

Theoretical and Methodological Analysis of the Formation of “Soft-skills” in Higher Education Students of Pedagogical Specialties of Higher Education Institutions of Ukraine

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Abstract

The purpose of the study is to carry out a theoretical and methodological analysis of the formation of “soft-skills” in higher education students of pedagogical specialties of higher education institutions of Ukraine. The study is based on system analysis, forecasting methods, comparative analysis, specification, and the study of modern legislative materials. The results highlight the interpretation and differences in the theoretical foundations of hard skills and soft skills. Attention is also drawn to the peculiarities of soft skills of applicants for higher pedagogical education in Ukraine. It is crucial to incorporate the "Six Thinking Hats" methodology, which encourages the development of independent problem-solving skills by approaching challenges through the lens of one mental action at a time. Implementing this approach necessitates significant student engagement. In Ukraine, teacher motivation represents a multifaceted element within the teacher training system. Additionally, outdated training methods pose another challenge that needs to be addressed. The conclusions emphasize innovative approaches to understanding the conditions for the development of soft skills, as well as the need to take into account the materials of state control bodies as sources for an objective analysis of the situation.

Keywords: soft skills, higher pedagogical education, competencies, hard skills, emotional intelligence

1. Introduction

The current development of the labor market dictates new trends in the formation of professional competencies in higher education students. It is about taking into account the influence of globalization, multiculturalism, development of digital technologies, etc. that affect the future formation of teacher specialists and therefore need to be taken into account during their education and practical training. Taking these features into account allows for a timely response to the challenges of the modern professional environment, and the realization of the positive experience of both predecessors and contemporaries (Bizami, Tasir & Kew, 2022). In Ukrainian realities, the theoretical and methodological training of future pedagogical specialists is hampered by both objective circumstances (for example, the unfolding of Russian aggression against Ukraine) and subjective factors (outdated norms of current legislation, lack of modern practice among many teachers who treat teaching with inherent formalism).

An important norm of modern pedagogical art has become the development of soft skills in higher education students, which has affected the creation of relevant curricula and the writing of syllabi for academic disciplines (Avby, 2022).

This aspect has become especially relevant due to the current development of digitalization and communication processes. As a result of the establishment of new rules of communication, updated paradigms of social interaction are being established, so the issue of developing relevant skills in student teachers is extremely necessary and important. Particular emphasis should be placed on the pedagogical dimension of these practices, which are related to the teaching and learning system, specific academic subjects, etc.

The purpose of the study is to carry out a theoretical and methodological analysis of the formation of soft skills in higher education students of pedagogical specialties of higher education institutions of Ukraine. This main task involves the implementation of several components: consideration of soft skills as a phenomenon in the modern pedagogy of higher education institutions and highlighting the formation of the necessary skills in higher education students as a result of interaction with teachers.

2. Method

The study is based on a systematic analysis, which characterizes the subject of research on the basis of smaller elements (features of theoretical explanation of soft skills, analysis of the peculiarities of using special methods of forming social skills in higher education students of pedagogical specialties) in order to form general judgments on the problem under study.

The paper also uses the methods of forecasting, comparative analysis, and specification to analyze the key features of the formation of social skills in higher education students of pedagogical specialties of higher education institutions of Ukraine. The use of corporate and pedagogical analysis contributed to the identification of unique interactive methods of soft skills formation.

The article is based on a study of modern legislative materials. The main attention is paid to the Report of the World Economic Forum in Davos, which characterizes the basic skills of future specialists (Eggens, 2022). Separately, the concepts from the *Digital Education Action Plan (2021-2027)*, according to which education in European universities is implemented, are also used (*Digital education action plan (2021-2027), 2021*).

The research was conducted in several stages. The first stage involved collecting theoretical and practical material on the subject, analysing it and formulating certain conclusions that were used to write the results of the article. Comparison of different concepts used by researchers in defining soft skills and hard skills, and the differences between them, made it possible to reflect the main ideas of scientists regarding the interpretation and assessment of these skills. The proposed conclusions are supported by references to relevant scientific developments. At the next stage, the main list of conditions for the formation and development of soft skills in higher education students of pedagogical specialties of higher education institutions was formed using the modelling method. This led to the transition to the next stage of the study - discussion. By comparing the existing ideas about the subject of the study and the own generalisations obtained as a result of the systematic analysis, the value of soft skills in the modern education system was discussed in detail. The forecasting method made it possible to identify problems that will become relevant in the future.

2.1 Theoretical Review: Hard Skills and Soft Skills (Interpretation, Differences, Rating)

In modern education, emotional and communication characteristics are interpreted as soft skills that complement hard skills - professional skills. The latter are relatively stable and are included in a number of qualifications and job descriptions. At the same time, soft skills are universal in nature and are important for the successful career and professional self-determination of any individual (Avby, 2022). Social skills include the ability to communicate, lead, collaborate, engage in diplomacy, and form social relationships. They also include group, public, and "oratory" skills; the ability to express thoughts and ideas, creatively solve complex problems, etc. These skills are now seen as consequences of educational outcomes, along with professional competencies. This statement is supported by the conclusions of the World Economic Forum in Davos (January 16, 2023), where the key important skills of the future were identified (Cegolon, 2023). As a result, a list of the Top 10 skills that will be relevant for employees in 5 years was compiled. Analytical thinking and innovation skills were ranked first, while active learning skills and learning strategies were ranked second. Creative, critical thinking, initiative, and leadership skills will remain relevant. A new trend is a digital competence (the use, research, and control of technology). The top rankings of popular skills also include such skills as self-control, social influence, and communication skills (Eggens, 2022). Therefore, we believe that social skills will remain relevant in the future.

At the same time, hard skills are critical in the short term, they develop much more actively and have a guaranteed outcome (if the basic conditions are met - motivation, self-development, skills for quality learning). In addition, they

are prone to reverse development. However, while the formation of hard skills is influenced by successful learning and its practical application, soft skills tend to develop spontaneously (Chrásková & Chráska, 2021). They are “critical” in the long run, and their formation is much slower. Therefore, more effort is required, achievement of a certain important level is not guaranteed, and in special circumstances, they are even prone to reverse development. Currently, the scientific literature discusses two approaches to the process of soft skills development. The first one is reduced to direct training by introducing separate courses and disciplines within the variable component of the curriculum. The second approach involves the use of the potential of disciplines in synthesis with non-formal learning and extracurricular educational activities.

In practice, this should lead to a consideration of the difference between 'hard skills' and 'soft skills', which lies in the nature and type of skills they represent (Malik & Ahmad, 2020). Hard Skills are specific, reasoned and measurable skills that are easy to qualify and test. They are usually professional or technical skills related to a specific discipline or profession, such as programming skills, working with specific software or languages, financial analysis, car repair, etc. (Aldulaimi, 2018). Soft skills are the personal, interpersonal and social skills that help you interact with others, communicate effectively and work in a team. They include communication skills, leadership, creative thinking, collaboration, adaptability, critical thinking, conflict resolution, etc. (Emanuel et al., 2021). In general, hard skills are measurable and learned abilities that can be well assessed and tested, while soft skills are much more related to character, personality and emotional intelligence and are more difficult to quantify, but can be just as important for success in various areas of life and work. A successful combination of both types of skills usually makes a person more competent and able to face the challenges of the modern world (Pham, 2022).

Measuring soft skills can be a challenge as they are less specific and measurable than hard skills. However, there are several methods and approaches that can help quantify soft skills. First of all, we are talking about questionnaires and questionnaires (Qizi, 2020). To do this, it is necessary to develop questionnaires or questionnaires that assess certain aspects of soft skills - determining the ability to communicate, cooperate in a team, solve problems, leadership qualities, etc. self-assessment is also relevant, as its analysis can provide an overview of respondents' beliefs about their own skills. One of the modern vectors of development is simulation exercises (Cornali, 2018; Ragusa et al., 2022). During these exercises, participants are placed in situations where they have to use their soft skills, the results of which can be assessed by focus groups during interviews. It is important to note that soft skills assessment can be more subjective than hard skills assessment, as it is based on the observations and opinions of other people. However, combining different methods and sources of assessment will help to move closer to an objective definition of students' soft skills.

3. Results

3.1 Features of Soft Skills Development: Conditions, Methods

The process of soft skills development is possible only if the teacher plays different roles depending on the situation (moderator, advisor, trainer, mentor, coach), his/her open position based on trust, acceptance of students as independent individuals with their own views, attitudes and goals, creation of a safe psychological environment for communication, listening skills, self-reflection; creation of difficult situations as stimuli for self-development and self-analysis, communication control skills (Mohamad et al., 2017).

For this reason, we believe that the main conditions for the formation and development of soft skills in higher education students of pedagogical specialties of higher education institutions are 1. Updating the content of curricula, which should include the development of relevant social skills, 2. Development of author's programs to improve the soft skills of future teachers. This will also facilitate the ability of teachers to consistently and purposefully develop a specifically chosen way to improve social skills. 3. Improving the organization of the educational process to ensure accessibility, flexibility, and continuity of educational programs. 4. Expanding the use of innovative technologies aimed at the formation of critical thinking, interaction, communication, and development of leadership characteristics in the process of training of higher education students in pedagogical specialties of higher education institutions of Ukraine; 5. Transformation of the learning space into a coworking space, which will influence the active participation of teachers in networking in the form of collective educational or research projects. 6. Development of academic mobility. This will create special conditions for the exchange of pedagogical experience, communication between students and teachers or students from other countries, promote the development of new educational programs and technologies, and improve the professional competence of the teacher (Eggens, 2022). In this structure, the student's practical activity is important. Researchers prove that the most effective method of developing soft skills is practical work (Bondar et al., 2020). In this context, students should be able to interact with

their classmates and teachers to hone their social, communication, and leadership skills, develop empathy and a culture of communication (including a digital culture of communication). Students' participation in important professional conferences, trainings, seminars, and public speaking is also important in the process of developing soft skills (Eggens, 2022). We believe that participation in such events is a great opportunity for future teachers to learn new skills and improve their social competencies. Such events may include training in communication skills, emotional intelligence, and creativity. In general, participation or organization of such events by students will influence the development of their adaptation in social and professional life in the future.

Teachers can use special methods to develop soft skills in higher education students of pedagogical specialties (Franco & DeLuca, 2019). In particular, the case method is important (Pinto-Llorente, 2019). In particular, the teacher should offer quasi-professional situations that need to be solved. Thus, students will listen to the versions or ideas of others, defend their own, communicate, work in a team, and choose the best solution. Modern experts emphasize that laconic and concise cases, which should be accompanied by a discussion, are productive in terms of time and scope of the classroom. It is important to emphasize that cases should be based on real or factual material or should be close to a real situation. Thus, they will also influence the formation of professional competence in general. A separate valuable method for developing social skills is the project method (Gumenyuk et al., 2021). It should be used both individually and in a group setting. Individual projects will contribute to the formation of public speaking and communication skills, while group projects will contribute to the formation of interaction, leadership development, and communication culture. There is also an original method called pecha-kucha (print pile), which involves the presentation of short reports in a professional field (Perez-Brena et al., 2018). They should be limited in form and duration. In addition, other methods of developing social skills are important. In particular, the method of modeling situations contributes to the development of creativity, which is an extremely important skill in the professional work of the teacher of the future. Various role-playing games and debates contribute to the formation of initiative and leadership (Yee, 2018). When used in groups, it also helps to improve teamwork skills, promotes effective conflict resolution through constructive arguments.

Modern researchers prove that corporate learning methods also contribute to the development of soft skills (Scheerens, van der Werf & de Boer, 2020). In general, the corporate method is implemented with a large number of participants, it promotes a deeper understanding of educational materials, and the development of critical thinking (Pliushch & Sorokun, 2022). Cooperative learning can be used to discuss pedagogical cases, which is relevant in the realities of blended learning and is much more effective than conventional reports or presentations in developing soft skills. Interactive methods of corporate education include work in pairs, the method of angles, the method of experts, corporate structures such as Think-Work-Team-Share, Speak, and Switch, etc. (see Table 1).

Table 1. Methodological Aspects of Organizing Corporate Training Methods

Title	Explanation
Method of angles	Allows you to select and discuss individual complex topics in detail. To facilitate organizational work, certain aspects of the topic are placed in certain “corners”. Later, each student chooses a particular aspect, and a detailed discussion begins.
The method of experts	Each student in the corporate group becomes an “expert” in a particular topic. Once the individual “expertise” is realized, the students begin to teach each other and discuss the issues at hand.
Business games	Formation of problem situations and their solution in a game form
“Think-Work-Team-Share”	Applicants should first think about the problem personally, then discuss it in groups, and later present their ideas, judgments, and impressions.
“Speak and switch”	Students answer questions in sequence or on a particular topic. One student starts the discussion, stops when the teacher signals him or her to stop, another student has to continue, and so on.

Source: Article authors' development

One of the most flexible interactive teaching methods for developing social skills is business games as a form of modeling the conditions and relations of professional and pedagogical work. They contribute to the development of professional skills, form communication skills with partners, evoke positive emotions, stimulate the development of mental activity, and form business traits of future teachers. The peculiarity of the business game is that learning becomes as close as possible to real pedagogical work. One of the characteristic features of this method is the formation of problematic situations, during which teachers should observe the individual reaction of students.

Role play as a type of business game also contributes to the development of soft skills (Bai, 2022). It involves students acting out a special situation in pre-determined roles. This is done in order to master specific behavioral and emotional traits of a professional situation. It should be noted that role-playing games are organized in small groups.

At the same time, heuristic conversation and brainstorming influence the development of cognitive skills in future teachers, which leads to noticeable progress in the flexibility of decision-making and the ability to implement them.

There is also a special technique called “Six Thinking Hats”, which promotes the formation of autonomous skills for solving problem situations through the prism of implementing only one mental action at a time. At the same time, each intellectual act conditionally corresponds to a certain color of the thinking hat (see Figure 1).

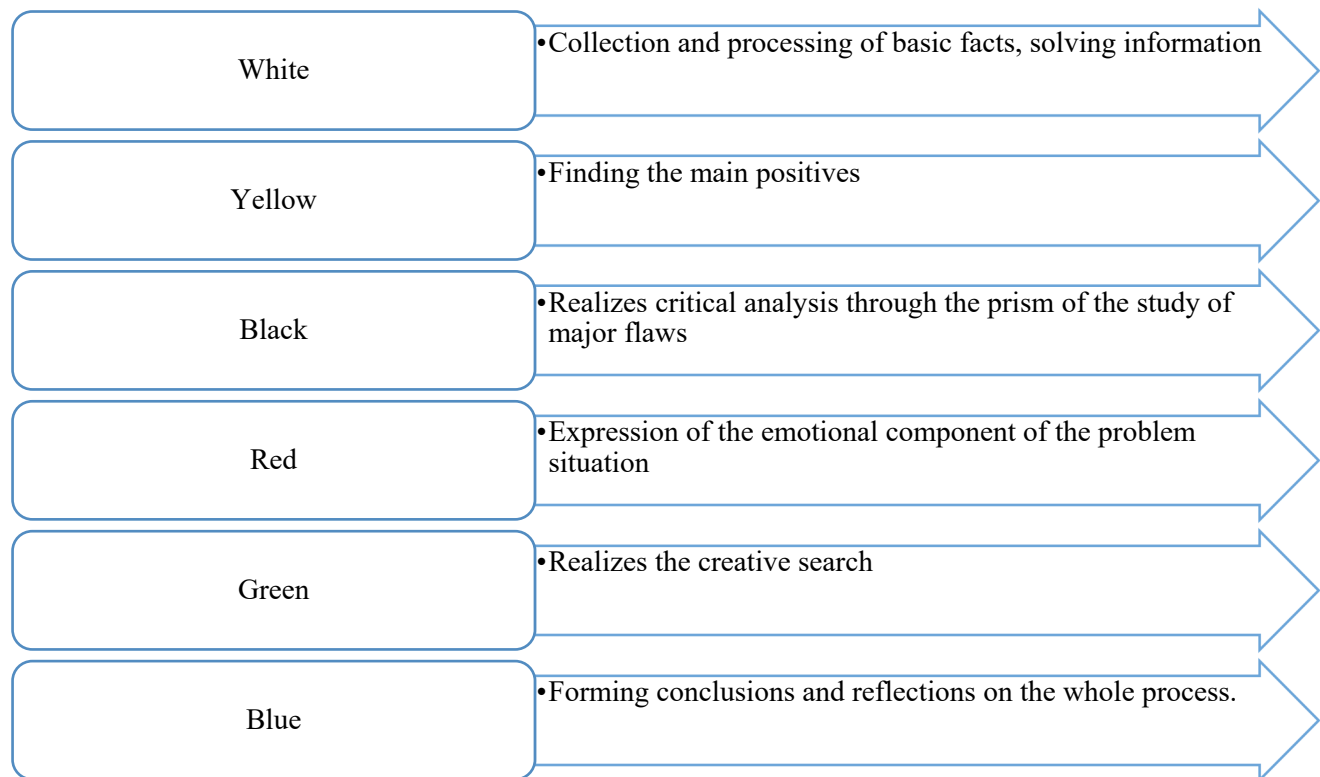


Figure 1. Scheme of Solving Problem Situation by the Six Thinking Hats Method

Compiled by the authors of the article

This method is the most difficult, as it requires the teacher to do a lot of work to familiarize students with the content of the work within the framework of using each of these hats (Da Silva, Carolina Neto & Gritti, 2020). In particular, the white color implies the inclusion of thinking, which encourages the solution of information about the object. At the same time, thinking activity in the yellow hat is organized from the standpoint of positive expectations of the results of problem-solving. The black color is responsible for conducting a critical analysis through the prism of researching the main shortcomings. Red is used in those cases when there is a requirement to show an emotional component. Green is used for intellectual work on transformation or change that will form new trends, i.e., creative search. The student in the blue hat will act as a leader. He or she will determine the sequence in which everything will take place, summarize and reflect on the entire process.

For this reason, the main responsibilities of modern teachers are to promote the development of critical thinking, creative skills, motivation to learn among students, attentiveness, dedication, and the ability to communicate in a team (Prasetya, Nuraeni & Shabir, 2022). The teacher should also encourage student teachers to search for answers to various problems and ambiguous situations on their own. We believe that such search skills will be especially useful in future professional life. At the same time, in addition to developing IQ, teachers should also take care of developing students' EQ (emotional intelligence). The latter is especially important for students' socialization in the modern world. It has been proven that students with higher EQ are better able to cope with emotions, interact much more effectively in team situations, are able to think creatively, and feel more comfortable in groups. At the same time, we shouldn't forget about the optimal distribution of academic work, hierarchy, and classification of educational material.

4. Discussion

Teaching soft skills in the light of the educational programs of Ukrainian pedagogical higher education institutions requires considering certain methodology and features. In particular, the higher education system of Ukraine, although to some extent harmonized with the European one, has certain differences (Saienko, Kurysh & Siliutina, 2022). There is a gap in the pedagogical and scientific spheres that affects the training of specialists. An updated methodology that considers these features can be objective and important. In particular, the National Agency for Quality Assurance in Education operates at the state level (Oleksiienko et al., 2022). The study of the reports of this organization, which inspects and accredits educational programs of higher education institutions, allows for a theoretical and methodological analysis at a different level.

In the period from 2020 to 2022, the experience of Ukrainian higher education institutions in developing soft skills was analyzed, during the work of expert groups on the accreditation of educational programs (Prasetya et al, 2022; Bondar et al., 2020; Saienko et al., 2022). This analysis is carried out by independent groups of experts working for the National Agency for Quality Assurance in Education. Thanks to the materials published in the public domain, we can draw certain conclusions that universities can be conditionally divided into 3 groups based on the presence or absence of a soft skills development policy.

The first group includes those educational institutions that have clear policies and procedures for developing soft skills in higher education students, which are also supplemented by appropriate measures and effective support mechanisms. The second group, which can be conditionally distinguished, is formed by pedagogical higher education institutions that have a general vision of the need to develop soft skills at the institutional level. At the same time, specific measures aimed at addressing this problem are few and sporadic. A significant part of the academic staff of these universities can name 2-3 soft skills and do not see the need to develop them in the course of educational programs. The third group includes universities that have no policy and procedures for developing soft skills, and academic staff are not aware of their content and specifics.

Based on the above, it becomes clear that the development of soft skills among higher education students depends on the policies of higher education institutions (Horenburg, 2017). A positive result is the cross-cutting development of soft skills both within certain components of the curriculum (compulsory and elective) and in the extracurricular activities of the higher education institution (Dugal, 2019). An important source for analysis and further research on the practical aspects of soft skills development is accreditation documents, in particular, information on self-assessment of curricula and expert assessments that are available to the public. An analysis of these documents in the context of sub-criterion 2.6 (which provides for the acquisition of soft skills by students that meet the stated objectives) of the curriculum quality assessment will provide a qualitative and quantitative interpretation of how higher education institutions demonstrate that their programs provide students with the opportunity to acquire the social skills necessary for further professional activities of graduates.

In accordance with the requirements for a modern specialist defined in the European Commission's international project Tuning Educational Structures in Europe, the competence approach is the basis for the development of higher education standards in Ukraine (Bondar et al., 2021). The National Qualifications Framework (NQF), which is one of the main documents defining the requirements for specialists, provides a list of integral, general, and special (professional, subject) competencies that students should develop after graduation at a certain level of education. The general (universal) competencies of the NQF, which do not depend on the subject area and are important for personal growth, social and further professional activities, include: the ability to adapt and act in a new situation; generation of new ideas (creativity); making informed decisions; teamwork; motivating people; achieving a common goal; showing initiative and entrepreneurship; assessing and ensuring the quality of work to be performed; socially

responsible and conscious activity; ability to identify, pose and solve problems; and the ability to communicate with others. These competencies correspond to the concept of soft skills, taking into account the existing different approaches to their definition.

5. Conclusions

For a modern student of pedagogical specialties of Ukrainian higher education institutions, soft skills are a key condition for successful employment, vital skills of critical and creative thinking, and the formation of a competitive personality. They also affect the ability to evaluate and make effective decisions in atypical situations, to be creative in solving complex issues, to work in a team, to perform tasks professionally and originally in future teaching activities, etc. The main conditions for the formation and development of soft skills in higher education students of pedagogical specialties of higher education institutions are updating the content of curricula, developing author's programs to improve the soft skills of future teachers, improving the organization of the educational process, expanding the use of innovative technologies, transforming the learning space into a coworking space, and developing academic mobility.

It is also important to use the "Six Thinking Hats" methodology, which promotes the formation of autonomous skills for solving problem situations through the prism of implementing only one mental action at a time. The use of this approach requires tangible work on the part of students. In general, teacher motivation in Ukraine is a complex element in the teacher training system. Another problem is outdated training methods. At the same time, the study also proposes a methodology for studying the problem of training of higher education applicants, which is related to the study of reports of the National Agency for Accreditation of Educational Programs. The study of the reports of this state organization, which are publicly available, will require additional study in the future.

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