

# **OPTIMIZING FOREIGN LANGUAGE TEACHING TO ADULTS THROUGH LINGUISTIC MATRICES**

## **Abstract**

### **PART I - THEORETICAL FRAMEWORK**

#### **CHAPTER I - ADULT LEARNING - ABOUT COMMUNICATION AND ADULT EDUCATION**

The first chapter 1.1 Adulthood - stages and specific characteristics presents the characteristics of adulthood in the teaching-learning process, structured by educational needs and communication and providing a brief history of adult education. The stages of adulthood and its characteristics are based on the studies of E. Erikson, D. Levinson and R. J. Frias.

Subchapter 1.2 A brief history of adult education follows the evolution of the types of education aimed at an adult public starting from Antiquity, through the Middle Ages, the Enlightenment, the industrial period up until the contemporary theory of continuous education. There is also a comparison between traditional religious education and modern secular education.

Subchapter 1.3 Methodological approaches in adult pedagogy focuses on presenting the new field of andragogy and how it differs from pedagogy. Adult education usually belongs to the area of non-formal education, while pedagogy is part of formal education.

#### **CHAPTER II - LANGUAGE AND COMMUNICATION**

Subchapter 2.1 Communication and learning presents some aspects related to general communication and the existing types of human communication. Communication is presented as a process by which the individual self relates to others, emphasizing its importance in the teacher-student relationship. Personal motivation is what will determine the communication attitude of each person. Subchapter 2.2 The role of emotions in communication analyzes how human affectivity influences the teaching-learning process and what emotional blockages can occur. These are grouped into emotional, cultural, and perceptual blockages. When an affective disorder occurs, the teaching-learning process will be disrupted. After presenting some characteristics of communication in general, we move on to communication in a foreign

language in subchapter 2.3 Difficulties of communication in a foreign language. The difficulties that appear here may be due to the individual personality and affectivity but also to the particularities of each language. To overcome them, the teacher needs to understand very well the structure of the language he teaches and how it is perceived by a non-native.

Subchapter 2.4 The study of languages in a globalized and multicultural society presents the importance of the study of foreign languages in a globalized society, even if they are not taught by a native or in the country of origin. 2.5 The role of grammar in adult language learning focuses on the importance of the study of grammar in language teaching in adult learners. Adult learners who are introduced to the grammar of a foreign language in a logical and structural way learn it faster and easier than those who fail to get an overview. By this approach they are able to compare it with that of the native language. 2.6 Through the mother tongue to the foreign language, I suggest that the teaching of a foreign language be done to beginners in their native language, offering them the translation of vocabulary and grammatical structures. Unlike the new directions in language pedagogy focused on children, which support their immersion in the new language through communicating only in it, foreign language teaching for adults avoids this method because it leads to confusion, demoralization and dropping out of class.

Subchapter 2.7 The importance of motivation for language learning in adulthood analyzes the importance of the personal motivational factor in adult education and anticipates the practical part which presents the main motivational factors of adults who choose to study foreign languages in private.

### **CHAPTER III - APPLIED LINGUISTICS**

The subchapter 3.1 The theory of Natural Grammar and didactics presents Noam Chomsky's theories on universal and transformational grammar. This assumes that there is a grammar imbedded in the mind of each person and people can learn various languages because they are born with it. The theory could have a great application in the field of language teaching if certain universal linguistic patterns are identified.

Subchapter 3.2 Fluid intelligence versus crystallized intelligence describes the two types of intelligence and how they manifest evolutionarily from children to adults. Children accumulate new knowledge indiscriminately, so-called fluidly, with great rapidity, while adults already have certain thought structures that order any new information. This makes learning difficult in certain situations but can also facilitate it if the existing mental structures are used in teaching.

3.3 The evolution of learning from children to adults presents two very interesting studies: White Matter Structure Changes as Adults Learn a Second Language published in the Journal of Cognitive Neuroscience and Second-language Instinct and Instruction Effects: Nature and Nurture in Second-language Acquisition published at MIT Journal of Linguistics. Both claim that following the study of languages, neurological changes occur in adult learners, although initially it was believed that biological development ceases at puberty. These observations are important for adult education in general because they prove that lifelong learning influences the human brain at all ages. In subchapter 3.4 Language processing by the adult mind, the ways children and adults learn are analyzed in parallel. Children learn languages modularly, in sections, vocabulary and grammar are separated, while adults connect them from the beginning as their thinking is crystallized. 3.5 Phonetic learning and morphological learning presents another very interesting article: On the Mental Representation of Arabic Roots published in Linguistic Inquiry. Its authors analyzed the way in which Arabic languages that have a consonantal writing are learned and memorized to observe that the mind processes them as morphological structures and not phonetic ones. This study is very important for the subchapter Possibilities of digitization of linguistic patterns which proposes a practical application of morphological patterns.

3.6 Meaningless words and approximations analyzes a common problem that arises in language learning: inventing words. This is because the human mind stores memory using the same process it does to create something new. Until a new word is fully memorized, the mind perceives it as an invention and tries to recreate it every time.

#### **CHAPTER IV - LANGUAGE FAMILIES AND THEIR IMPORTANCE**

Chapter IV introduces notions of applied linguistics, some aspects of Indo-European languages on which the research was focused and their evolution over time.

Subchapter 4.1 The Indo-European languages presents the main branches of this linguistic family, the modern or extinct languages that belong to it and the two great theories of migration of Indo-European peoples. The first theory suggests a migration from the North Caspian Sea to Europe and Asia Minor, while the second a migration through Persia, the Caucasus, and Asia Minor to Europe, both with different implications for establishing the evolution of these languages. The main of Indo-European languages are presented: the presence of genders in nouns - which although not limited to Indo-European languages, occurs in few other language

groups, the declension of nouns, adjectives and pronouns, verbal structuring by mode and tenses. Subchapter 4.2 Languages in the same family can be very different explains why certain phonetic, accent, tone and intonation changes can make a group of languages belonging to the same branch sometimes seem very different. The substratum of a language is also important along with the influences it has suffered over time, which give it its unique sound.

Subchapter 4.3 From Latin to Romance languages presents briefly and in parallel the evolution of Western and Eastern Romance languages and what they took from classical Latin. Due to the great extent of the Roman Empire and the use of vernacular Latin as an international language, there are differences in pronunciation, grammar, and foreign influences from one region to another. 4.4 Languages related through loanwords continues the analysis of Latin as a classical and religious language along with Greek, with its strong influence over two millennia on European languages, Romance or not. First the religious vocabulary then the scientific and technical ones are largely based on Latin or Greek, given that schools promoted the study of these languages as a priority from the Middle Ages to the modern era. This phenomenon makes today's European scientific vocabulary almost universal, with little variation from one language to another. All Indo-European languages that use it are thus related.

Subchapter 4.5 The evolution of languages explains the evolution of Indo-European languages from different dialects and spellings to the gradual standardization that took place by adopting a certain alphabet, changing the alphabet used, establishing a standard pronunciation in written texts, and educated discourse. It also suggests a future evolution of languages based on a process of gradual simplification.

## **CHAPTER V - LINGUISTIC PARTICULARITIES**

This chapter addresses some defining linguistic features of Indo-European languages: word gender, declension, the complex Genitive case, verb modes and tenses.

Subchapter 5.1 About the origin of genders presents the important theories on the origin of word genders starting from the nineteenth century, with the Brothers Grimm's studies offering a philosophical view of them and dominating linguistics for almost a century to modern theories based on phonetic and morphological analysis. Comparative linguistic studies and the correct assessment of the age of certain languages have led to a more rigorous analysis of the evolution of genders from the common Indo-European into modern languages. Subchapter 5.2 Latin languages and their declensions focus on the evolution of Latin declensions in Romance

languages, representing a general evolution that has taken place in other language families as well. Of today's Romance languages, only Romanian keeps the declension of nouns, but pronouns are still declined in all of them.

Subchapter 5.3 The genitive as a way to (de)construct of the world analyzes this case and declension in the Slavic languages, in which it is used for more situations than just as a sign of possession. The small study conducted on the Genitive started from the problems encountered in teaching Russian as a foreign language to some speakers who either did not have the notion of syntactic cases at all or in which the Genitive represents only possession. In order to understand the linguistic logic behind this declension in Slavic languages, we made a small study that proposes viewing it as a way to structure the world, in which totality is divided into concrete or abstract parts yet maintains its connection with them. Namely, a glass of water would represent a piece of all the water in the world, just as the absence of a piece expressed by using the negative also shows not having a piece of the whole.

Subchapter 5.4 The expression of time through verbal modes and tenses presents the evolution of modes and tenses in Indo-European languages from ancient to modern languages. The correspondences between tenses and mode in the main branches of linguistic families are underlined, as well as the differences that have appeared in time. It is argued that even irregular conjugations have patterns if they are analyzed in parallel between several languages.

## **PART II - FORMING LANGUAGE SKILLS THROUGH NON-FORMAL EDUCATION IN ADULTS**

### **CHAPTER VI – THE METHODOLOGY OF THE PSYCHO-PEDAGOGICAL RESEARCH**

Subchapter 6.1 The purpose and objectives of the research present the framework of the research, namely non-formal language courses in the private sector, aimed at adult learners in the city of Cluj-Napoca. Its purpose: identifying specific learning needs and types of motivation in students, creating appropriate methods, classifying adult learners, applying of methods in class and analyzing the results.

6.2 Research questions offer more detailed aspects of non-formal education focused on language courses identifying the issues it faces. 6.3 The working hypothesis describes the general

hypothesis of the study: validating specific working tools, a scientific proof of their effectiveness, promoting them in adult education. It introduces the notion of language matrices as a teaching method. Subchapter 6.4 Aspects regarding sampling and sampling of subjects presents in detail the experimental group, adult learners of both sexes, aged between 21 and 65 years, most having higher education and being employed at the time of the study. These are people who have chosen to study languages in private.

6.5 The content sample describes aspects of the study of the languages on which the study focuses, mainly comprehension and grammar. The developed didactic technology serves especially these two aspects. 6.6 Methods and tools used in the research talk about the characteristics of the experiment. Students who were not informed that they were part of the study, the two questionnaires were given to identify their types of motivation and the degree of satisfaction at the end. Interviews were applied to case studies - students with special characteristics.

## **CHAPTER VII - MOTIVATIONAL PREMISES**

7.1 Aspects of motivation in adults in Romania - the motivation questionnaire presents the questionnaire with the same name found in the Annexes. It aims to identify the motivational factors of adults who choose to study languages in private, as well as some data about them: age, sex, social environment, education, profession.

Subchapter 7.2 Presenting and interpreting the motivation questionnaire provides concrete data on the number of respondents, their age, educational level, profession. Most of them are men and women between 20 and 45 years old, with higher education, employed, who had studied a foreign language in the past. They were motivated by professional obligations, career advancement opportunities, the study of an international language in the case of Romanians studying English. Foreigners studying Romanian had approximately the same socio-economic characteristics with the distinction that the number of men was higher than that of women. The main motivation was integrating into the community and family obligations.

Subchapter 7.3 Results in the post-test stage - the satisfaction questionnaire presents the data collected through the questionnaire with the same name found in the Annexes. Most of them were satisfied with the teacher's performance, the chosen textbooks, the place, and time of the course. About half still wanted another study module and were going to apply the knowledge acquired at work or in everyday life.

## **CHAPTER VIII - THEORETICAL AND METHODOLOGICAL ASPECTS OF EXPERIMENTAL INTERVENTION**

Chapter VII presents a method of teaching/learning foreign languages, concentrating mostly on Romanian and English but with examples from French and Russian. It is based on the analysis of the main European language branches: Romance, Germanic and Slavic. The suggested method eliminates syntactic analysis and structures grammar on morphological and phonetic linguistic patterns.

Subchapter 8.1 The didactics of Indo-European languages - Cases and declensions approach the phenomenon of declension from the point of view of its evolution as an internal logic of languages. The languages are divided into six stages, starting from the common Indo-European, not necessarily following their historical evolution but the types of cases and declensions that appear. This approach explains the emergence of the concept of gender in words, the emergence and disappearance of declensions in each part of speech and the role they play in communication. A syntactic analysis of the sentence is no longer needed to identify and understand the declension of words. Each declension form and preposition used communicates a certain meaning that can be logically deciphered.

Subchapter 8.2 Didactics of the Romanian language presents the teaching / learning methods based on linguistic matrices mainly and some phonetic or scriptural peculiarities.

8.2.1 Difficulties in writing the Romanian language offers a new division of the Romanian alphabet for non-native learners, which considers the Slavic influence, the transition from the Cyrillic to the Latin alphabet and the phonetic value of certain letters. The alphabet is divided into letters common to European languages, Slavic consonants, Slavic vowels and semi-vowels, rare letters, and the main groups of letters with a special pronunciation.

Subchapter 8.2.2 Ashes or Ashis - Slavic phonetic laws in a Latin language addresses the issue of the plural in Romanian, a very complex and difficult aspect in the language. Under the apparent chaos of forming the plural are hidden a series of laws inherited from Latin or influenced by Old Slavonic. The so-called law of alveolar fricative consonants or whistling consonants was partially transmitted to the Romanian language at a primitive stage of its evolution, mainly affecting the plural of feminine words. The subtlety of the law created phonetic tendencies not only for the fricative consonants set on the last syllable but also on the penultimate one for the

old, Latin, and Slavic words. The Latin influence in the plural is highlighted by the presence of long and short vowels, preserved in Romanian but lost in the other Romance languages.

Subchapter 8.2.3 Linguistic patterns in Romanian presents the linguistic matrices used in the teaching/learning process for verbs. Verbs in the present tense are divided into 13 groups, 3 for the subjunctive and 3 for the past participle, with the mention that in order to properly identify a verb group, the last two sounds of the infinitive must sometimes be taken into account. The auxiliary verbal forms used in creating a tense are presented together to make it easier to identify which forms change and which form remains the same.

Subchapter 8.2.4 The noun in Romanian presents the linguistic matrices both for the noun in the Nominative and Genitive-Dative cases, and for the adjectives that accompany it. The matrices are based mainly on the gender of the words but also on the phonetic laws from the previous chapter, which influence the Genitive declension.

Subchapter 8.3 Linguistic patterns in English present the linguistic matrices for English verbs, structured by tenses according to the auxiliary verb used in their creation. Unlike other presentations, the verb tenses appear in parallel with each other, to highlight the auxiliary used and the differences in nuance that the use of each brings. Modal verbs are approached separately. English has only one remaining declension for nouns, the Genitive.

8.4 Linguistic patterns in French is an additional subchapter, to exemplify the use of linguistic matrices in the teaching of other languages. In French, the declension of pronouns can be made into a matrix, as it is the only one left from Latin, along with the gender correlation between nouns and adjectives.

8.5 Linguistic patterns in Russian is another example of using matrices in teaching other languages, this time for correlating the verb tenses in Russian with those in Romanian. The structure of time is different in Slavic languages than in other Indo-European languages, a remnant of an older stage in their evolution. Translating them correctly from one language to another is difficult.

Subchapter 8.6 Monitoring tools - standard tests present some of the assessment tests used to determine the language level of students at the beginning, during or at the end of the study modules. Written tests assess knowledge of grammar, vocabulary, and comprehension.

8.7 The development and phases of the experiment include the experimental design divided into stages, operations/actions, and periods of development. It starts with consulting the specialized

bibliography, identifying the research sample, doing a pilot research, using motivation and satisfaction questionnaires, conducting the experiment, collecting data, analyzing it, and writing the thesis.

Subchapter 8.8 The results of the experimental stage presents the evaluation of the student groups' results and the evolution of their knowledge. The students are divided into three groups, those who studied Romanian starting from level 0, those who studied English starting from level 0 and those who studied English starting from level A1.1. The evaluation was done on four components: basic vocabulary, comprehension, grammar, and oral communication. The students' progress was recorded according to these components and presented in the form of tables and graphs of evolution. Foreigners who studied Romanian went through four study modules, some of them reaching the advanced B2 language level. The number of students did not remain constant during the 4 modules because some of them chose to quit the class. Progress was made on all components, but the best results were on comprehension and grammar. Students who studied English, regardless of the starting level, went through three modules and some of them reached the advanced B2 language level. Again, their numbers did not remain the same because some chose to quite the class. Progress has been made on all components here as well, with positive differences in comprehension and grammar. Given that matrix-based methods have been developed to serve these issues in particular, it is logical to note some differences.

8.9 Batch analysis compares the experimental group and the control group. There are positive differences for the experimental group on all analyzed components: basic vocabulary, comprehension, grammar, oral communication. The Chi square test is also calculated, which although too linear for this database, generates significant results on the comprehension and grammar side. Next, the arithmetic mean on these components is calculated, which takes into account the level of difficulty of each level and the decreasing number of students from one module to another. The best results are in Romanian – starting from level A1, English - starting from level A2 and B1, showing that matrix-based methods work best once there is a minimum knowledge of a language .

Subchapter 8.10 Difficulties and limitations in conducting the experiment present some possible shortcomings of the research, such as the reducing number of students from one module to another, setting a constant schedule during study modules, working in small groups or

individually. Due to these realities of non-formal education, the experiment lasted almost three years.

The subchapter 8.11 Conclusions regarding the experimental stage presents the main results of the didactic experiment in which the methods based on linguistic matrices were used. Given that they have been developed to serve particularly the development of comprehension and grammar, the comparative analysis shows that they work best on these components, but that the others are also influenced as integral parts of the learning process. Significant results appear in both Romanian and English, especially starting from level A1 and performing best on levels B1 and B2. The arithmetic mean also shows faster progress at these levels.

8.12 Suggestions for further research offer two directions for further research: in the digital field and in language didactics in formal education.

8.12.1 Possibilities of digitalizing linguistic patterns leads this research into the IT field, suggesting a way to disambiguate texts, improve machine translations and digital research based on the understanding of written language as a series of morphemes. Related languages have the same basic morphemes for the same notions, only vowels change. Thus, texts from different languages can be analyzed at the same time, without being translated before, if we reduce them to the basic morphemes and the relations between them. Then the morphemes in one language branch can be equated with those in another branch to create a network of morphological and syntactic relationships, which work no matter how similar or dissimilar two languages are. Declensions can also be deconstructed as morphemes and equated in meaning from one language to another. Applying these principles in specialized software can create a very powerful tool for multilingual analysis.

Subchapter 8.12.2 Dissemination of the matrices technique in formal education implies applying the method of linguistic matrices in language teaching in formal education, both in university and in pre-university schools as soon as students can think abstractly.

8.13 Case studies is a subchapter that presents three case studies of students with special skills and problems. The first two describe two women who had difficulty adapting to non-formal education as adults due to traumatic experiences in the formal school environment and how the teaching/learning process was approached in their case to help them overcome their emotional blockages. The third case describes a man with a very high level of intelligence, great higher education, yet who had difficulties in learning languages all his life. He had developed the

conviction that he had no skills for this, and it was this conviction that held him back. The lack of language ability was proven wrong eventually.

#### CHAPTER IV - CONCLUSIONS

6.1. The summary of the research data presents the main conclusions of the research, from the motivation and satisfaction questionnaires to the data resulting from the experiment. The method of teaching/learning through linguistic matrices is more efficient in the case of grammar and comprehension and can be adapted to the didactics of any language. Due to its logical structure, it is useful for adult learners because it meets their needs.

Subchapter 6.2. The value and limits of the research integrate the present research in the field of adult education and continuous education. It offers a new teaching/learning method used for Romanian and English but adaptable to any language, a new approach to understanding cases and declensions and the possibility of digitizing them in a multilingual analysis software. The limitations were due to the specifics of the non-formal education in which the experiment took place. At a higher level a pan-Indo-European didactics could be developed based on linguistic matrices through which several languages can be studied in parallel at the same time.