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*M. M. Pochynkova, SI “Luhansk Taras Shevchenko National University”*

**INNOVATIVE AND EDUCATIONAL ENVIRONMENT  
IN THE SYSTEM OF CRITICAL THINKING FORMING  
OF FUTURE PRIMARY SCHOOL TEACHERS**

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Pochynkova M. M.

Innovative and educational environment in the system of critical thinking forming of future primary school teachers

The views of researchers to the environment are analyzed, the content of this concept is exposed in the article. The definition "educational environment", its structure and also the concept "innovative educational environment" are analyzed. On the basis of analysis of scientific researches it is made generalization that the concept "innovative environment", as well as "educational environment", is examined mainly as a complex of certain conditions that provide educational process and herewith an accent is done on the conditions of development and self-development of personality, including professional one. The particularity of such environment is forming of innovative and creative thinking/ development of innovative resource of personality/ realization of innovative potential of educational establishment/ innovative activity in professional preparation of future specialists, id est the use and introduction of educational innovations.

It is marked that innovative and educational environment occupies the main place in the semantic and technological block of the developed system of work in relation to critical thinking forming in the process of professional preparation of future teachers of primary school in the structure of pedagogical system of a separate higher educational establishment. Within the limits of authorial research it is defined innovative and educational environment that assists critical thinking forming of future teachers of primary school in the process of professional preparation as totality of components that in integral co-operation create proper conditions for personal and professional development and becoming of professional competence with application of critical thinking technology.

*Key words:* environmental approach, environment, innovative environment, educational environment, critical thinking, future teachers of primary school.

Lately the modern system of higher education is subjected to substantial changes: there is its modernisation, realization of tasks of the National doctrine of

education development and others like that. The special attention in this process must be paid to the environment, where preparation of future specialists and in particular teachers of primary school is held.

Environmental approach, content, structure and conditions of educational environment, its influence on development of personality, essence and specific of innovative educational environment and others like that became the subject of research of many scientists, teachers and psychologists among that are A. Artiukhina, M. Basov, V. Bekhtieriev, P. Blonskyi, H. Vasyliiev, L. Vyhotskyi, N. Hladchenkova, N. Hontarovska, O. Humeniuk, V. Dokuchaieva, V. Zhelanova, O. Karaman, Yu. Koliutkin, V. Kornetov, N.Krylova, O. Lazurskyi, O. Leontiev, P. Lerner, M. Liakh, V. Madzihon, L. Novykova, S. Rubinstein, M. Sokolovskyi, S. Shatskyi, V. Yasvin and others.

In spite of great amount of researches, devoted to revealing the essence and structure of educational environment, the only generalized idea about it, its structural components and others like that are absent for today. It should be noted that here the views of researchers to definition or distinguished constituents do not conflict with each other and only bring in additions or clarification and reflect research specific. In our view, such situation allows each person to make choice of exactly those components for the construction of educational environment that will promote its most effective functioning.

Thus, the aim of our scientific research is determination of essence and structure of innovative and educational environment as a component of the system of critical thinking forming of future primary school teachers in the process of professional preparation.

Within the limits of our research description of educational environment acquires especially important value as its taking into account in the structure of pedagogical system, and also support on environmental approach, makes it possible to perform the first task of our research and experimental activity, such as *formation of innovative and educational environment that will promote to critical thinking forming of future primary school teachers in the process of professional preparation,*

that is basis for creation of the system of work with future primary school teachers and removal of basic contradiction of modern educational and pedagogical process between social order for modern primary school teacher and level of professional preparation of graduating students, future primary school teachers, in particular isolability of professional preparation from real conditions of future professional activity, id est absence of conditions for achievement of declared aim of the research to form critical thinking for future primary school teacher in the process of professional preparation and attain the expected result, such as formed critical thinking of future primary school teachers as soft skills that go through all general and professional competences of a modern specialist.

In other words exactly innovative and educational environment allows to convert the process of professional preparation of future primary school teachers on open pedagogical system, within the limits of that organization of educational process becomes possible with future primary school teachers, sent to forming of their critical thinking.

In accordance with the results of our theoretical research concerning the structure of pedagogical system of a separate higher educational establishment the innovative and educational environment occupies a main place in the semantical and technological block of the developed system of work concerning forming of critical thinking in the process of professional preparation of future primary school teachers.

It is logically to foresee that for determination of structural components of innovative and educational environment of critical thinking forming in the process of professional preparation of future primary school teachers, it is necessary to reveal basic definitions of our research and ground the choice of the type of educational environment. Let us pass to consideration of ideas about an environment.

The "environment" in the Academic explanatory dictionary of Ukrainian language is: 1. Substance, bodies that fill some space and have certain characteristics; sphere. 2. Totality of natural conditions where the vital functions of any organism takes place. 3. Social and domestic conditions of man's life; surroundings. Totality of people, bounded by community of vital conditions, activities, interests and so on. [1,

p. 137.]. Thus, a keyword in interpretation of the outlined concept are conditions, i.e. the environment, depending on its specificity, is considered as one or another corresponding conditions. The same interpretation is found in the Large definition dictionary, however, the types of environments, which are presented in it, we will give the ones that touch on our research: Outside environment is environment that surrounds an object. Nearby environment is totality of natural factors and objects of environment that have natural origin or development. Nearby environment (environment) is totality of natural, technogenic and social conditions of existence of human society. Technogenic environment is artificially created part of nearby environment that consists of technical and natural elements. Living environment is natural bodies and phenomena with that an organism enters into direct or mediated relations. Social environment is totality of people connected by community of vital conditions, activities, interests [2, p. 1309].

As our research touches on the sphere of education, then it is expedient to reveal the concept of educational environment that is widely sufficiently examined in modern scientific pedagogical literature. Researchers understand "educational environment" as:

- complex of social, cultural, and also specially organized in educational establishment conditions, in the result of their co-operation there is personality becoming (Yu. Kuliutkin, S. Tarasov) [3];

- system of influences and conditions of personality forming after the set standards, and also possibilities for personality development that is in social, spatial and subject surroundings (V. Yasvin) [4, p. 14];

- system of pedagogical and psychological conditions and influences that create possibilities both for revealing of interests and skills that have not been shown up yet and for skill developing that have already been shown up, and personality of those who studies, in accordance with inherent to each individual natural abilities and requirements of age-old socialization (V. Panov) [5];

– influence of conditions of education on a person that gets education, and influence of person that studies on conditions in which educational process is held (V. Kozyriev) [6];

– totality of material, pedagogical and psychological factors of higher school reality, that motivate the subjects of educational process to professional and personal development and self-development (V. Novikov) [7];

– complex of conditions-possibilities and resources (material, financial, personal, technological, organizational, reputation) for education of personality, that were composed purposefully in an establishment that fulfills educational functions in relation to giving higher professional education, provides possibilities for common cultural and personal development of subjects of educational process (M. Bratko) [8, p. 71].

As we can see from the presented determinations, firstly, educational environment is mainly presented as: the system of influences and conditions for education, educational process and others like that, secondly, such its characteristics (the system of influences and conditions), to our opinion, closely combines an educational environment not only with environment but also with the system approaches that are important for the construction of pedagogical system taking into account methodological approaches.

In the light of our research, we best of all appeal to determination of educational environment of higher educational establishment after L. Redko, that represents its professional constituent: educational environment is totality of possibilities for satisfaction of professional and educational necessities for becoming of his or her (future specialist – author's note) professional competence [9, p. 14]. Thus, it is possible to confirm that the educational environment of modern higher educational establishments predetermines directly influences on professional preparation of future specialists, in particular teachers of primary school.

However, the analysis of scientific pedagogical literature concerning educational environment allowed to educe another related definition – "innovative

educational environment". Let define common and different in these concepts, for this purpose let consider the ideas of scientists about it:

- complex of interrelated conditions, that provide a person with education, forming of personality of a teacher with innovative and creative thinking, his or her professional competence [10, p.8];

- totality of spiritual and material conditions of educational establishment functioning that provide self-development of a free active personality, realization of his or her creative potential and it can be considered as a model of sociocultural space where becoming of personality is [11, p. 18];

- pedagogical expediently organized space of life's activity that assists to development of innovative resource of personality; integrated means of accumulation and realization of innovative potential of educational establishment [12];

- the system of pedagogical conditions of personal and professional development of personality, that includes territory, within the limits of that operate the rules of innovative activity and newest ideas, original pedagogical technologies that are used in professional preparation of future specialists [13, p. 177].

Next to the concept "educational environment" we come across the concept "educational space". For greater certainty, not deepening in revealing its content, as it is not the subject of our research, we will mark that the concept "educational environment" is a bit narrower than the concept "educational space".

Thus, the concept "innovative environment", as well as "educational environment", is considered mainly as a complex of certain conditions that provide educational process, herewith an accent is done on the conditions of development and self-development of personality, including professional development. The feature of such environment is *forming of innovative and creative thinking/ development of innovative resource of a personality/ realization of innovative potential of educational establishment/ innovative activity in professional preparation of future specialists*, id est the use and introduction of educational innovation.

Continuing research, let pay attention to the features of environment that are defined by B. Ananiev who does not specify the type of environment though, but

does an accent on the point that structural components of educational environment directly touch on study of principal subjects: 1) it is a part of educational space that embraces all its structures that are in any case involved in the situations of principal subject studies and its properties are in a great deal determined by characteristics of external system; 2) it is a dynamic open social system that develops and owns internal mechanisms of functioning of development and self-development, herewith the feature of good organization of environment includes the processes of internal differentiation, as a result of that the flow of information, materials, energy, people gets organized according to its aims and functions; 3) has limits that depend on quality characteristics of its structural elements (from features of subjects of educational process, their activity, level of personal quality development, from the variety of methods and means, application in the process of studies, from intensity of processes that are conducted in the environment and others like that) [14].

Taking into account the theme of our research ("Critical thinking forming of future primary school teachers in the process of professional preparation") and taking into consideration scientific evidences on the issue of educational environment determination and its types, the most expedient will be the use of exactly innovative and educational environment of critical thinking forming of future primary school teachers as collection of components that in integral co-operation create proper conditions for professional and personal development and professional competence becoming with application of critical thinking technology. We consider the technology of critical thinking to be innovative for the system of higher education in Ukraine. Such position is supported by the opinion of V. Dokuchaieva who, investigating theoretical and methodological principles of innovative pedagogical systems designing, marks that "innovation" or "novelty", in accordance with the system conception of novelties, are specified both as such news and process of introduction of this news in practice [15, p.14].

According to the logic of our research it is necessary to consider the structural features of educational and innovative educational environment that will help us to define the authorial approaches to its structure: Yu. Kuliutkin and S. Tarasov

determine such possible components of the structure of educational environment of any educational establishment: spatial and semantic component (architectural and aesthetic organization of life space, symbolic space); semantic and methodical component (semantic sphere, forms and methods of organization of education); communicational and organizational component (particularities of subjects of educational environment, communicational sphere, organizational conditions) [3]; A. Kukh distinguishes the three-component structure of educational environment: subject and resource, material and technical, ideological and technological. The subject and resource component determines subjects of educational environment (students, teachers) and conditions of realization of their subject-to-subject cooperation. The material and technical component befits standard equipment. The ideological and technological component determines normative methodologies and technologies of achievement of the predicted results in studies [16, p. 74]; E. Zaredinova, examining scientific approaches to the representation of the structure of educational environment of educational establishment, distinguishes strategic, social and cultural, personal, value-based and semantic, subjective and pragmatist, communicative, technological components [17]; V. Panov examines pragmatist (technological), communicative, spatial and subject components) [5]; V. Novikov examines value-based and semantic, informative and semantic, organizational and pragmatist, spatial and subject components [7];

In turn, researchers exactly of innovative educational environment determine such structural components: L. Vashchenko pays attention to structure of innovative environment of separate region and determines an organizational and functional structure which involves strategy of education development of the region, tactics of forming of innovative processes, content of innovative environment of the region, organizational support, forecasting of education development of the region [18, p. 4]; O. Tsiuniak pays attention to humanistic approaches; content; presence of logistical support and effective use of scientific and methodical, material and technical possibilities of the establishment of higher education; complex of teaching and learning materials; tactics of forming of innovative processes in higher educational



establishment; subject-to-subject relations of all participants of educational process; self-perfection of personality and work in creative scientific and searching mode; application of innovative pedagogical technologies and ideas [13, p. 177]. O. Tsianiuk absolutely correctly determines interdependence between the use by a person of innovative educational environment and his or her self-development and personality professional becoming: professional becoming of future specialists is formed under the influence of educational environment, and vice versa educational environment is formed under the influence of active innovative activity of future teachers [13, p. 177], that once again underlines expediency of introduction exactly innovative and educational environment in our research. In behalf on the use of just the same environment also testifies that it is the effective factor of professional becoming of future teachers of primary school. So, the authors of "Social psychology of XXI century" mark that for forming of professional activity of a student it is needed certain system of influences and conditions, id est professional educational environment. The structure of any educational environment must be related to the structure of directly professional activity [19]. The analysis of scientific sources in relation to the structure of innovative educational environment witnessed that there is no unambiguous determination of structure of such environment for today. Thus, the analysis of scientific literature on the issue of research and authorial view on the structure of innovative and educational environment that we will use during forming of critical thinking in the process of professional preparation of future teachers of primary school allowed to distinguish next structural components:

*methodological* (introduction in the educational process of higher educational establishments of scientific and methodological approaches: system, axiological, culturological, subject and pragmatist, contextual, dialogic);

*subject-to-subject* (participants of educational process: teacher, student in the quantitative and quality measuring that have hierarchical and same-type connections; students and their parents, teachers with that students co-operate during pedagogical practice);

*programmatic and purposeful* (support on legislative documents "Law on higher education", state standards, educational programs, social ordering fulfillments);

*technological* (the use of technology of critical thinking development at the lessons on disciplines of professional nature);

*valued-base and motivational* (construction of the system of work with support on the common to all mankind, European, national values, forming of positive valued-base orientations, conditioning for motivation and personal interest in future professional activity);

*communicative and pragmatist* (successive bringing in of students to different types of activity (educational, quasiprofessional, educational and professional), forms, methods, means of co-operation, style of communication and behavior of subjects of educational process, interdisciplinary character of study);

*material* (infrastructure of higher educational establishment, material and technical base of higher educational establishment (classroom fund, access to information technologies, library resources, equipment of apartments, design) and teaching and learning materials).

Leading role in forming of unique innovative and educational environment belongs to subject-to-subject and technological components, as exactly their specific most influences on the structure and quality of environment.

Thus, the analysis of scientific and pedagogical literature on the issue of research allowed to make such generalizations: firstly, introduction of any pedagogical system needs creation of certain educational environment; secondly, educational and innovative educational environment are related concepts, where the concept "innovative environment", as well as "educational environment", is examined mainly as the complex of certain conditions that provide the educational process, sent to development and self-development of personality, including professional one. The specific of innovative environment consists in the use and introduction of educational innovations in it; thirdly, in our research we will use the concept „innovative and educational environment of critical thinking forming of future teachers of primary

school" as totality of components, that in integral co-operation create proper conditions for professional and personality development and becoming of professional competence, with application of technology of critical thinking; fourthly, the structure of such environment consists of methodological, programmatic and purposeful, technological, valued-motivational, communicative and pragmatist, subject-to-subject and material components.

We see the prospects of further research in experimental verification of introduction efficiency of the system of critical thinking forming in the process of professional preparation of future teachers of primary school and presentation of its results.

### References

1. **Slovnyk** ukraiinskoi movy: v 11 tomakh [Dictionary of Ukrainian language: in 11 volumes]. Kyiv : *Nauk. dumka*, 1970–1980. Vol. 9. 1978. 916 p. [ukr].

2. **Velykyi** tlumachnyi slovnyk suchasnoi ukrainskoi movu: [Large definition dictionary of modern Ukrainian language: 250000 / compiler and chief editor V. T. Busel]. Kyiv; Irpin: *Perun*, 2005. VIII, 1728 p. [ukr].

3. **Kuliutkin Yu.**, Tarasov S. Obrazovatelnaia sreda i razvitiie lichnosti [Educational environment and personality development] 2000. URL: [www.znanie.org/jornal/n1\\_01/obraz\\_sreda.html](http://www.znanie.org/jornal/n1_01/obraz_sreda.html). [rus].

4. **Yasvin V.** Obrazovatelnaia sreda: ot modelirovaniia k proektirovaniu [Educational environment: from modelling to projection]. Moskva: *Smysl*, 2001. 365 p. [rus].

5. **Panov V.** Psikhodidaktika obrazovatelnykh sistem: teoriia i praktika [Psycho-didactics of educational systems: theory and practice]. Sankt-Peterburg.: *Piter*, 2007. 352 p. [rus].

6. **Kozyriev V. A.** Postroieniie modeli gumanitarnoi obrazovatelnoi sistemy [Modeling of humanitarian educational environment]. URL: [http://www.unialtai.ru/Journal/pedagog/pedagog\\_7/a06.html](http://www.unialtai.ru/Journal/pedagog/pedagog_7/a06.html). [rus].

7. **Novikov V. N.** Obrazovatelnaia sreda vuza kak professionalno i lichnostno-stimuliruiushchii factor. [Educational environment of higher educational establishment as professional and personal stimulative factor. URL: [http://psyedu.ru/files/articles/psyedu\\_ru\\_2012\\_1\\_2776.pdf](http://psyedu.ru/files/articles/psyedu_ru_2012_1_2776.pdf). [rus].

8. **Bratko M.** Struktura osvitnoho seredovysshcha vyshchoho navchalnoho zakladu [Structure of educational environment of higher educational establishment]. *Naukovi zapysky*. Serii: Pedagogichni nauky. Issue 135. Pp. 67–72. [ukr].

9. **Redko L. L.** Sotsyalno-obrazovatelnaia model pedkolledzha kak sredy samorazvitiia lichnosti v nauchno-obrazovatelnom komplekse [Social and educational model of pedagogical college as an environment of personal self-development in academic complex] Author's abstract. candidate of pedagogical sciences]. Rostov-na-Donu, 1996. 27 p. [rus].

10. **Razina N. O.** Akmeologichni pidkhid do rozvytku profesionalizmu suchasnoho pedahoha v osvitnomu seredovysshchi serednoi shkoly [Acmeological approach to development of a modern teacher professionalism in innovative educational environment of secondary school]. *Visnyk naukovoï shkoly vchyteliv*. 2009. Issue 3. [ukr].

11. **Katashov A. I.** Pedagogichni osnovy rozvytku innovatsiinoho seredovysshcha suchasnoho litseiu [Pedagogical bases of development of innovative environment of a modern lyceum]. Author's abstract of a candidate of pedagogical sciences. Luhansk, 2001. 20 p. [ukr].

12. **Shapran O. I.** Stvorennia innovatsiinoho osvitnoho seredovysshcha v protsesi profesiinoi pidhotovky maibutnoho vchytelia [Creation of innovative educational environment in the process of professional preparation of a future teacher]. URL: <http://www.sportpedagogy.org.ua/html/journal/2010-09/10soitpt.pdf>. [ukr].

13. **Tsiuniak O. P.** Innovatsiine osvitnie seredovysshche yak chynnyk profesiinoho stanovlennia maibutnikh mahistriv pochatkovoï osvity [Innovative educational environment as a factor of professional becoming of future masters of

primary education]. *Innovatsiina pedahohika*. Issue 14. Vol. 1. 2019. Pp. 175–178. [ukr].

14. **Ananiev V. N.** O problemah sovremennogo chelovekosoznaniia [About problems of modern human facilities]. Sankt Peterburg: *Piter*, 2001. 272 p. [rus].

15. **Dokuchaieva V. V.** Teoretyko-metodolohichni zasady proektuvannia innovatsiinykh pedahohichnykh system [Theoretical and methodological principles of innovative pedagogical systems designing] Author's abstract of a doctor of pedagogical sciences]. Luhansk. 2007. 44 p. [ukr].

16. **Kukh A. M.** Osvitnie seredovyshe v strukturi innovatsiinoi systemy fakhovoi pidhotovky maibutnykh uchyteliv fizyky [Educational environment in the structure of innovative system of professional preparation of future physics teachers]. Predmetni dydaktyky v konteksti formuvannia kompetentnisno-svitohliadnykh profesiinykh yakostei maibutnioho fakhivtsia. Part 2. 2008. Pp. 73–76. [ukr].

17. **Zaredinova E.** Osvitnie seredovyshe vyshchoho navchalnoho zakladu: naukovi pidkhody do traktuvannia struktury [Educational environment of higher educational establishment: scientific approaches to interpretation of structure]. *Visnyk Natsionalnoho aviatsiinoho universytetu. Journal of National Aviation University. Seria Pedahohika, psykholohiia*. 2017. № 11. URL: <http://jrn1.nau.edu.ua/index.php/VisnikPP/article/view/12552>. [ukr].

18. **Vashchenko L.** Rivni rozvytku innovatsiinoho seredovyscha [Levels of development of innovative environment]. *Dyrektor shkoly*. 2008. No 5. Pp. 3–4. [ukr].

19. **Sotsyalnaia psihologiiia XXI veka** [Social psychology of XXI century]. Vol. 1. Yaroslavl, 2005. 316 p. URL: <http://rudocs.exdat.com/docs/index-46846.html?page=21>. [rus].

Починкова М. М.

Інноваційно-освітнє середовище в системі формування критичного мислення майбутніх учителів початкової школи

У статті проаналізовано погляди дослідників на середовище, розкрито зміст цього поняття. Проаналізовано дефініцію „освітнє середовище”, його структуру, а також поняття „інноваційне освітнє середовище”. На підставі

аналізу наукових досліджень зроблено узагальнення що поняття „інноваційне середовище”, як і „освітнє середовище”, розглядається переважно як комплекс певних умов, що забезпечують освітній процес, при цьому робиться акцент на умовах розвитку та саморозвитку особистості, у тому числі й професійному. Особливістю ж такого середовища є формування інноваційно-творчого мислення/ розвиток інноваційного ресурсу особистості/ реалізація інноваційного потенціалу навчального закладу/ інноваційна діяльність у професійній підготовці майбутніх фахівців, тобто використання та впровадження освітніх інновацій.

Зазначено, що у структурі педагогічної системи окремого ЗВО інноваційно-освітнє середовище посідає чільне місце в змістово-технологічному блоці розробленої системи роботи щодо формування критичного мислення у процесі професійної підготовки майбутніх учителів початкової школи. У межах авторського дослідження визначено інноваційно-освітнє середовище, що сприяє формуванню критичного мислення майбутніх учителів початкової школи у процесі професійної підготовки як сукупність компонентів, що у цілісній взаємодії створюють належні умови для особистісно-професійного розвитку та становлення професійної компетентності із застосуванням технології критичного мислення.

*Ключові слова:* середовищний підхід, середовище, інноваційне середовище, освітнє середовище, критичне мислення, майбутні учителі початкової школи.

Починков М. М.

Инновационно-образовательная среда в системе формирования критического мышления будущих учителей начальной школы

В статье проанализированы взгляды исследователей на среду, раскрыто содержание этого понятия. Проанализирована дефиниция «образовательная среда», его структуру, а также понятие «инновационная образовательная среда». На основании анализа научных исследований сделано обобщение что понятие «инновационная среда», как и «образовательная среда», рассматривается преимущественно как комплекс определенных условий, обеспечивающих образовательный процесс, при этом делается акцент на условиях развития и саморазвития личности, в том числе и профессиональной. Особенностью же такой среды является формирование инновационно-творческого мышления / развитие инновационного ресурса личности / реализация инновационного потенциала учебного заведения / инновационная деятельность в профессиональной подготовке будущих специалистов, то есть использование и внедрение образовательных инноваций.

Отмечено, что в структуре педагогической системы отдельного ВУЗа инновационно-образовательная среда занимает ведущее место в содержательно-технологическом блоке разработанной системы работы по формированию критического мышления в процессе профессиональной подготовки будущих учителей начальной школы. В рамках авторского исследования определено инновационно-образовательную среду,

способствующую формированию критического мышления будущих учителей начальной школы в процессе профессиональной подготовки, как совокупность компонентов, которые в целостной взаимодействия создают надлежащие условия для личностно-профессионального развития и становления профессиональной компетентности с применением технологии критического мышления.

*Ключевые слова:* среда, инновационная среда, образовательная среда, критическое мышление, будущие учителя начальной школы.

#### Information about the author

*Pochynkova Mariia Mykolaivna* – Associate Professor of the Department of Philological Disciplines of Educational and Research Institute of Pedagogy and Psychology SI “Luhansk Taras Shevchenko National University”. ORCID 0000-0002-1383-7470

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Reviewer – O. L. Karaman, Doctor of Pedagogical Sciences, Professor