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Competence-Oriented Independent Work of Students in Higher Education Institutions: Characteristics, Content and Organization

Nazym Toleubekovna Ualiyeva[1]*, Alma Zhakimovna Murzalinova[2], Tatyana Pavlovna Kucher[3]

[1]Kazakh National Pedagogical University named after Abay, 050010, Almaty, Dostyk Ave 13, Republic of Kazakhstan, [2]JSC "NCPD" Orleu", Institute for Professional Development of Pedagogical Staff, 69A, Mira street, Petropavlovsk 150000, North-Kazakhstan Region, Republic of Kazakhstan, [3]North Kazakhstan State University named after Manash Kozybayev, 150000, Petropavlovsk, Pushkin str. 86, Republic of Kazakhstan. *Email: nazym.t.ualiyeva@gmail.com

ABSTRACT

The purpose of this study involves characterization of competence-oriented independent work of students in the higher education institution and its effective organization within the framework of the competence-based training. According to the results of the study the characteristics and the content of independent work under study have been established, learning and teaching support materials have been presented. In accordance with the developed theoretical bases of the organization the competence-oriented independent work of students studying at the faculty "pedagogy and methodology of primary education" has been defined and the influence of self-education and self-development skills on the development of students' professional competence has been established. The personal importance of independent work as a sustainable motive for the future professional activity has been confirmed. The main conclusion is that the Students' independent work is oriented to the creation of conditions for the gradual formation of the following groups of motives for independent educational-cognitive activity and educational research: Self-realization, achievement, social belonging, and status.

Keywords: Competence-based Approach to Training, Competence-oriented Students' Independent Work, Learning and Teaching Support Materials, Training and Professional Task
JEL Classifications: I20, I25, I26

1. INTRODUCTION

The strategy of continuing self-education and self-development of a person, based on effectively organized and managed independent work, which resulted in professional competence, must be introduced into the paradigm of modern socio-economic development of the state. In this regard, we emphasize the importance of the intensive study of the problem of a "self-generated" person, which "arose in discussing problems of continuing education and advanced training that cannot be considered outside the context of self-education" (Balikaeva, 2007).

Thus, in the research literature there are concepts reflecting the driving mechanisms of the independent work: "Self-directed learning" (Theoretical analysis of these concepts allowed us to justify the psychological basis for the organization of independent work of students studying at the Kazakhstan university, namely: Student's self-organization of personalized learning environment, interaction with which: (a) Is determined by self-regulation of learning activities and work in this environment, (b) is motivated by success in self-realization and by training-educational and scientific research achievements, (c) is focused on formation of key competences as an integrative system of knowledge and skills aimed at professional-oriented tasks and gaining

experience of independent cognitive activity necessary for social and professional adaptation, (d) is supported by the need for the systematic education as a way of life.

Psychological problems of the organization of independent work are considered in the works of Eisenberg, Batarsheva, Garanina, Demidenko, Zimnyaya, Ordabayeva, Talyzina.

In our study the conceptual provisions of the works of the mentioned authors have been further developed. Thus, it was found that self-education is an expected result of the student's self-organization of personal educational environment. In turn, the development of the self-education in terms oa student's independent work (SIW) (SIW is carried out through the processes of self-knowledge, self-control, self-reflection, self-esteem, self-control, self-realization. Self-knowledge provides the student with instructional information about what knowledge, skills, abilities and personal qualities are needed for further personal and professional self-development. Self-control is a set of skills of self-control, self-reflection, self-esteem and self-correction of results of SIW at a certain stage in order to anticipate the new challenges of self-education. At the same time, self-control means conscious control of one's own cognitive and practical activities, providing the depth and strength of student's assimilation of studied knowledge, the formation of relevant skills, the ways of further improvement of independent activities. Implementation of self-control leads to certain results, upon which the student analyzes the quality of self-education. As a result of self-reflection of the content of self-education the student appears to have a certain opinion about the quality of the work done, the results obtained. Finally, all these self-processes are the basis for professional competency. This conclusion confirms the validity of the organization of independent work of the student studying at the university on the competence-based approach.

Researchers involved in studying the problem of independent work with regard to the high educational institution (Abylkasymova, Alisultanova, Archangelsky, Balikaeva, Veselyaeva, Garanina, Garunov, George, Gilmanshina, Zimnyaya, Ilyina, Molibog, Nizamov, Pidkasistiy, Tryapitsyna, Fomin, Chekaleva) have different opinions and consider SIW as: (a) A type of training activity, stimulating activity, independence, cognitive interest, and (b) a basis of self-education, a push to further training, (c) a system of measures and pedagogical conditions providing control over students' independent activity, (d) a learning tool, (e) a teaching method, (f) a form of educational activity.

A variety of approaches to the interpretation of the essence of independent work can be explained by the fact that the definition of the concept is dynamic and multifaceted. Its value is transformed in accordance with the modernization of education and considered from different points of view.

System modernization of education is connected with the transition to a competence model of education and professional training.

A competence direction of modernization of the educational system is represented in the studies carried out by Baydenko, Balashova, Balikaeva, Bondarevskaya, Dneprovskaya, Zeer, Zimnyaya, Irincheev, Kozyrev, Kolpakova, Krukova, Lebedev, Levitskaya, Mirzahmetov, Pertseva, Radionova, Serikov, Slautina, Tretyakov, and others.

The context-competence approach is currently developed - it is such a combination of objective and social content of the future professional activity, which creates the conditions for the transfer of educational activity of students in the professional activity (Zimnyaya, Raven, Serikov, Chekaleva).

In the study, we took into account the main provisions of the works of the mentioned authors. In addition, we expanded understanding of the competence-based approach to teaching in high educational institutions, taking into account the conditions of the organization of educational process in higher educational institutions of Kazakhstan and suggesting the organization of independent work, which: (a) Meets the philosophy of global education, (b) is adequate to the logic of the competence-based model of education, and (c) takes into account the needs of social practice for a person who has an ability to navigate in a rapidly changing present and uncertain future.

Our understanding of independent work in terms of the competence-based approach to teaching is presented in the form of denotant graph in Figure 1.

Thus, the problem of organization of competence-oriented SIW is a current problem for the vocational training system. Thus, according to Serikov, "strengthening the position of a student as the subject of his/her education" is currently in demand (Serikov, 2008). "Creative motivation, individual style of educational and research activities, self-actualization, self-control, self-management, self-development and other personal qualities of the future specialist" occurs in the process of independent activity (Fomin, 2012).

Organization of competence-oriented SIW contributes to the resolution of contradictions:

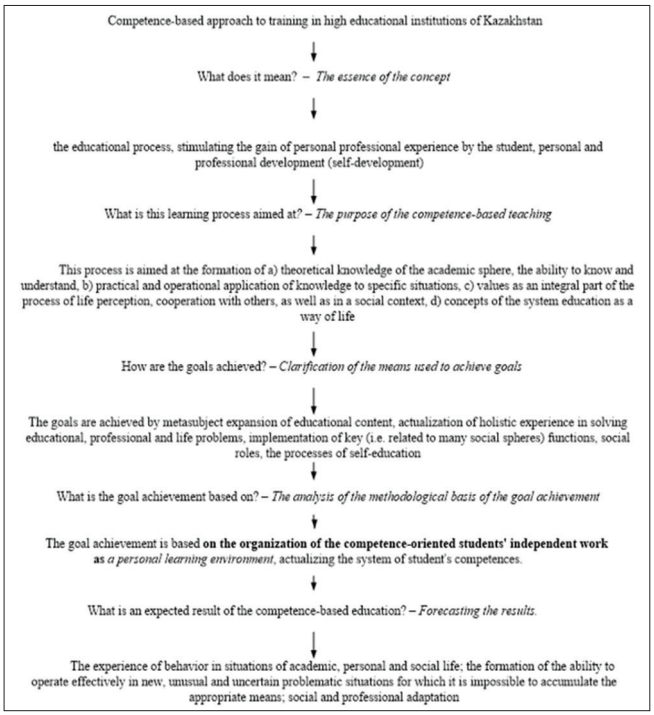
- Between the adoption of the competence-based training and preservation of the leading role of the teaching over SIW in practice;
- Between the leading role of SIW in competence-based training and narrowing SIW functions in the practice of the educational process;
- Between the need to control SIW within the framework of competence-based training and insufficient development of this problem in the theory and practice of the educational system in higher education institutions;
- Between the capabilities of SIW, organically completing the tasks of all kinds of training activities and motivating creative activity, and its organization outside the system-activity approach, i.e., without conditions related to the motivational, procedural and technological support of independent cognitive activity of students.

2. METHODS

2.1. Characteristics of the Competence-Oriented SIW

Ilyina justifies the competence-oriented nature of SIW as follows: "... Independent work on the formation of common cultural and

Figure 1: The denotant graph to the concept "the competence-based approach to teaching in high educational institutions



professional competences of students can be characterized as competence-oriented, designed to develop students' professional competence, conditioned by the professional tasks, structure and content of future professional activities" (Ilyina, 2010).

During the study we clarified the following: Competence-oriented SIW is characterized by students' self-management, over their independent activity in personal educational environment, so that a student can be aware of the motive, according to which he/she formulates the goal, develops a program of actions, implements plans, monitors the results of his/her actions.

Let us consider the content of the competence-oriented SIW, taking into account the following features.

Variability, differentiated and individualized nature of the proposed training and professional tasks of SIW, as well as the right of a student to choose tasks and exercises.

We consider the position of Shustova important as she requires the SIW tasks to be variable and multi-level: "They allow to simulate not only the scientific and cognitive activity, but also the actual personality functions of students: Orientation, creative and transformative functions, as well as responsibility for the decisions made, the ability to group interaction" (Shustova, 2012).

The teacher should follow such logic in the development and presentation of tasks, which focuses on the promotion of a student by way of an individual educational route: From reproducing - to self-algorithmic - further to creative - and finally, to research tasks. For example:

- Reproducing tasks include the analysis of the sources of information and note-taking of the educational materials, review of electronic sources for an individually given problem, listening to audio and video lectures, classification of view points on the issue;
- Self-algorithmic tasks include the selection of literature on issues of the discipline, compiling a bibliography on a given topic, making comparative tables, construction of problematic issues, preparation of messages, speeches at seminars and workshops;
- Creative tasks include the creation of visual aids, logic schemes on the studied topics, preparation and defence of presentations, case study and preparation of the analytical note, essay writing, preparing for the role and business games, participation in these games, portfolio maintenance;
- Research tasks include analytical processing of the text (annotation, review, referencing, content analysis, etc.), fulfillment of tasks of the practice, writing scientific articles, reports, theses, participation in conferences, preparation of projects, experimental studies.

Actualization of mandatory reflection of a particular type (personal, intellectual, communicative, cooperative types) at each SIW lesson.

Let us justify this feature by reasoning provided by Fedorova: "Reflection is a mechanism of transition of any educational problem (task) out of the outer plane towards the student into the inner plane, where the problem acquires personal meaning for its solution. Moreover, the process of self-analysis, self-assessment, self-regulation, self-organization, which occurs in the process of reflection in solving an educational problem, form a constituent part of the educational independent activity. Consequently, reflection is the basis of the implementation of educational independent activities of students" (Fedorova, 2010).

Orientation of SIW tasks and exercises to subject and personal educational results of students.

We associate such results with the formation of skills, abilities, competences expressed in SIW products. At teacher-led (TL) SIW classes we should strive to account, detect, analyze and monitor the subject and personal educational results. The monitoring results are the basis of the assessment of SIW.

The ability to design the individual educational route is provided by the formation of the student's portfolio, which reflects his/her, personal, professional and academic achievements in the process of independent work.

SIW is oriented to success, as its main purpose is professional and personal development of students, providing a variety of opportunities for developing their skills and talents, which corresponds to the essence of the competence.

The assessment of SIW tasks is carried out in accordance with the principles of module-rating assessment system, involving

the following: (a) The scheme-based principle of structuring the content of learning, (b) the gradual target assimilation of the scheme with a high level of student's independence, (c) the correctional type of SIW control, (d) the form of the rating control.

Module-rating assessment system allows to "implement mechanisms for quality assurance and assessment of learning results. The score-rating system of assessment of knowledge and skills is the basis of this system. The difference of module-rating system of assessment of knowledge and skills from the score-rating one is that the ranking of a student is based on modular training for each module of the course and depends on the nature of the content (theoretical and practical) of the module" (Kutukova and Prokhorov, 2010).

We offer a complete four-step organization of the current, midterm and intermediate assessment of students' educational achievements.

Forms of the current assessment of students' educational achievements included in the SIW tasks: (a) Different types of terminological analysis (extraction of the thesaurus - conceptual cluster - denotative graph - development of a definition for the specific conditions of the study); (b) different types of the analysis of educational materials (supportive notes on the material - topical presentation on the material - Ishikawa diagram to the phenomenon - SWOT-analysis.

Forms of midterm assessment are as follows: Colloquium - presentation of essays on the problems of the course - a discussion with the division of intellectual functions - the defence of the research project on the course.

We offer the defence of the portfolio of the students' academic achievements as the midterm assessment. Students working on the portfolio fulfill the following requirements:

- Self-assessment of the results of independent cognitive, educational and research activities;
- Systematic and regular self-monitoring of the quality of the course assimilation;
- Textual, diagrammatic, tabular, figurative and metaphorical structuring of materials, consistency and conciseness of explanations;
- Professional orientation of materials of the portfolio;
- Integrity and thematic completeness of the materials provided;
- Functional visibility and validity of electronic presentation to these materials.

2.2. Learning and Teaching Support Materials of the Competence Oriented SIW

In our study the development of learning and teaching support materials of the competence-oriented SIW is subject to creation of the conditions contributing to the "students' awareness of the need for independent acquisition and upgrading of their knowledge, hard work, self-development and self-improvement" (Alisultanova, 2012).

Let us consider the peculiarities of learning and teaching support materials of the competence-oriented SIW (Murzalinova and Ualieva, 2013).

Selection of materials for SIW and its structuring within the educational complex of the discipline in accordance with the following principles: (a) Relevance, scientific character, professional orientation; (b) stimulating the development of the personality and talents, focus on results and their practical implication; (c) informatization of education, educational cooperation, diversity of the tasks. In the selection of materials the sequence of lessons should be taken into account: Lecture - TL SIW - practical training - TL SIW - lab - TL SIW, as well as an additional amount of SIW, defined as the amount of classroom hours. SIW materials structuring includes the following components: (a) The theme (b) the relevance of the SIW content; (c) the purpose and expected results of the implementation, (d) reporting form, (e) the criteria of quality of performance, (f) recommended reading.

Annotation of SIW tasks during the lecture anticipates the tasks implementation and introduces students into the system and the logic of the educational material, motivates them to plan educational informative and research activities, as well as to the timing of individual educational paths.

During the annotation the teacher focuses on the fact that the students have the right to perform independently developed tasks, provided that their significance for personal and professional self-development is justified.

Our pedagogical practice allows warning against the phenomenon of stereotype in the independent choice of the students when from one lesson to another they choose to prepare an electronic presentation on the basis of Internet resources, complementing the lecture materials. At the beginning of the course study such choice can be explained. Subsequently, it contradicts the SIW productivity: This presentation should not be presented and perceived as a proper product of a student learning that transfers knowledge and skills into the sphere of professional-oriented practice.

The organizational and didactic step of each TL SIW class is the process during which a student independently determines the expected results by the following questionnaire:

When performing SIW tasks:

I am more prepared for the formation of instrumental competences: The ability to analyze, the ability to organize and plan, communication skills, abilities to manage information, abilities to solve problems, abilities to make decisions;

I am more prepared for the formation of interpersonal competences: The ability to criticism and self-criticism, the ability to work in a team, the ability to interact with students, teachers, other experts, the ability to perceive the diversity of the participants of educational cooperation and their cross-cultural differences, the ability to rely on ethical values and principles, beliefs;

I am more prepared for the formation of the systemic competences: The ability to apply knowledge in practice, research skills, the ability to adapt to new situations, the ability to generate new ideas,

leadership ability, the ability to achieve success, the responsibility for quality.

The analysis of the degree of manifestation of the expected results at the final TL SIW class. Such an analysis allows to specify the ratio of the planned and performed SIW, quality of performance, the manifestations of functional literacy of a student, difficulties in the tasks implementation, corrective actions of a student.

Training and professional tasks serve as modular units that structure the content of the competence-oriented SIW.

The value of the selection of the educational content is determined by the teacher's necessity to make on-the-spot decisions of pedagogical problems. Chekaleva characterizes this ability as "a complete state of a person expressing his/her mind, thinking style, professional position and distinct orientation, manifested in motivational and value attitude to teaching" (Chekaleva, 2008).

In the training and professional tasks the holistic view of life should be presented as it focuses on a problem-pedagogical situation, the solution of which requires subject and professional knowledge.

3. RESULTS

In the research process we have determined the conditions for the organization of the competence-oriented SIW.

The first condition is a change in the content and methods of SIW in accordance with the purposes and objectives of study at each stage: Initial (1st year), medium (2-3rd year) graduation (4th year), as shown in Table 1.

While the content and methods of SIW become more complicated the organization of training activities in the dialog learning format remains unchanged. We should note that Garanina marks out the SIW dialog basis in her definition: 'This is the way to develop creative potentials and to form collaboration, "co-creation" and dialogue between teachers and students in educational process' (Garanina, 2012).

Such organization of educational activity creates conditions for multilateral vision of knowledge itself, which becomes an instrument of cooperation or the purpose of the joint activity. Consequently, the learning process simulates the real-life conditions of human cognitive activity. Irincheev explains the reason for this effective modeling: 'External component of the development of professional competence of students is dialogic communication in the system "teacher - student," "student - student," "student-to-computer;" where in the interaction between the teacher and the student the effect of friend dominance is achieved, which is inherent in the underlying pedagogical communication, characterized by mutual acceptance, mutual understanding, mutual trust' (Irincheev, 2012).

The use of game technology is another feature of the organization of the competence-oriented SIW. In this case, the SIW acts as a kind of game, which doesn't mean achieving the goal as the "usual work" does, but the free expression of creative powers, the ability to learn and solve educational and professional objectives, freed from utilitarian purposes.

Structuring is the second condition of the competence-oriented SIW which is reflected in Table 2.

When organizing the competence oriented SIW considering its components we should take into account the position of George: "... First, the transfer of the core content of training programs to the plane of student's self-activity requires careful preparation, the acquisition of various skills of self-education. Secondly, we need clear guidance and advice on various types of independent work under the program of the discipline... Thirdly, it is necessary to create a transparent system of control and accounting of progress" (George, 2011).

The third condition is related to the previous one: SIW structuring, which takes into account motivational, organizational, performance, reflective, control components and involves the activation of cognitive activity of students.

Petunin, resetting the problem of enhancing the cognitive independence of students, gives us the following definition of the concept: "The process of systematic and targeted subject-coordinated interaction of the teacher and the student, aimed at improving the content, forms, methods and means of teaching and learning to promote cognitive interest, increasing autonomy of young people in learning activities, acquisition of knowledge, development of skills and their application in practice" (Petunin, 2010).

So, competence-oriented SIW is focused on the development of the essential areas of the student's personality.

Intellectual sphere includes the types and styles of thinking, cognitive processes, cognitive functions and cognitive skills, learning to learn skills, subject-specific and interdisciplinary knowledge and other abilities and skills. Preferred methods in the TL SIW activities include the problem statement, research, self-control, conference, design, modeling, reflection, intellectual (cognitive) type, etc.

Motivational sphere includes the needs, motives, interests, beliefs, aspirations, desire, wishes and values of the personality. Preferred methods in the TL SIW activities include the development and presentation of an essay, design, writing and preparing articles for publication, participation in competitions of professional orientation, personal reflection type.

Emotional sphere includes emotions, feelings, self-esteem, determines the anxiety of the student's personality. Preferred methods in the TL SIW activities include stimulating and motivating teaching (creating emotional moral feelings, situations, novelty, surprise, urgency; creating a situation of success in SIW; case study, personal reflection type).

Volitional sphere defines the commitment, initiative, determination, perseverance, independence and student's self-discipline.

Table 1: Correlation of SIW content and methods with aims and objectives of training

No.	Stage of training	Aim of the stage of training	Demanded skills and abilities	Required content of SIW	SIW methods
1.	Initial (1st year)	Adaptation to the new socio-psychological context of the university learning environment	Skills of self-expression, building new relationships with fellow students and teachers, self-determination in the new social role of the student	Intra-group interaction, dialogue, discussion, presentation of position	Game technology, educational dialogue, group work, discussion
2.	Medium (2-3rd year)	Self-identification of students in their chosen profession	Skills of proper capabilities assessment, planning of future professional activity	Modeling, reflection	Case studies, role-playing and business games, development and validation of the models with the subsequent reflection of their quality
3.	Graduation (4th year)	Search for your own professional development	Skills of functional literacy (creative application of knowledge in practice)	Project development, study	Development and protection projects, the presentation of results of experimental work

SIW: Students' independent work

Table 2: Structuring SIW in the logic of the competence-based approach

No.	SIW component	Updating skills, abilities, personal qualities	Didactic characteristics of the competence-oriented SIW	Components of competence
1.	Motivational component	The ability to enhance positive intentional experience (preferences, beliefs, mindsets); personal qualities: to see meaning in the work done; to maintain a high level of motivation at all stages of SIW through the use of stimulation techniques and adjusting own intelligence	The creation of the problem situation - the problem, which is based on a contradiction that violates the usual course of thought, creating a shortage of information requiring immediate overcoming	Value-meaning attitude to the content of the activity, its personal significance
2	Organizational component	The ability to determine the scope and phases of work, to formulate the tasks of each stage, identify temporal, spatial, informational resources and tools of educational environment; personal quality management	The transition from the problem situation to the training task which is the reflection of personal and subject-specific tasks for which the student himself/herself or with the help of a teacher chooses temporal, spatial, informational, and other resources	Emotional-volitional regulation of activities
3.	Performing component	Basic subject knowledge and skills; the ability to define the boundaries of the known and the unknown; ability to analyze and synthesize educational information; comparison, generalization, abstraction of the information received, transforming-productive activities; personal quality of creative attitude to work	Orientation of the student in the task situation – In recognition which is described in the problem phenomena and finding the funds that could change the situation and produce a result. Since the solution of the problem is the thought process, the source of orientation is the concepts and laws that reveal the essence of the phenomenon. To solve the learning task means to extract knowledge by applying proven methods of activity, appropriate to the essence of occurring phenomena. The set of representations of these ways is a tentative framework of actions for the solution of the problem	Knowledge of tools, techniques, programs, perform actions, solving educational tasks; experience and ways of transforming activity
4.	Reflexive component	Personal qualities of a critical attitude to the actions and the result of the activity; the ability to relate knowledge about own possibilities and the likely change in the objective world and oneself with the requirements of the SIW and its objectives	Analysis of the student's own style, approach, his/her system of work in the process of tasks solving	The need to express oneself at work; individualization of activity style
5.	Control component	The ability to select and apply adequate methods and techniques for assessing the product of SIW; the ability to evaluate the quality of the SIW stages and its final product; personal quality of self-evaluation of the achieved level in the application of internal and external resources for professional problems solving	student's analysis of the product created in the course of educational tasks solving; student's analysis of solutions, the ability to combine them and to discover new ways of learning tasks solving	Self-esteem, the ability to act in various problem situations

SIW: Students' independent work

Preferred methods in the TL SIW activities include role-playing, simulation and business games, communicative and cooperative types of reflection.

The scope of self-regulation determines the person's management of his/her mental and physical states, regulation of the level of his/her physical and mental state in the SIW process. Preferred methods in the TL SIW activities include professionally oriented training, personal reflection, communicative and cooperative types of reflection.

Existential sphere includes abilities, actions, skills in various activities and communication of an individual. Preferred methods in the TL SIW activities include research tasks, participation of students in research work, meetings of scientific societies, the defence of coursework, personal and cognitive types of reflections.

Existential sphere determines the ability of a person to manage his mental state, attitudes toward himself and others, attitudes and value orientations. Preferred methods in the TL SIW activities include development of pedagogical genres and their defence, portfolio, business games, personal, communicative and cooperative types of reflection.

The fourth condition is organization of students' self-control during the process and the results of SIW. Self-control of students "will work to improve the quality of education" (Ordabayeva, 2011), if the aims and objectives of the student are adequate to aims of training in this educational program, and the student has:

a. Sufficiently clear idea of the end result of the educational process both on a given educational program and on individual academic disciplines and carrying out specific types of work;
b. Funds for the organization of self-monitoring and self-evaluation of the result in accordance with the standard;
c. Real possibilities for defining the objectives to further improving of the acquired knowledge, abilities and skills.

The fifth condition of the competence-oriented SIW organization is interaction in groups of students from different specialty courses with the purpose to change cognitive type of activity to the professional one with a corresponding change of needs, motives, actions, results.

Educational practices for different age classes abroad is called Multiage. Banks gives convincing arguments in favor of this educational structure. The teachers of the College of Education of the Minnesota University Johnsons (Roger and Johnson) note the benefits of students' cooperation.

Veselyaeva generalizes the possibility of multiage cooperation possibilities: 'When we organize activities in small multiage student classes, we get the opportunity to develop all types of competences of future specialists: From general to professional, especially communicative competence. The latter is particularly important for students with high IQs, they are used to have difficulties in socializing. We get the opportunity to individualize the learning process for younger students, provide training to everyone in "the area of proximal development," we can take into account individual psychological characteristics: Temperament, character accentuations, dominant perceptual modality, the development levels of intelligence and creativity, characteristics of motivation, etc.' (Veselyaeva, 2013).

Group interaction is optimal in the course design in the 3rd year, when the students of the 1st and 2nd year participate in the development of the separate components of the term paper of the 3rd year student.

This joint activity was effective for complete acquisition of knowledge by 3rd course students, because in the conditions of interaction with the 1st and 2nd year students they went through the stage of consolidation of the material involuntarily and with motivation (as the authors of the term projects). By the way this consolidation suited capable students who found traditional method of exercising (multiple exercises and without interaction) unattractive. The effectiveness of the interaction can be explained by the system-active approach to the SIW: "Student-teacher has completed all three parts of the activity - indicative performing, controlling and correcting" (Talyzina, 2006).

The cooperation mentioned above gives the joint work on the term project a distinct character of project training – "as the technology of formation of axiological competence to facilitate the adaptation of future teachers to changing conditions and successful activity in real situations" (Gilmanshina, 2007).

4. DISCUSSION

4.1. Backgrounds of Competence Oriented SIW Organization

Problems in independent work in most cases are determined by the preferences of the traditional knowledge paradigm of training, lack of readiness of student's axiological attitude to SIW, skills of self-education and self-development, which requires the organization of competence-oriented SIW.

In May 2013 we conducted a survey with the participation of 82 students of 1-2 years of the specialty "pedagogy and methodology of primary education" in order to identify the SIW role in value-semantic sphere of activity of students. The questionnaire for the survey "meaning and value of independent work" has been developed by us.

The results of the survey are as follows:

1. More than half of the respondents had a narrow view since they connect the content of the proposed SIW with the task of studying the discipline, while only 19.5% of them associate the content of SIW with their own cognitive needs and opportunities;
2. 35.5% of the respondents aim at formation of subject competence when performing tasks of SIW (at the level of understanding of acquired material - 24,45%, synthesis of knowledge, understanding, skills and abilities - 11.1%), whereas 34.1% of the respondents aim only at expanding or consolidating knowledge;
3. 30.4% of the respondents have a subject competence as a result

of carrying out the tasks of SIW, while 69.6% of the respondents evaluate the results of performing the tasks of SIW in the traditional system of KAS (knowledge, abilities, skills);

4. According to 69.5%, in the teaching – learning system the assessment for an assignment of SIW is sustained, in the traditional system of KAS; only 30.5% of respondents referred to the subject of evaluation components of professional competence: Effective (functional) knowledge (18.3%) and the ability to perform professionally-oriented actions (12.2%).

To identify the level of proficiency in the skills of self-education and self-development we asked 82 students of the specialty "Pedagogy and methodology of primary education" to fill in the following questionnaire "Self-education and self-development in the activities of the learner:"

1. I believe that self-education and self-development for teachers are: (a) Very important (b) sometimes necessary (c) not necessary.
2. Obstacles to my self-development: ____.
3. What are the skills of self-education I own and to what extent? Underline as appropriate.
    - I plan my activities (a) always (b) sometimes (c) do not plan.
    - I organize systematic daily extracurricular work: (a) On my own initiative, (b) under control of the teacher, and (c) in conditions of fierce compulsion.
    - I check the correctness and accuracy of the SIW tasks I performed: (a) Always (b) sometimes (c) do not check
    - I perform the SIW tasks: (a) On my own, without any help; (b) sometimes asking for help, and (c) always asking for help.
    - I have no difficulty with: (a) Searching, selecting, filtering information, (b) analyzing and processing a large volume of information, (c) the argument of my point of view (I provide my arguments).
    - I make presentations: (a) Willingly, (b) reluctantly (c) do not make them.
    - I set equal relationship in the learning process with: (a) Teachers, (b) the majority of students, (c) individual students.

The results of the survey are as follows: The majority of students (73%) adequately consider self-development (in the form of professional self-education) as a factor in the development of professional competence, but have a weak command of skills of self-education: They do not know how to find information, take notes, highlighting the main points, associate material with the known, systemize the information in tables, graphs, diagrams; they don't always plan and organize their activities, rarely exercise self-control, they are reluctant to prepare reports and presentations; not oriented in the flow of information; don't know how to reduce information, draw logical conclusions, justify their points of view, they have no experience of constructive engagement.

Students indicate the following obstacles to self-education and self-development: Lack of time, pressure of work with SIW tasks in all disciplines, the authoritarianism of some teachers, imperfection of evaluation.

At the same time, almost nobody connects nature of the difficulties with the internal factors: An unformed awareness of the necessity of independent acquisition of the given material, lack of mental independence, proper motivation, including inability to determinate the level of self-readiness for SIW, unformed skills of self-control and self-evaluation of their activities.

Furthermore, the existing skills of self-education activities are not enough formed: Almost half of students (45.31%) have got a low level of development of skills of self-education, while a high level is a condition of successful implementation of self-education.

Thus, the initial state of students' motivation to SIW, self-education and self-development, as well as the skills and abilities of independent work required the establishment of competence-oriented SIW.

4.2. The Conclusions Obtained as a Result of Organization of the Competence Oriented SIW

Organization of competence-oriented SIW in 2013/2014 an academic year was accompanied by:

- Representation of the elements of educational content in the form of educational and professional problems associated with life-semantic sphere of students, providing deep personal assimilation of students' knowledge, skills, methods of operation, forming a strong positive motivation for future professional activities; proposed structuring of the educational material in the form of educational and professional goals to be implemented in the independent work, enriches the theory of the context-competence approach of Serikov, Tryapitsyna, Chekaleva;
- Assimilation of the content of education in the context of dialogue as a special didactic communication medium, providing subject-semantic communication, reflection, self-realization of the personality of the student; thus, the study established new possibilities for dialog learning in the theory of Garanina and Irincheev, related to studying the mechanisms of students' self-determination of semantic bases in the personal educational environment;
- Imitation by means of interactive methods in the social-role and spatial-temporal conditions that ensure the implementation of the personal functions of the student, the formation of his/her position as the subject of his own activity, which expands capabilities in the development of psychological and pedagogical knowledge and practical skills; thus, the study developed a method of interaction between the student and his/her personal educational environment. The existing studies on the problems of the organization of students' independent work lack such interaction method.

Also the work has been done on developing skills of SIW at all stages of acquisition of professional competence in the process of self-oriented education in the university.

The work with students of 1-2 years was organized to train them to work with special, scientific and methodological literature (to find information, take notes, highlighting the main points, associate this material with the known, systemize the information in tables,

graphs, diagrams); to plan training activities (see the perspective of their educational activity; make a plan of academic work for the near future and to follow it clearly; analyze what is not satisfied and why; to adjust the plan).

The work with the students of 3-4 years was organized on acquisition of the skills of self-education activity in the preparation of statements and reports (to highlight the quick of the matter; to combine data from multiple sources; to draw conclusions); when writing essays, articles (to navigate in the flow of information; to find necessary references; to reduce information; to draw logical conclusions).

Highlighted skills are the part of the professional skills, skills of research activities - indicators of formation of professional competence. These skills contribute to the acceptance and justification by the students of their activities, analysis and planning of the activities (reflection), that is, the formation of their personal functions.

The focus of the competence-oriented SIW not only on mastering the subject content, but also on self-realization in the research activities, enriches the theory of the organization of independent work at the university, which is important for modern conditions, when in the developed world much innovation falls on the university science.

According to the results of the organization of competence-oriented SIW the level of formation of SIW skills among students of 1-2 years of the specialty "pedagogy and methodology of primary education" has been assessed. And we were interested both in an intermediate and the final results, that allow us to check the assumption that the competence-oriented SIW needs to be established at all stages of formation of professional competence of students.

The growth of output (received in May, 2013) and intermediate (obtained during 2013/2014 academic years) results of the evaluation of the level of formation of students' skills of self-education were insignificant: The percentage of students with a high level increased by only 1.56%; the percentage of students who have average level is 6.25%. This is explained by the fact that at this stage the following skills have not been fully formed yet: Highlighting the quick of the matter; combining data from multiple sources, drawing conclusions; navigating in the flow of information, finding necessary references; reducing information, drawing logical conclusions.

Comparing the original (obtained in May, 2013) and final (May, 2014) results of the experimental organization of studied SIW, we should note: The percentage of students with a high level rose by 8,59%; the percentage of those who have got an average level rose 12.5%; and the percentage of those students who have got a low level decreased by 21.09%. The formation of SIW skills influenced the greater independence in the implementation of essays, term papers and dissertations. The formation of SIW skills influenced the greater independence in carrying out essays, term papers and dissertations.

To establish the connection between the level of development of skills of self-education and self-development (attribute A1) and the level of development of professional competence (attribute A2) of future primary school teachers the Pearson correlation coefficient has been used (Formula 1).

Pearson's correlation coefficient to determine the relationship between the attributes A_1 and A_2 is calculated by the formula:

$$\varphi = \frac{(BC - AD)}{\sqrt{(A+C)(B+D)(A+B)(C+D)}} \quad (1)$$

where A is the number of cases, when the attribute A_1 is absent (the level of development of skills of self-education and self-development of the student is low), and the attribute A_2 is present (the level of formation of professional competence of the student is medium or high); B is when attributes A_1 and A_2 are equally present; C - both attributes are absent (a student has got a low level of development of skills of self-education and self-development, professional competence); D - the attribute A_1 is present, and the attribute A_2 is absent or has a lower degree of appearance.

Pearson's φ coefficient ranges from −1 to 1. In the first case between the analyzed features there is a unique communication with the opposite direction. In the second case, the value of one attribute proportionally increases with increasing value of another one. If the magnitude of (equals to zero, significant associations between the attributes are missing. The Pearson coefficient appeared to be equal to 0.73. This result confirms the significant impact of skills of self-education and self-development on the formation of professional competence of the students.

5. CONCLUSION

We can conclude that it is the personally important value of independent work that will implement internal control of the future professional and pedagogical activities (sustainable motive for future professional activity).

In this regard, the competence-oriented SIW should be focused on creating conditions for the gradual formation of the following groups of motives for independent educational cognitive and research activities:

- Self-realization that is expressed in: (a) The interest in the pedagogic sphere of knowledge; (b) the pursuit of knowledge, the acquisition of new knowledge and skills); self-knowledge, perception of your adaptive capabilities and internal resources;
- Achievements, expressed in: (a) The pursuit of purpose, success in academic and extra-curricular spheres of activity; (b) the desire to escape from problems and find ways and means to solve them; (c) obtaining satisfaction from learning and research activities;
- Supplies, expressed in: (a) The satisfaction of communicating with specialists competent in the field of pedagogy and education; (b) the coordinated work of the team in terms of temporary group engaged for research or creative activities;

- Status, which is expressed in: (a) The efforts of the student to receive a high quality education; (b) self-determination of the future place of pedagogical activity; (c) devotion to teaching.

When creating the mentioned conditions for independent work the personal educational environment promotes creative motivation of the student, individualization of the style of research activities, one's own reflexive position as a subject of the research activity, self-actualization, self-control, self-management, self-development and other personal qualities of the future specialist.

These conditions that were absent in the studies of competence-based training organization and intended for organization of the students' independent work, are based on: (a) Self-evaluation of activities; (b) the conditioning of a professional orientation of educational content by future pedagogic activities; (c) the orientation of vocational training on the individual experience of the student; (d) an advance nature of vocational training; (e) the ratio of vocational training technology with the laws of the individual professional development of a teacher.

We associate possible future research on the organization of the competence-oriented SIW with the development of individual style of teaching and research activities of the student as the basis of individual teaching style.

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