educational environment;  
5) to propose and substantiate the necessary elements of preparing students for the teaching of foreign languages in a multilingual educational environment.

### **Method**

The methods of study are determined by the objectives set; they include an analysis of pedagogical, psychological and methodological literature, research of various aspects on the issue under study, as well as an analysis of the practical experience of foreign language teachers; questionnaire (99 respondents students 2-5 courses, age 19-25 years, carriers of 8 different native languages), a questionnaire of 3 blocks, a total of 18 questions; observation participant observation during training sessions; conversation clarifying conversation with students participating in a questionnaire; conversations with teachers and heads of departments of the Faculty of Foreign Languages (20 people in total), percentage representation of the data

### **Findings**

Analyzing the process of forming the professional competencies of students of the Faculty of Foreign Languages in the multilingual context, the authors came to the conclusion that a special role is dedicated to the theoretical foundations of modeling this process. The authors outlined the leading principles of such training: the principle of systemic perception of languages, the principle of integration of all curriculum subjects, as well as the principle of dominance of integrated tasks during training the future teacher (Anisimova and Sharafeeva, 2018; Belomestnykh and Tesleva, 2012; Gapsalamov et al., 2017b; Ivygina et al., 2018; Kurbanova et al., 2018; Szydowski, 2018).

The experimental work on the formation of professional competencies of the future foreign language teacher in the multilingual context was started with an analysis of the actual state of the issue under study. The study of such state was carried out between 2015 and 2017 with the help of such methods of scientific and pedagogical research as the questionnaire of students, conversations with teachers and heads of departments, observation and analysis of theoretical (lecture) and practical classes, special courses and classes in the Elabuga Institute of Kazan Federal University, as well as in the conduct of pedagogical practices in secondary schools. All this contributed to solving the first four problems of the study.

The questionnaire was specially developed, addressed to the target group of students of the Faculty of Foreign Languages. The questionnaire included 3 units, in total 18 questions. 99 students of four years of study (2-5) took part in the survey. The questionnaire included the following questions:

- 1) whether it is possible to consider the training context of these students as a multilingual education context;
- 2) which linguistic issues the students faced during co-studying several foreign languages;
- 3) whether the principles of the systemic perception of languages, the integration of educational subjects, as well as the dominance of problematic cultural tasks are taken into account in the process of training the foreign language teacher;
- 4) which professional competencies of the foreign language teacher acquire special significance for the teacher working in the multilingual education context.

The answers to the first two questions of the questionnaire were supposed to give an idea of whether the learning environment could be called the multilingual context. According to the answers, 49 students (out of 99) believe that they speak two languages as native (49.5%), 11 students (11.1%) believe they speak three languages as native. That is, one can talk about natural bilingualism and multilingualism of the majority of students (60.6%), which is related to the conditions of the natural language environment. More specifically, for the majority of students, Russian and Tatar are native languages; students from other regions and republics also named Udmurt, Mari and other languages (in total 9 languages).

In addition, while studying at the Faculty of Foreign Languages, the students study two foreign languages (English and German), the basics of Latin and Chinese. A significant majority of students surveyed at the Faculty of Foreign Languages have German as a second language (89%), which allows saying that the learning environment for these students can be called a multilingual one.

In the course of the study, the authors suggested that the effectiveness of training the future teachers can be achieved through the introduction of a methodology based on the study of languages. The authors proposed and tested the algorithm of this technique, carried out in the context of trilingual learning the German language based on speaking native and English languages. This was the solution of the fifth task of the study.

## **Discussion**

Analyzing the theoretical basis for modeling the formation of professional competencies in students of the teacher training university's faculty of foreign languages in the multilingual context, the authors came to the conclusion that the principle of systemic perception of languages can be called as one of the main principles. In the co-studying of several languages and their interactions, the multilingual personality perceives them as an integrated complete system, sees similarities and differences, and learns to compare certain elements of languages, to use the possibilities of positive transfer and to minimize the complexity of negative interference in languages. Our questionnaire confirmed that half (51%) of teachers use the principle of systemic perception of languages when learning the second or third foreign language, while the majority of respondents (67%) noted that the use of the second language contributes to the assimilation of new material for the SFL.

As the authors are considering the analyzed process from the perspective of training the foreign language teacher, the next principle is the principle of integrating all curriculum subjects related to learning the foreign language, as well as the formation of the student's multilingual personality. The experience of the Udmurt State University is very interesting; in the curricula, one can see such disciplines as "Psychology of Multilingualism", "Psychology of Multilingual Education", "Contrastive Country Studies", "Text as a Multicultural Environment", "Ethnocultural Contacts in the History of Language", and others. The goal of these subjects is the acquisition of scientific, linguistic knowledge of a multicultural world by students, as well as the creation of a multicultural educational space in the process of learning the foreign languages.

The third principle of this process is the principle of dominance of problematic tasks in training the future teacher (Magsumov et al., 2018). If one talks about the cultural tasks, there are different types of similar tasks, but they all contribute to the cultural adaptation of students and should be aimed at creating optimal conditions for the positive personality-building potential of a foreign language as an academic subject. The principle of dominance of problematic cultural tasks proposed by Safonova (Safonova, 2001) is aimed at creating such a model of cultural studies by means of the FL, on the basis of which students get the following opportunities when solving the gradually becoming more complicated cultural tasks: to collect, systematize, generalize and interpret cultural information; to master the strategies of cultural research and ways of interpreting cultures; to develop a multicultural communicative competency; to form and

deepen both different and common cultural features in the general planetary sense, the planetary core of the contemporary multidimensional multicultural world; to master the strategies of cultural self-education; to participate in creative work of cultural and communicative-cognitive kind (Safonova, 2001).

The problem tasks can also be of the language content. Grammatical, lexical, phonetic problem tasks not only contribute to the formation of the ability to competently use a variety of linguistic resources, but also, in case of the proper organization of, prepare the future teacher for using the methods of problem training in foreign language lesson at school.

The co-study of several languages (native and foreign) presupposes a special methodical educational system, which is a didactic system, reflecting the structural and functional links of its constituent components: tasks, methodological approaches, principles, content, methods and techniques, organizational and methodological conditions that should lead to a positive result. Modeling of this system was started with a question to the students "What difficulties did you experience while studying the SFL?". Among the typical difficulties in mastering the foreign language, there are phonetic, lexical, grammatical, and also socio-cultural difficulties. It was interesting that when co-studying several languages, most students indicated the following difficulties in learning:

- ear perception of speech, audio perception seems to students the most difficult (63%);
- grammatical forms that are irrelevant for the first foreign language (for example, declension of adjectives in German when learning German as the second language after English), 66%.

Lexical difficulties are called by students as insignificant (38%), while for some students (45%) the lack or insufficiency of socio-cultural knowledge about the country of the foreign language studied seemed to be a barrier to its improvement.

The analysis of these results led us to the conclusion that it is the system perception of the second and the next foreign language that will allow a teacher to use the consciously comparative method as the leading one, as it is directed to the accounting of speaking other languages, as well as follows:

- overcoming language interference;
- the maximum concentration in teaching the lexical and grammatical material;
- the parallel learning of all types of speech activity.

The issue of interlingual and intralinguistic interference is very significant. It should be noted that the nature of interference, the degree of its manifestation and distribution depend on various factors, in particular, on the type of multilingualism, on the method of its acquisition, on the structure and system of contacting languages. Understanding of interference as the interpenetration of the elements of one language into another, which leads to deviations from the norm, determines the strategy of the methodology of teaching the foreign languages. As a rule, the second and subsequent foreign language is studied after a student has mastered the first foreign language at a minimum or a higher level; moreover, ones believe that certain methodological aspects of teaching the foreign language, focused on the study of languages, will train the foreign language teacher more effectively.

The first condition for a multilingual environment in training of the foreign language teacher was the inclusion of authentic texts in the learning process of the future teacher. The effectiveness of using authentic texts as a method of teaching the foreign language at the university is a universally recognized fact. The papers by Ivanova (2009), Shastina et al., (2017), Fadeeva (2009) and other scientists were devoted to this issue. An authentic text not only acquaints a student with the culture, features of the mentality and social life in the country of the studied language, but also gives an opportunity to adequately respond to the current issues of society, compare the development trends of other societies with similar trends in his or her society, which contributes to the formation of the intercultural competency of the student. This text illustrates the functioning of the language in the natural social context of native speakers, and as a result, strengthens the motivation for learning the foreign language. First, working with the authentic text during co-studying of several languages provides an opportunity to perform a comparative work on the text (for example, lexical and grammatical exercises); secondly, this text develops the skills of extracting value meanings from the text, their comprehension and transformation into student's own orientations.

The use of interactive pedagogical technologies has two main objectives in teaching foreign languages in the multilingual education context (the second condition):

- i) intensification of the educational process;
- ii) obtaining qualitative knowledge and skills necessary for the professional career of the teacher, his or her social self-determination;

iii) Training future teachers to work with different categories of students, including gifted children and children with disabilities.

The following technologies of working in a student environment have proved themselves as effective ones: the case-study method, flipped classroom technology, learning through experience or learning through training. The goal of these technologies is to increase the motivation for learning, and intensify the learning process. In training the future foreign language teachers, these technologies are also valuable; and mastering them is the necessary skills for the teacher, prescribed in all federal documents regulating a teacher's activity (On the approval...), (The order..., 2018).

The advantages of the case technology are that the search for ways to solve the problem actualizes a certain set of knowledge on the topic, encourages students to actively participate in the educational process; stimulates independent work on obtaining additional information, as well as develops critical thinking, text analysis skills; educates communicative culture.

The Flipped Classroom model as one of the components of modern Blended Learning technology is used to organize the independent learning activity of students in mastering curriculum or additional educational material. This model of education is characterized by the alternation of full-time and distance (e-learning) components. Electronic educational resources (EER) are today an integral part of education. The main principle of the functioning of EER is the separation of educational content on the subject into modules by thematic elements and components of the learning process (Korableva et al., 2018; Magsumov, 2017; Sibgatullina, 2016). The Flipped Classroom technology allows placing responsibility for students' knowledge on students themselves, thereby giving them an incentive for further creativity, directing the learning process into the practical application of the acquired knowledge.

The "learning through training" method was first developed in the early 1980s by a didactic, teacher and instructor, professor of the Eichstätt University, Dr. Jean-Pol Martin. Jean-Pol Martin gave the following definition to this method: "If the student develops his or her own training material, and then presents it to their group mates and wonders whether the information is perceived and understood by them or not, if he or she finds a suitable exercise for learning the topic, then all of these actions develop a method of "learning through training" (Wittwer, 1996). Despite the fact that this method is designed for use by a student, this technique is very effective

in the training of a teacher, since this is a kind of practice where a student learns to be a teacher (Akhmetshin et al, 2017; Sibgatullina, 2015).

The next condition is the professionally-oriented content of all training modules.

The students go on pedagogical practice already in the second year of training. The programs of these practices are diverse and depend on the goals and objectives of the specific period of study.

The first practice of a student is psychological and pedagogical, the main goal of which is to consolidate the theoretical knowledge obtained in the study of disciplines, acquire practical skills and abilities to independently solve current professional issues in the field of psychological and pedagogical support of the educational process, in particular, in the multicultural context. The goal of the student's pedagogical practice is to acquire the experience of independent professional-oriented activity as a teacher of the foreign language and to master the advanced technologies of the pedagogical activity. The current Federal State Education Standards (FSES) of pedagogical education increase the volume of practices, but more often it is asserted that not only practice, but the entire process of training a teacher at a higher educational institution should have a clear professionally-oriented character, which should manifest itself as follows:

- modular construction of educational curriculum;
- the technologies of project training as a variety of contextual learning;
- practical orientation of training;
- interdisciplinarity, the integration of the educational content.

The essential feature of the module is the unity of the theoretical and practical aspects of the content with an orientation toward the educational and professional activity of a graduate at present and during the future professional activity (Solomin, 2015). The variety of forms of project teaching makes it possible to use it as a special learning environment based on the system-activity approach (Bochkareva et al., 2017; Korableva et al., 2017; Osadchy and Akhmetshin, 2015), on the students' personal interaction with each other, with the teacher, with students during the practice.

The practically-oriented model of the future teacher's training is based on an activity-competence approach in the formation of a student's self-educational activity, represented in the papers of such Russian educators as I.A. Zimnyaya, V.V. Krayevsky, A.V. Khutorskoy, T.I. Shamova et al. The introduction of new pedagogical FSES should extend the terms for practices, while changing their qualitative content. For example, in the document there were such kinds of

practices as introduction, design and technology practice. In addition, each academic discipline (module) for training the future teacher should be accompanied by a non-intrusive methodological commentary of the teacher, what methods, techniques and technologies can be used by a teacher during the lesson.

These conditions will certainly lead to the formation of a competent teacher, who is able to work with different target audiences. The multilingual context of an educational institution is one of the modern foreign language teacher' activity factors, which should be taken into account in the process of his or her training.

### **Conclusion and Implications**

The proposed paper considered the concepts of "multilingualism" and "multilingual education context", which serve as the basis for forming the professional competencies of future foreign language teachers; and they are especially relevant at the present time. During study, it was found out that the learning environment for students, who are future teachers of a foreign language (99 respondents), can be considered as multilingual, since most students speak two or more languages as native, and also study two or three foreign languages. When mastering new languages, the greatest difficulties arise for students in the field of audio perception, as well as grammar and socio-cultural differences. The authors tested the methodology of teacher training, based on the principles of the study of languages, the integration of all curriculum subjects, as well as the principle of the dominance of problem tasks during training. The application of this methodology contributes to the formation of universal and professional competencies of the pedagogical university students. The selected organizational conditions contribute to the effective organization of this process.

The technique used by the authors has a positive effect on the formation of the professional qualities of a teacher's personality, and can be used both for teaching second foreign language and for multilingual education.

## References

- Akhmetshin, E. M., Makulov, S. I., Talysheva, I. A., Fedorova, S. Y., & Gubarkov, S. (2017). Overcoming of intercultural barriers in the educational environment. *Man in India*, 97(15), 281-288.
- Anisimova, T., & Sharafeeva, L. (2018). Methodical training of future teachers as a requirement of new standards. *Journal of Social Studies Education Research*, 9(2), 65-79. doi:10.17499/jsser.15222
- Bochkareva, T. N., Akhmetshin, E. M., Korotkova, A. L., Lyitkina, N. L., Nasipov, I. S., & Khaliullina, A. G. (2017). Research of students' cognitive activity. *Espacios*, 38(60)
- Borisov, A.M., Shastina, E.M., Gizatullina, A.V. & Sibgatullina, A.A. (2017). Concept of Multilingual Teaching in Yelabuga Institute of Kazan Federal University, *Perspectives of Science*, 1 (88), 119-125.
- Belomestnykh V.N., Tesleva E.P. (2012) Acoustic, elastic, and anharmonic properties of Sm1–xRxS solid solutions with trivalent impurities (R = Y, La, Tm). *Russian Physics Journal*. Vol. 55, № 5. P. 488–494.
- Fadeeva, N.V. (2009). Textual Material as a Means for Forming Socio-Cultural Competence in Teaching French Language, *Foreign Languages in School*, 6, 2-7.
- Gapsalamov, A. R., Ibatullin Rinat, R., & Kaviev Airat, F. (2017a). Features of estimating the effectiveness of implementation of labor actions in the system of secondary vocational education. *Astra Salvensis*, 5(10), 329-338.
- Gapsalamov, A. R., Vasilev, V. L., & Ilyin, A. G. (2017b). State planning of the russian economy: Past and present. *International Journal of Economic Perspectives*, 11(1), 474-480.
- Kilinc, E., Tarman, B., & Aydin, H. (2018). Examining turkish social studies teachers' beliefs about barriers to Technology integration. *TechTrends*, 62(3), 221-223. doi:10.1007/s11528-018-0280-y
- Hufeisen, B., (2000). Dritt- und Tertiärsprachenforschung. In: Flensburger Papiere zur Mehrsprachigkeit und Kulturenvielfalt im Unterricht, Heft 26, 1-33.

- Hufeisen, B. & Marx, N. (2005). Auf dem Wege von einer allgemeinen Mehrsprachigkeitsdidaktik zu einer spezifischen DaF/E-Didaktik. In: *Fremdsprachen Lehren und Lernen*, 34, 146-151.
- Ivanova, O.N. (2009). Supports necessary for understanding the text in trilingualism, *Foreign languages in school*, 5, 93-97.
- Ivygina, A., Pupysheva, E., & Mukhametshina, D. (2018). The role of local history texts in implementing the culturological approach to teaching the russian language: The basic general education level. *Journal of Social Studies Education Research*, 9(2), 160-171. doi:10.17499/jsser.47783
- Kärchner-Ober, R. (2009). *The German Language is Completely Different from the English Language: Besonderheiten des Erwerbs von Deutsch als Tertiärsprache nach Englisch und einer Nicht-Indogermanischen Erstsprache*. Tübingen: Stauffenburg. 347 S.
- Korableva O., Kalimullina O., Kurbanova E. (2017). Building the monitoring systems for complex distributed systems: Problems & solutions. Paper presented at the ICEIS 2017 - *Proceedings of the 19th International Conference on Enterprise Information Systems*, 2: 221-228
- Korableva, O. N., Kalimullina, O. V., & Mityakova, V. N. (2018). Innovation activity data processing and aggregation based on ontological modelling. Paper presented at the *2018 4th International Conference on Information Management, ICIM 2018*, 1-4. doi:10.1109/INFOMAN.2018.8392659
- Kurbanova E., Korableva O., Kalimullina O. (2018). Enhancing the Effectiveness of Asset Management through Development of License Management System on the Basis of SCCM 2012 Program by Microsoft Company. Paper presented at the ICEIS 2018 - *Proceedings of the 20th International Conference on Enterprise Information Systems*, 2: 171-178
- Magsumov, T.A. (2017). Family and school in Russia at the beginning of the 20th century: Attempts to bridge the gap. *European Journal of Contemporary Education*. 6 (4): 837-846. DOI: 10.13187/ejced.2017.4.837
- Magsumov, T.A., Artemova, S.F., Balanyuk, L.L. (2018). Regional problems of public schools in the Russian Empire in 1869-1878 (using an example of the Vyatka Province).

- European Journal of Contemporary Education. 7 (2): 420-427. DOI: 10.13187/ejced.2018.2.420
- Malykh, L.M. (2013). *Comparison of languages in synchrony: theoretical and applied aspects: monograph* / ed. T.I. Zelenin. - Izhevsk: Publishing house "Udmurt University", - 200 p.
- Malykh, L.M. (2011). *Introduction to multilingual education. Principles of language comparison: Textbook. allowance / scientific*. Ed. T.I. Zelenin; Udm. state. un-t. - Moscow: Flint: Science, - 112 p.
- Molchanova, L.V. (2009). *Teaching the second foreign language in the context of the formation of functional multilingualism in a language university: diss. candidate ped. sciences.* - Ryazan: [Electronic resource] URL: <http://www.dissercat.com/content/obuchenie-v-toromu-inostrannomu-yazyku-v-usloviyakh-formirovaniya-funktsionalnogo-mnogoyazych>
- On the approval of the professional standard "Teacher (pedagogical activity in the field of preschool, primary general, basic general, secondary general education) (educator, teacher)" <http://docs.cntd.ru/document/499053710>
- Osadchy, E. A., & Akhmetshin, E. M. (2015). Integration of industrial and educational sphere in modernization of economic relations. *Journal of Applied Economic Sciences*, 10(5)
- Safonova, V.V. (2001). Culturology in the system of modern language education, *Foreign languages in school*, 3, 17-24.
- Shastina, E.M., Gizatullina, A.V., Sibgatullina, A.A., Malyi, J.M. & Trofimova, L.V. (2017). Didactisation of authentic text when teaching german as a second foreign language with english as the first in a higher educational institution, *Revista Espacios*, Vol. 38 (No.40).
- Sibgatullina, A. (2015). Contemporary Technologies to Improve the Quality of Education When Training Teachers, *International Education Studies*, Vol. 8, No. 3, 167-175.
- Sibgatullina, A.A. (2016). Features of the use of electronic educational resources in teaching a foreign language, *Philological sciences. Questions of theory and practice.* - Tambov: Diploma, 1 (55): in 2 hours Part 2, 208-210.
- Szydowski, A.V. (2018). A Printing and Publishing Type as Object of Intellectual Property in Election Law of Russia and U.S. Severo-Kavkazskij juridicheskij vestnik, (1), 56-63.
- Solomin, V.P. (2015). A new model of practice-oriented training of teachers, taking into account the requirements of the professional and educational standard / Solomin Valeriy

Pavlovich, Rabosh Vasilii Antonovich, Gogoberidze Alexandra Givivna, *Pedagogical Education in Russia*, 12, 145-151.

The order "On the approval of the federal state educational standard of higher education - Bachelor's degree in the field of training 44.03.05 Pedagogical education (with two training profiles)" dated February 22, 2018 No. 125 <https://minobarnauk.rf>

The order of the Ministry of Education and Science of Russia from December 17, 2010 № 1897 "On approval and implementation of the federal state educational standard of basic general education" <https://minobarnauk.rf>

Wittwer, Angelika. (1996). Handlungsorientierter Fremdsprachenunterricht (Französisch) mit der Methode Lernen durch Lehren, *Pädagogik und Schulalltag* 51. № 3, 317-324.