






*International Journal of Learning, Teaching and Educational Research*  
Vol. 22, No. 2, pp. 413-431, February 2023  
<https://doi.org/10.26803/ijlter.22.2.23>  
Received Dec 29, 2022; Revised Feb 19, 2023; Accepted Mar 4, 2023

## Future-Teacher Soft Skills Development in the Context of Ukraine's Integration into the European Higher Education Area

Kateryna Kolesnik<sup>\*</sup> , Nataliia Oliinyk , Nadiia Komarivska , Natalia  
Kazmirchuk  and Viktoriia Imber   
Vinnytsia Mykhailo Kotsiubynskyy State Pedagogical University (Ukraine)  
Vinnytsia, Ukraine

**Abstract.** The aim of this research was to study future-teacher soft skills development in the context of Ukraine's entry into the European Higher Education Area (EHEA). The development of soft skills is categorized as a separate direction of adaptation to the modern globalized professional environment. The main research question related to how to organize the educational process advantageously for the development of both soft and hard skills, as the former are often ignored in higher education institutions (HEIs). The research objectives were achieved using content analysis, Stapel scale and open-ended surveys, in-depth interviewing, computer-assisted personal interviewing (CAPI), "conferences of ideas", and "collective notebooks". The results of the experiment show that a 0% indicator for unsatisfactory level of soft skills development was achieved. Instead, the statistically and qualitatively achieved level of soft skills shifted, compared to the results of detailed primary diagnostics, towards satisfactory (10.7%), good (42.9%), high (32.2%), and advanced (14.2%) levels. Data confirm the effectiveness of the combination of the standalone subject model and embedded model algorithm for teacher soft skills development. Empirical research demonstrated the possibility of the dynamic development of soft skills in a relatively short (three-year) period as a result of targeted influence on a number of specific skills within the general concept. The guarantor of success in the soft skills development program is the conscious and cohesive work of the teaching staff, as well as an environment of cooperation with motivated students. Expanded employment opportunities are the main motivation driving force in this case.

**Keywords:** European Higher Education Area (EHEA); future teachers; higher education; international cooperation; modernization of education; soft skills

---

\* Corresponding author: *Kateryna Kolesnik, vinnytsia2021@gmail.com*

## 1. Introduction

Despite all the difficulties of functioning socially during the present Russian-Ukrainian wartime (hybrid war from 2014, full scale from 2022), Ukraine did not find itself in isolation. On the contrary, integration processes, in particular European integration, rapidly intensified, primarily due to Ukraine's application for accession to the European Union (EU) and North Atlantic Treaty Organization (NATO). The chances for the approval of the integration intentions have never been so high. The integration of Ukraine into the European Higher Education Area (EHEA) has been taking place since the state gained independence, but the integration processes have noticeably intensified since the early 2000s, when European educational standards were gradually introduced into the Ukrainian higher education system. In 2005, Ukraine officially became a member of the Bologna Process through the signing of the Bologna Declaration, which was a remarkable event concerning EHEA integration. This was the first serious step towards modelling the EHEA (Khan, 2018). *"Building a system for ensuring the quality of education and training that complies with European standards and recommendations"* (Shkarlet, 2020) is one of the four priorities of European integration for education departments in the field of education and science.

The integration of Ukrainian education and the dynamics of the development of the global society in general provide for the revision and transformation of the skills that young people need at the stage of socialization through involvement in professional activities in the integrated European social reality. Requirements are being transformed not only for educational and professional programs focused on the development of graduates' hard skills. Attention to the category of soft skills, which means social and communicative skills, is growing. The lack of soft skills can have an extremely negative impact on the professional self-realization of an individual. Even people with excellent hard skills will potentially find it difficult to build a professional space and fully demonstrate the advantages of their hard skills if the skills of establishing interpersonal contacts and self-representation (self-management) are not properly developed. For Ukraine, the problem of developing soft skills in students of HEIs is acute and relevant. The vestiges of the post-Soviet education system ignore this component of professional training, focusing only on hard skills that are reflected more objectively in the academic performance and which are easier to diagnose. However, within the framework of European integration, Ukrainian education found itself in a situation of urgently needing to evolve, getting rid of the vestiges of the Soviet system, and adapting to market-oriented higher education provided by the European model.

In a number of studies on the issue under research, hard skills are interpreted as those skills that are easy to objectively assess (Borrego et al., 2019; Lombardi, 2019; Putra et al., 2020; Sousa & Rocha, 2019). This means that it is easy to determine the level of skills required for future professional activity by traditional knowledge control and assessment methods according to academic criteria. On the contrary, soft skills are interpreted as being extremely difficult to objectively assess in particular indicators but can nonetheless be developed. Real algorithms for soft skills development of students of HEIs (universal and key for the professions) are quite sporadic and inconsistent. This creates an actual plane for empirical research

in several directions: 1) creation of systemic and step-by-step programs for soft skills development; and 2) development of mechanisms for assessing the level of soft skills. This perspective, as well as the one outlined in the previous paragraph, is a gap in the problems the paper deals with, and forms the focus of the current research.

In view of the identified relevant directions of research and in the paradigm of Ukraine's accession to the EHEA, the aim of this research was to study the potential of future teachers' soft skills development. This development is distinguished as a separate direction of adaptation of Ukrainian graduates to the professional environment distinguished by globalization and humanitarianism trends. It should be emphasized that the nature of soft skills determines the goal, which is not to mechanically measure soft skills using expanded mathematical formulas, as we consider this method unacceptable for evaluating this category of skills. Instead, the goal is to create a system that could reflect the dynamics of the soft skills development according to the algorithm tested by us, a simplified statistical system of data processing, followed by qualitative data analysis.

The study aim involved the fulfilment of a number of research objectives:

1. Determine the initial level of soft skills of a selected group of student-future teachers using a special questionnaire.
2. Elaborate a step-by-step program for the soft skills development of these students.
3. Test the program in the experimental group of participants.
4. Evaluate the achieved results according to the developed control scheme.
5. Perform a dynamic and qualitative analysis of the obtained results and outline the prospects for the soft skills development.
6. Outline universal and specific recommendations for soft skills development for students of HEIs.

## 2. Literature Review

The strategy of internationalization of the European higher education system is considered positive in terms of its impact on the development of human potential and talent competitiveness and the achievement of greater mutual understanding (Antoniuk, 2021). Radical comprehensive social changes associated with the Fourth Industrial Revolution (Industry 4.0) are becoming a new challenge for education. In view of rapid changes in social life, the modern world requires qualified, flexible, adaptive, and humane individuals (Bak et al., 2019; Tsirkas et al., 2020). In the Western World, of which Europe is a part, the demand for soft skills is so high that the authors of leading business publications (for example, Harvard Business Review) advise testing the level of soft skills of candidates for vacant jobs before conducting interviews (Bateson et al., 2013). In other words, in case the candidate fails the soft skills testing step, there is no point in wasting time interviewing them. This is still quite unusual for Ukrainian realities because of the stereotyped opinion that qualifications relevant to the position and competence in hard skills necessary for work play the main role in recruitment. Practice has shown that such specialists still cannot work productively for self-development and development of the company after a certain time, for example, being part of a team, while remaining a leader. Attention to soft skills has been relevant since

the end of the 20<sup>th</sup> century in the Western market, where the practice of studying human resources (HR) management techniques is much richer. During that time, the opinion on soft skills codified by Dr Whitmore from 1972 to 1974 penetrated pedagogy and HR (Whitmore & Fry, 1974).

In view of Ukraine's inspirations and real steps towards European integration, soft skills are a mandatory requirement of the time (Boiko, 2021; Gagina et al., 2019). This is especially relevant because of the creation of prerequisites for the employment of Ukrainians abroad, and foreigners in Ukraine. This also means transferring the realities of the European HR management system to the Ukrainian social context at all its levels. The role of soft skills for future workers in the educational sector is very important (Tsymbaliuk et al., 2019), as teachers play the role of mediator between generations. There is a high probability that teachers who do not have sufficiently developed soft skills themselves will not be able to develop or will treat this task completely carelessly during the education of their students (Braiiiko et al., 2022; Kniaz & Chukhno, 2021). Researchers have said that the strength of a nation collectively depends heavily on the ability of individual citizens to be highly intelligent and skillful. Therefore, the development of human capital is important and necessary, as it encourages a nation to have a forward-looking vision. A nation will be weak without quality human capital, as the ability to integrate initiatives and innovations depends on new generations (Pachauri & Yadav, 2014; Tang, 2020).

The problem with most existing works on soft skills is that they are generalizing or theoretical, or present only an overview (Fernandes et al., 2021; Guerra-Báez, 2019; Touloumakos, 2020). They do not provide an understanding of why soft skills have become so important for the 21<sup>st</sup> century. This is especially true in relation to countries such as Ukraine and other post-Soviet countries, which are being liberated from the remnants of the Soviet reproductive system of knowledge assessment and preparation for professional activity with an emphasis on hard skills only. In light of the restructuring of the global labor market, outdated approaches to university education are completely anachronistic.

It is appropriate to consider soft skills in terms of the idea of "*education for sustainability*" (Lepeley et al., 2021; Sonetti et al., 2020). It is especially critical in the paradigm of the implementation of the inclusive society model, where inclusion is understood in the broadest way (Fernandes et al., 2021). That is, inclusion covers not only students with specific psychophysiological development but also other categories of students (disadvantaged families, single-parent families, troubled adolescents, students with deviant behavior, etc.). The opinion of Mitsea et al. (2021) regarding consideration of the concepts of soft skills and metacognition in one conceptual plane seems to be correct. The latter belongs to the spectrum of self-regulatory functions and personality skills that enable a person to successfully respond to the processes around them in all spheres of life. Metacognitive processes include self-monitoring, self-regulation, reflection, self-evaluation, and the ability to change and adapt cognitive and emotional functions (Mitsea et al., 2021). At the same time, this compensates for the shortcoming

regarding the fact that “*soft skills are often construed as decontextualized behaviours*” (Touloumakos, 2020).

In official UNESCO (2016) documentation, the term *soft skills* is often verbalized as “*non-cognitive skills*”. Other terms are also used synonymously: “*21<sup>st</sup> century skills*”, “*transversal skills*”, “*transferable skills*”. All these terms denote such skills of a modern personality as critical, which include innovative thinking, interpersonal skills, intrapersonal skills, global citizenship skills, media and information literacy, etc. Other researchers have also added social gracefulness, language fluency (native and foreign language with knowledge of the cultural context), friendliness, and optimism as soft skills (Pachauri & Yadav, 2014). On the issues of soft skills development, researchers, in particular Ukrainian ones, have noted that many university lecturers do not pay adequate attention to soft skills development in higher education (Kniaz & Chukhno, 2021).

Research into soft skills is thus relevant in several aspects:

- 1) drawing attention to soft skills development along with hard skills as a requirement of the time;
- 2) elaboration of effective algorithms for soft skills development, the effectiveness of which is confirmed by relevant empirical studies; and
- 3) positioning of soft skills in terms of the professional orientation of students of HEIs as one of the factors of conscious choice of profession and resistance to possible professional conflicts. Conflicts among new graduates of HEIs arise often, as they still cannot secure a job or adapt to the work process because of a lack of soft skills despite a high level of hard skills.

### **3. Methods**

#### **3.1 Research Design and Approach**

The research design of the study was semi-experimental exploratory research based on mixed methods, involving quantitative and qualitative research. This made it possible to obtain quantitative and qualitative data for the purposes of the study in a relatively short period of time.

The entire period of the study covered the 2019–2020, 2020–2021, and 2021–2022 academic years in four stages. The first stage of the research (September–October 2019) involved a theoretical study of the issue of soft skills in the current literature, outlining the vectors of the planned empirical research, and elaboration of a working version of the algorithm for the purposeful development of students’ soft skills.

The second stage (November–December 2019) involved the development of a plan for the first two-way diagnostics of students’ soft skills in the form of questionnaires for teachers and students. The questionnaires were prepared and surveys were conducted (Appendices A and B). The results of the survey were processed in quantitative terms. The results of the teachers’ survey were compared with the results of the students’ survey. Answers to the open-ended questions from both teachers and students were analyzed. The relevant

adjustments were made to the algorithm for developing students' soft skills. A strategy for its implementation was adopted.

The third stage (January 2020–December 2021) involved the implementation of the algorithm for developing students' soft skills by the entire academic and teaching staff working with the experimental group.

The fourth stage (January–February 2022) involved the student final testing using special methods presented on the Picked.ai company website, which are aimed at cooperation with companies on HR management issues. The lifelong learning skills test was taken on another platform, GoConqr, an online platform providing digital learning experiences under the slogan "Growth through learning" (relevant for this study). The results of the testing were processed in quantitative terms, but were hidden from the experts who, after the computer testing stage, conducted individual interviews with the students regarding the success of their soft skills development during the experimental period. Based on the results of the in-depth interviews, a team of four independent experts made a collective summary assessment of the current state, dynamics, and prospects for the soft skills development of each individual student participant. Points from experts were included in the overall evaluation of the success of soft skills development (added to the results of computer testing). The issue of the results of the experiment was also discussed at the faculty council. Further recommendations were made regarding the work of teachers on improving the soft skills of all faculty students, and from that, the scaling project of the experimental algorithm was planned.

### **3.2. Sampling**

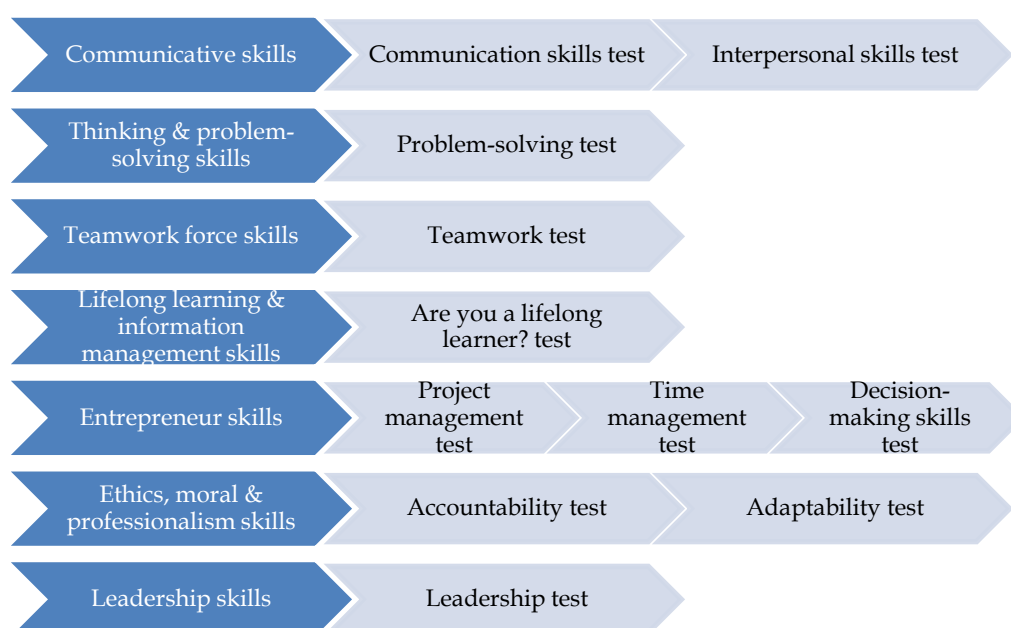
The selection of students for the study was deliberately narrowed because the category of soft skills is quite specific about the possibilities of diagnosis, development, and evaluation of results. In addition, it is highly individual and requires attention to each student and the specifics of their development, potential, motivation, worldview principles, etc. Students of one academic group were involved in the experiment: 28 graduates majoring in primary education, preschool education of the Valentyna Voloshyna Faculty of Preschool and Elementary Education of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University. At the beginning of the study, the students were in the second year of study and at the end, in the fourth year, which is the final year for the bachelor's degree. Selection was not based on students' academic performance, as soft skills by their nature are not directly dependent on the level of hard skills, which was later confirmed by the analysis of the research results. The first stage involved an additional 19 teachers as interviewers, who, as of November 2019, had had enough experience of working with the selected students, and had had an idea of their level of soft skills.

### **3.3. Data Collection and Data Analysis**

To achieve the aim and fulfil the objectives of the research, the data were collected through the following methods and techniques: 1) Stapel scale and open-ended surveys, 2) in-depth interviewing, and 3) the method of computer-assisted personal interviewing (CAPI). At the stage of generalization, the in-depth

interviewing was used to work with students, while the method of “conference of ideas” and “collective notebook” was used to work with teachers. The collected data were analyzed in qualitative and quantitative terms. Qualitative analysis was carried out through content analysis of documents regarding the integration of Ukraine into the EHEA, while the quantitative analysis was performed through statistical and mathematical interpretation of empirical data using Microsoft Excel.

Figure 1 presents the skills that are covered by the concept of soft skills, based on several studies on the issue (Boiko, 2021; Kanokorn et al., 2014) and therefore are the focus of this research and the goal in the development of educational management mechanisms. The figure also shows the CAPI test method from Picked.ai and GoConqr resources, which were used in the third stage of the study.



**Figure 1: Soft skills list and test method applied for the evaluation of each skill**

In the second stage of the study, questionnaires (Appendices A and B) were used. The initial level of soft skills was evaluated on a 5-point negative (-n...5) or positive (+n...5) scale according to the applied Stapel scale. All data with a negative value indicated the level of complexity of the question posed in the questionnaire. The data with a positive scale gave an idea of the already achieved level of constructive work on the soft skills development and their prospects. For each participating student, their questionnaire scores were compared with the average scores personally given to them by the teachers. Self-assessment and teacher assessment scores were 1:1, that is, they were equal during further comparison.

In the fourth stage, which involved secondary diagnostics, the assessment was carried out according to the scheme and scale presented in Figure 1 and Table 1.

**Table 1: Scheme and rating scale of participants at the final stage of the research**

Method and its objective		Number of points	Total score
1	Accountability test	10 points	110 points
2	Adaptability test	10 points	
3	Communication skills test	10 points	
4	Decision-making skills test	10 points	
5	Interpersonal skills test	10 points	
6	Leadership test	10 points	
7	Problem-solving test	10 points	
8	Project management test	10 points	
9	Teamwork test	10 points	
10	Time management test	10 points	
11	Are you a lifelong learner? test	10 points	
12	Mark from experts on the stage of final in-depth interviews	40 points	40 points
Total		150 points	
<b>Interpretive scale:</b>			
≤ 89 points – unsatisfactory level*			
90–96 points – satisfactory level 1			
97–101 points – satisfactory level 2			
102–108 points – good level 1			
109–117 points – good level 2			
118–129 points – high level 1			
130–134 points – high level 2			
135–141 points – advanced level 1			
142–150 points – advanced level 2*			
*Below 60% = below 90 points			
**Note: The grading 150-points scale was developed by the authors based on University of Washington (2022)			

## 4. Results

### 4.1 First Diagnostics for the Initial Level of Soft Skills of the Study

#### Participants

At the first diagnostic stage, interview data of students and teachers who participated in the experiment later are summarized in Table 2. A comparative aspect enabled important conclusions to be drawn. First, teachers' knowledge of soft skills is naturally higher than that of students, but it is not critically low among students, as might be expected. Second, both categories of participants highly rated the importance of soft skills in achieving professional success, and teachers in the movement of Ukrainian education to European standards. Third, the level of evaluation during self-reflection of students on the level of soft skills has a negative indicator, which is not satisfactory, especially against the background of their awareness of the importance of soft skills for future career growth. Fourth, teachers were quite critical of their own level of soft skills, which creates an area for improvement and demonstrates the need for targeted trainings. Fifth, teachers rated their attention to students' soft skills development much higher than the students. It is necessary to overcome the unfavorable dissonance through special training and motivation of teachers. Lastly, students lack tools and motivation to work on developing their own soft skills.



**Table 2: Average data from the interview in the format of comparing the data of students and teachers on the assessment of related questions**

No	Students	Average points	Teachers	Average points
1	Do you know what are the soft skills?	+1	Do you know what are the soft skills?	+4
2	Do you see soft skills essential for future professional success?	+3	Do you see soft skills essential for your students' future professional success?	+4
3	Are you satisfied with your level of soft skills development?	-1	Are you satisfied with your own soft skills development as a teacher?	+3
4	Will your soft skills develop while studying at the university? Estimate your expectations.	+2	Are you satisfied with the level of your students' soft skills development?	-1
5	Do teachers pay enough attention on your soft skills development?	+1	Do you pay enough attention on students' soft skills development?	+4
6	Do you really care yourself about own soft skills' development?	+2	Do you see soft skills important in the context of Ukraine's integration to the European Higher Education Area?	+4

Table 3 shows the average level of responses taken from the questionnaire survey on the level of the specified soft skills. The average answers of students and teachers were compared again for objectivity purposes.

Table 3 gives grounds to conclude that students are significantly more optimistic in their self-assessment. The teachers usually gave them lower quantitative indicators of the level of soft skills for each of the skills types. The most positive situation in terms of assessment by teachers and students was with ethics, moral skills. But even here, the difference in the answers of the teachers and students was sometimes more than double (+3: 14 students and only 6 teachers with the same score). Both the teachers and students rated the level of leadership, professionalism (it is relatively clear, as the students were only in the second year of study), teamwork force, and entrepreneur skills rather low. As for lifelong learning skills, four students believed that they had them perfectly developed, compared to the teachers' assessment of one student of the group.

**Table 3: Results of the questionnaire survey on the number of students with the specified indicator of soft skills**

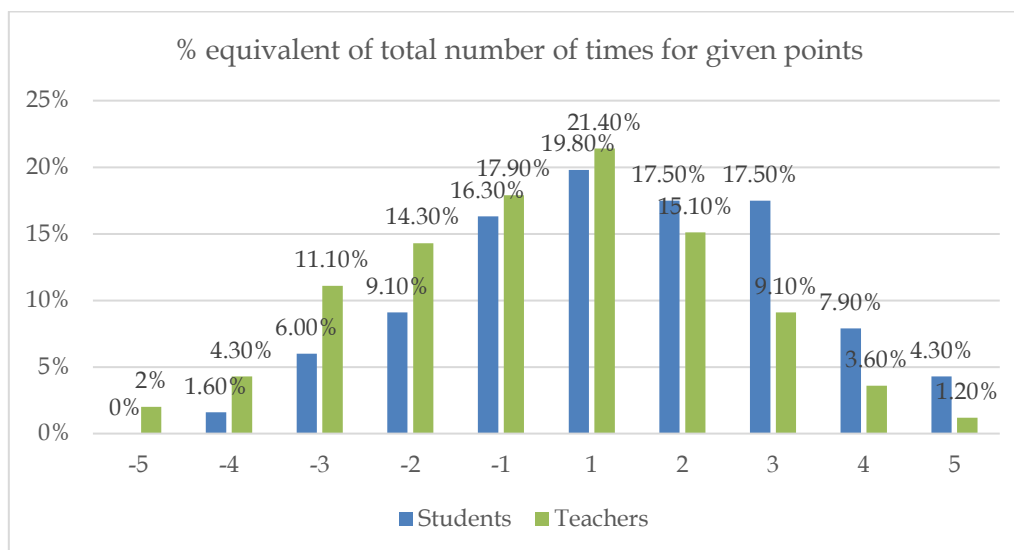
Points	-5		-4		-3		-2		-1		+1		+2		+3		+4		+5	
Responses from...	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T
<b>Skills</b>	<b>Number of students with such scoring</b>																			
Communicative	-	-	-	1	1	3	2	4	4	5	5	7	8	5	6	2	2	1	-	-
Thinking & problem-solving	-	-	-	1	2	3	3	3	5	4	7	7	5	6	3	4	2	-	1	-
Teamwork force	-	-	1	1	2	5	3	5	5	7	5	7	6	2	5	1	1	-	-	-
Lifelong learning	-	5	1	2	3	2	4	4	4	4	8	3	2	3	1	2	1	2	4	1
Information management	-	-	2	1	2	5	4	5	6	7	5	7	5	2	3	1	1	-	-	-
Entrepreneur	-	-	-	2	2	4	2	4	7	5	7	6	3	5	3	2	2	-	2	-
Ethics, moral	-	-	-	-	-	-	-	2	1	3	1	4	2	6	1	6	7	5	3	2
Professionalism	-	-	-	1	1	3	2	4	4	5	5	7	8	5	6	2	2	1	-	-
Leadership	-	-	-	2	2	3	3	5	5	5	7	6	5	4	3	3	2	-	1	-
<b>Note:</b> Responses from: S – given by 28 students for themselves; T – given by teachers for each of the 28 students																				

Table 3 is the basis for the calculation of the number and percentage of times when a certain number of points were given by teachers and students. This will provide an idea of the qualitative interpretation of the quantitative indicators of the levels of soft skills. It was calculated using the following formula: Total number of times for given points / 252 (252 = 28 students × 9 types of soft skills) × 100%. The percentage was calculated separately based on student responses and separately for the teachers.

Table 4 and Figure 2 show the total number of times for the given points in numbers and percentages, respectively. Table 4 shows that the students mostly abstained from critically low self-assessments, and the teachers from critically high ones. The students never gave -5 points, while they gave +5 as many as 11 times. In contrast, the teachers gave -5 points five times and +5 three times.

**Table 4: Total number of times for given points**

Points	-5		-4		-3		-2		-1		+1		+2		+3		+4		+5	
Responses from...	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T	S	T
Total number of times for given points	-	5	4	11	15	28	23	36	41	45	50	54	44	38	44	23	20	9	11	3
%	0	2.0	1.6	4.3	6.0	11.1	9.1	14.3	16.3	17.9	19.8	21.4	17.5	15.1	17.5	9.1	7.9	3.6	4.3	1.2



**Figure 2: Percentage equivalent of total number of times for given points**

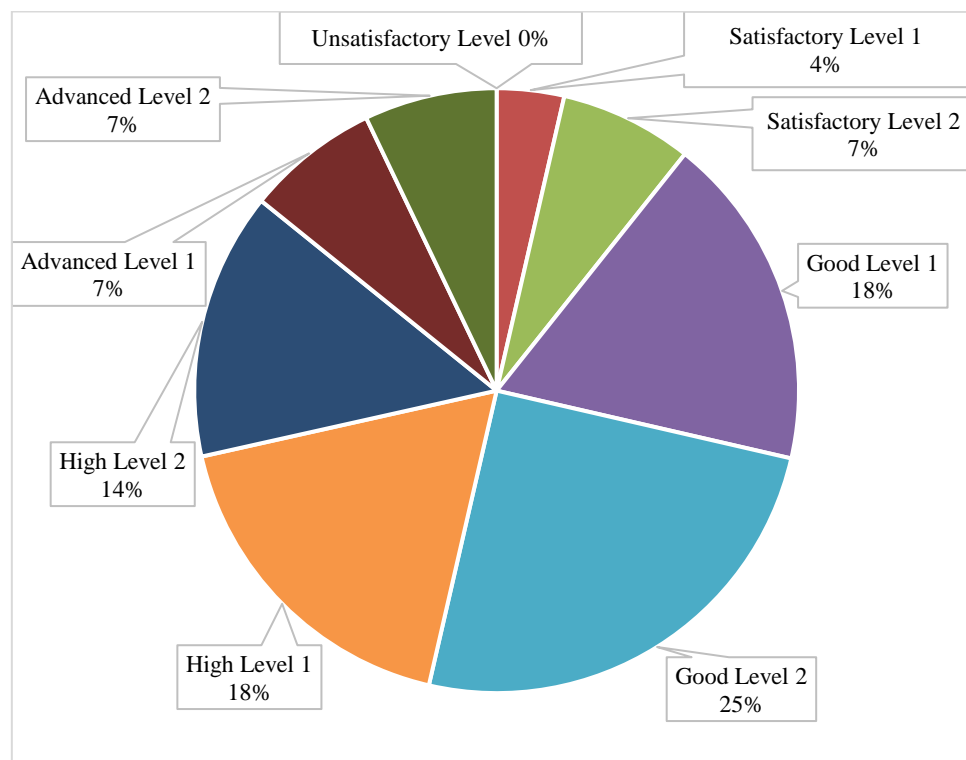
As Figure 2 shows, percentage indicators increase to the center of all values. Therefore, mean scores in the range of -3 to +3 and with an epicenter in the range of -1 to +1 were the most popular. The left side of the diagram with negative values indicates the acute problem of soft skills development. The right side is considered positive even at the +1 mark and indicates an upward trend that is more successful in the +1 range than when starting from negative marks. The obtained data determined the vector of pedagogical intentions aimed at shifting the epicenter of indicators towards a qualitatively high level of students' soft skills. Responses to the open-ended question of the questionnaires were also taken into account: "What are your ideas about the development of students' soft skills in the process of studying at the university?" The whole range of applied actions generally had a positive effect on the development of a hybrid model of soft skills development, which involved the synthesis of a standalone subject model and embedded model.

#### 4.2 Second Diagnostics of the Level of Soft Skills

Table 5 shows the distribution of the percentage of students in the determined qualitative positions of the level of soft skills according to the results of the second diagnostics. Figure 3 illustrates these data graphically.

**Table 5: Results of soft skills improvement after final diagnostics**

	Level	Number of students	% equivalent
1	≤ 89 points - unsatisfactory level	-	-
2	90-96 points - satisfactory level 1	1	3.6%
3	97-101 points - satisfactory level 2	2	7.1%
4	102-108 points - good level 1	5	17.9%
5	109-117 points - good level 2	7	25.0%
6	118-129 points - high level 1	5	17.9%
7	130-134 points - high level 2	4	14.3%
8	135-141 points - advanced level 1	2	7.1%
9	142-150 points - advanced level 2	2	7.1%



**Figure 3: Results of final diagnostics of soft skills by achieved levels**

If these results are compared with that of the first diagnostics, and all negative indicators (-5...-1) are interpreted as an unsatisfactory level, there were no participants at the stage of the final diagnostics who remained at the same level, as Table 5 indicates. Nonetheless, there were students who obtained low scores (performance rate lower than 60%) in some tests (in particular, the accountability test and teamwork test) in the analysis of individual test methods. The highest percentage of participants concentrated at the median level again. However, this is normal. The main achievement is overcoming the barrier of a negative (i.e., critically low) level of soft skills, which existed at the stage of the first diagnostics.

## 5. Discussion

The problem of soft skills development is akin to the range of future education issues (Noah et al., 2020; World Savvy, 2022), the context of Ukraine's integration into the EHEA (Paliichuk, 2021), and the change of paradigm of employability skills in the global business world in general (Bhagra & Sharma, 2018; Tan et al., 2021). Quality educational processes produce quality human capital (Pachauri & Yadav, 2014). Teacher education institutions play a very important role in creating human capital with hard skills and additional skills (soft skills) to meet the demands of new generations during transformation of the social mechanism. Teaching processes in teacher education institutions should be organized in such a way as to provide the necessary knowledge and skills to future specialists, particularly teachers (Kanokorn et al., 2014). For the sake of successful professional development, it is necessary to implement a set of activities for the development of soft skills as one of the elements of professional maturity and readiness to work in the chosen field of specialization.

The findings of the study emphasize the fundamental importance of paying attention to soft skills at the very first stages of university training of future teachers. Therefore, the perspective of our vision of the problem and approach to the soft skills development differs from that proposed by Kanokorn et al. (2014) through the soft skills development of already employed primary school teachers. We do not, however, deny the need for special trainings for the professional development of soft skills throughout pedagogical practice.

When developing the primary assessment scale, we deliberately considered both the self-assessment of students and the more objective assessment of their soft skills by teachers. It should be emphasized that at the stage of research planning at the faculty, the teachers were involved in an active creative and research cooperation on the study of the nature of soft skills and available methods of their development and analysis/assessment. Therefore, we believe that the factor of the average collective opinion of teachers about each student who participated in the next stage of the experiment is significant. It acts as a corrective factor in the self-reflection of students on their own soft skills.

At the final stage, we intentionally applied an altered but same diagnostic method as in the previous one. We did this, firstly, because the duplication of methods could indicate to the student the need to artificially rate themselves higher than at the beginning. Second, the error could be hypothetically high in relation to the assessments by the teaching staff. Third, the aim was to tie the final stage of diagnostics to the advanced Western methods of work of modern HR specialists. This especially involved their emphasis on the need to conduct a series of CAPI to screen out weak candidates before the face-to-face interviews with candidates. However, we still insist that CAPI cannot fully replace live interpersonal communication. Therefore, soft skills were also evaluated by a group of independent experts, and these evaluations were included in the score system.

In approaches to the soft skills development algorithm, the findings of this study are in full agreement with Pachauri and Yadav (2014) as well as Chondekar (2019), who advised implementing a combination of standalone subject model and embedded model for teacher education. We insist, however, that such a model is universally effective, that is, it should be implemented for the soft skills development in other categories of future specialists. A very limited description of the applied methodology is a significant drawback of many current studies on soft skills development (Lavilles & Robles, 2017). The problem is that experimental methods enable drawing of universal conclusions about the nature of soft skills, and the lack of a method description does not make it possible to establish the necessary cause-and-effect relationships between the course of actions aimed at improving soft skills and the achieved statistical results.

As for the question about whether it is the applied algorithm only that had a positive effect on the achievement of higher results in the soft skills development – the answer is no. However, a targeted program of activities aimed at soft skills development clearly contributed to the improved results. It should be taken into account that the stage of university studies coincides with the stages of growing

up, reaching maturity, and socialization of the individual, thus making a person acquire soft skills as they face life's challenges. At the same time, we do not believe that to prove the opinion about the effectiveness of the integrated soft skills algorithm, it would be possible to judge more confidently in case of organizing studies with a control group. The results of the control group would still not have a specific impact on the soft skills development in the experimental group. This can be explained by the fact that soft skills development is a highly individualized process. Success or failure in another category of participants would not mean unequivocal conclusions about the effectiveness of the algorithm. We also support the findings of Fernandes et al. (2021) regarding the lack of publications in ERIC, Scopus, Web of Science, and PsycINFO databases related to teachers' soft skills, especially empirical, not theoretical or review only. The level of teachers' professional soft skills significantly affects the success of their activities at school, therefore requiring attention at the stage of obtaining pedagogical education and in the future (Lavilles & Robles, 2017).

Novelty-related analysis of the study concerns the following positions. First, the problem of the formation of soft skills is urged in the paradigm of the Ukrainian education system, which may be relevant for other national educational systems that evolve from Soviet models or are simply integrated into the Western European educational space. Second, a diagnostic model is proposed, which can be used in further similar studies. Third, this research contributes to the general understanding of the problem of developing and diagnosing soft skills, partially compensating for the lack of existing studies of this type outlined in the previous paragraph.

## **6. Conclusions**

The need for wide-ranging knowledge and soft skills to achieve professional success in the globalized world is urged in the context of 21<sup>st</sup> century education and the active integration of Ukraine into the EHEA. Attention to soft skills and experimental research of this phenomenon today is manifested as attention to the education of the future, a progressive vision of educational institutions in their dynamic movement to meet the social needs of the population.

Therefore, the problem of soft skills development is relevant for Ukraine, as well as for most post-Soviet national education systems, which focus on hard skills development. In view of the European integration, there is an urgent need to pay attention to soft skills and to develop them from the perspective of increasing competitiveness on the European labor market, taking into account the specifics of the development and diagnostics of soft skills. It does not have a national or post-Soviet foundation only. The presented paper also makes a contribution to the general interpretation of the problems of soft skills development in students of HEIs.

The abovementioned is the reason why testing soft skills development methods is an effective way to study the nature of this category of skills and ensure their development as a response to the challenges of the employability skills paradigm. The following soft skills levels were obtained according to the results of the final

diagnostics: unsatisfactory (0%), satisfactory (10.7%), good (42.9%), high (32.2%), and advanced (14.2%) (100% in total). Therefore, the applied algorithm of the mixed method of soft skills development was proved effective for future teachers.

The key findings of the paper are the following. First, the specifics of soft skills make it possible to develop and implement various algorithms for their development and diagnostics. Second, the presented model does not pretend to be comprehensive, although we consider it reliable and relevant in the given context in which it was integrated. Third, the format of working with small groups of students is the best for the targeted development of soft skills. Fourth, there is no single soft skills development program; they are formed thanks to a holistic pedagogical program and by taking into account the extra-curricular environment of multiple communicative, social, psychological, activity, etc. connections of the students of HEIs. Fifth, the HEI plays an important, but not exclusive, role in the soft skills development of students.

## 7. Recommendations

Based on the research findings presented in this research, it is recommended to publish a manual on the used soft skills development algorithm for students of pedagogical majors (e.g., in the form of a workbook for soft skills). It is separately recommended to write a collective paper on the features of adaptation of the originally elaborated soft skills development algorithm to distance and blended learning, which was used at the stage of implementation of the pedagogical method. There is a further need to carry out surveys, as well as other forms of monitoring, and further qualitative analysis of soft skills development in students of the current experimental group after the completion of their undergraduate studies. That is, it is recommended to cover the period of active employment after completing university studies. Potentially, future employers will also be involved in the monitoring. This will enable going beyond the paradigm of a purely university perspective into the horizon of the real social space of Ukraine at the stage of active European integration. This will also make it possible to establish the necessary connection with the professional sphere of future teachers. Besides, such monitoring will provide insight about the sustainability and potential of soft skills development after the formal completion of the experimental program.

The model of soft skills diagnostics presented in this paper can be used for purposeful influence on the soft skills of future teachers and representatives of other professions. We believe that the model is universal, and, with certain adjustments, can be applied to other categories of students, especially majoring in the humanities.

## 8. References

- Antoniuk, V. (2021). Integration of higher education of Ukraine in the European educational area for the development of human capital. *Journal of European Economy*, 20(3), 573–595.  
<http://jeej.wunu.edu.ua/index.php/ukjee/article/view/1554>
- Bak, O., Jordan, C., & Midgley, J. (2019). The adoption of soft skills in supply chain and understanding their current role in supply chain management skills agenda: A

- UK perspective. *Benchmarking: An International Journal*, 26(3), 1063–1079. <https://doi.org/10.1108/BIJ-05-2018-0118>
- Bateson, J., Wirtz, J., Burke, E., & Vaughan, C. (2013). When hiring, first test, and then interview. *Harvard Business Review*. <https://hbr.org/2013/11/when-hiring-first-test-and-then-interview>
- Bhagra, A., & Sharma, D. K. (2018). Changing paradigm of employability skills in the global business world: A review. *IUP Journal of Soft Skills*, 12(2), 7–24. <https://www.proquest.com/openview/2d66d0dbe6960c8387475d09ad27bb8b/1?pq-origsite=gscholar&cbl=2029989#>
- Boiko, A. (2021). Innovative development of non-formal education in Ukraine: Definition of soft skills. *Theoretical and Methodical Problems of Children and Youth Education*, 25(1), 22–33. <https://doi.org/10.32405/2308-3778-2021-25-1-22-33>
- Borrego, G., Morán, A. L., Palacio, R. R., Vizcaíno, A., & García, F. O. (2019). Towards a reduction in architectural knowledge vaporization during agile global software development. *Information and Software Technology*, 112, 68–82. <https://doi.org/10.1016/j.infsof.2019.04.008>
- Braillko, Y., Palekha, O., & Rudych, O. (2022). Primary school teachers' soft skills development while teaching philological disciplines. *Aesthetics and Ethics of Pedagogical Action*, 25, 94–104. <https://doi.org/10.33989/2226-4051.2022.25.256659>
- Chondekar, N. R. (2019). Significance and application of soft skill development in teacher education. *International Journal of Science and Research*, 8, 1964–1966. <https://www.ijsr.net/archive/v8i12/31121903.pdf>
- Fernandes, P. R. D. S., Jardim, J., & Lopes, M. C. D. S. (2021). The soft skills of special education teachers: Evidence from the literature. *Education Sciences*, 11(3), 125. <https://doi.org/10.3390/educsci11030125>
- Gagina, N., Los, O., & Mestharm, O. (2019). Methods of soft skills development in higher educational institutions in Ukraine. In L. Simeonova Popova, G. Dzwonkowska, J. Badjanova, & E. Uteubaeva (Eds.), *Problem space of modern society: Philosophical-communicative and pedagogical interpretations. Collective monograph. Part II* (pp. 68–81). BMT Erida. <https://www.ssoar.info/ssoar/handle/document/61814>
- Guerra-Báez, S. P. (2019). A panoramic review of soft skills training in university students. *Psicología Escolar e Educacional*, 23. <https://doi.org/10.1590/2175-35392019016464>
- Kanokorn, S., Pongtorn, P., & Sujanya, S. (2014). Soft skills development to enhance teachers' competencies in primary schools. *Procedia – Social and Behavioral Sciences*, 112, 842–846. <https://doi.org/10.1016/j.sbspro.2014.01.1240>
- Khan, E. (2018). The adaptation of the Ukrainian legislation to the European norms in the process of accession to the joint European educational space. *European Historical Studies*, 10, 29–49. <http://doi.org/10.17721/2524-048X.2018.10.29-49>
- Kniaz, H., & Chukhno, O. (2021). English trainee teachers' perspective on soft skills development in Ukraine. *Arab World English Journal, Spec. 7*, 299–313. <https://dx.doi.org/10.24093/awej/call7.21>
- Lavilles, H. L., & Robles, A. C. M. (2017). Teachers' soft skill proficiency level and school performance of selected schools in Sultan Kudarat Division. *Journal of Advances in Humanities and Social Sciences*, 3(1), 10–28. <https://doi.org/10.20474/jahss-3.1.2>
- Lepeley, M. T., Beutell, N. J., Abarca, N., & Majluf, N. (Eds.). (2021). *Soft skills for human centered management and global sustainability*. Taylor and Francis. <https://www.routledge.com/Soft-Skills-for-Human-Centered-Management-and-Global-Sustainability/Lepeley-Beutell-Abarca-Majluf/p/book/9780367556419>



- Lombardi, R. (2019). Knowledge transfer and organizational performance and business process: Past, present and future researches. *Business Process Management Journal*, 25(1), 2–9. <https://doi.org/10.1108/BPMJ-02-2019-368>
- Mitsea, E., Drigas, A., & Mantas, P. (2021). Soft skills & metacognition as inclusion amplifiers in the 21st century. *International Journal of Online & Biomedical Engineering*, 17(4), 121–132. <https://doi.org/10.3991/ijoe.v17i04.20567>
- Noah, J. B., Binti, A., & Aziz, A. A. (2020). A case study on the development of soft skills among TESL graduates in a university. *Universal Journal of Educational Research*, 8(10), 4610–4617. <http://dx.doi.org/10.13189/ujer.2020.081029>
- Pachauri, D., & Yadav, A. (2014). Importance of soft skills in teacher education programme. *International Journal of Educational Research and Technology*, 5(1), 22–25. <https://www.semanticscholar.org/paper/Importance-of-Soft-Skills-in-Teacher-Education-Pachauri-Yadav/40376804264e82f22887d3f31f036a0319aaa7d1>
- Paliichuk, E. (2021). Freelancing, translating, observing: Association4U case study. *SHS Web of Conferences*, 105, 10. <https://doi.org/10.1051/shsconf/202110505003>
- Putra, A. S., Novitasari, D., Asbari, M., Purwanto, A., Iskandar, J., Hutagalung, D., & Cahyono, Y. (2020). Examine relationship of soft skills, hard skills, innovation and performance: The mediation effect of organizational learning. *International Journal of Science and Management Studies*, 3(3), 27–43. <https://www.ijmsjournal.org/2020/volume-3%20issue-3/ijms-v3i3p104.pdf>
- Shkarlet, S. (2020). The reforms of the MES are directed to European integration of Ukraine. *Ministry of Education and Science of Ukraine*. <https://mon.gov.ua/ua/news/reformi-mon-napravleni-na-yevrointegraciyu-ukrayini-sergij-shkarlet>
- Sonetti, G., Barioglio, C., & Campobenedetto, D. (2020). Education for sustainability in practice: A review of current strategies within Italian universities. *Sustainability*, 12(13). <https://doi.org/10.3390/su12135246>
- Sousa, M. J., & Rocha, Á. (2019). Strategic knowledge management in the digital age. *Journal of Business Research*, 91, 223–226. <http://dx.doi.org/10.1016/j.jbusres.2018.10.016>
- Tan, C. Y., Abdullah, A. G. K., & Ali, A. J. (2021). Soft skill integration for inspiring critical employability skills in private higher education. *Eurasian Journal of Educational Research*, 92, 23–39. <https://eric.ed.gov/?id=EJ1293643>
- Tang, K. N. (2020). The importance of soft skills acquisition by teachers in higher education institutions. *Kasetsart Journal of Social Sciences*, 41(1), 22–27. <http://dx.doi.org/10.1016/j.kjss.2018.01.002>
- Touloumakos, A. K. (2020). Expanded yet restricted: A mini review of the soft skills literature. *Frontiers in Psychology*, 11, 2207. <https://doi.org/10.3389/fpsyg.2020.02207>
- Tsirakas, K., Chytiri, A. P., & Bouranta, N. (2020). The gap in soft skills perceptions: A dyadic analysis. *Education + Training*, 62(4), 357–377. <https://doi.org/10.1108/ET-03-2019-0060>
- Tsymbaliuk, S., Shkoda, T., & Artiushyna, M. (2019). Assessing and improving vocational teachers' education and training in Ukraine. *Advanced Education*, 6(13), 70–80. <https://doi.org/10.20535/2410-8286.153575>
- UNESCO. (2016). *Education 2030: Incheon declaration and framework for action for the implementation of sustainable development goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*. [http://uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en\\_2.pdf](http://uis.unesco.org/sites/default/files/documents/education-2030-incheon-framework-for-action-implementation-of-sdg4-2016-en_2.pdf)

University of Washington. (2022). *Grading scale: 150 point exam*.  
[http://depts.washington.edu/leadta/hist\\_ta\\_web/resources/practice/grading/grade\\_conversion\\_150pt.pdf](http://depts.washington.edu/leadta/hist_ta_web/resources/practice/grading/grade_conversion_150pt.pdf)

Whitmore, P. G., & Fry, J. P. (1974). *Soft skills: Definition, behavioral model analysis, training procedures* [Professional paper]. National Technical Information Service, Springfield, VA. <https://catalogue.nla.gov.au/Record/5354059>

World Savvy. (2022). Soft skills are not soft: Redefining essential skills for a future-ready classroom. *Childhood Education, 98*(5), 46-49.  
<https://doi.org/10.1080/00094056.2022.2115819>

## Appendix A

Student's questionnaire

Tell us about you soft skills awareness & Estimate your soft skills

### Part I. General Questions

The essence of the question		-5	-4	-3	-2	-1	+1	+2	+3	+4	+5
1	Do you know what are the soft skills?										
2	Do you see soft skills essential for future professional success?										
3	Are you satisfied with your level of soft skills development?										
4	Will your soft skills develop while studying at the university? Estimate your expectations.										
5	Do teachers pay enough attention on your soft skills development?										
6	Do you really care yourself about own soft skills' development?										

### Part II. Specific Questions

Skills under estimation		-5	-4	-3	-2	-1	+1	+2	+3	+4	+5
1	Communicative Skills										
2	Thinking & Problem Solving Skills										
3	Teamwork Force Skills										
4	Life-Long Learning Skills										
5	Information Management Skills										
6	Entrepreneur Skills										
7	Ethics, Moral Skills										
8	Professionalism Skills										
9	Leadership Skills										

*What are your ideas about the development of student's soft skills in the process of studying at the university?*

---



---

## Appendix B

Teacher's questionnaire

### Part I. General anonymous part (fill in just one time)

The essence of the question		-5	-4	-3	-2	-1	+1	+2	+3	+4	+5
1	Do you know what are the soft skills?										
2	Do you see soft skills essential for your students' future professional success?										
3	Are you satisfied with your own soft skills development as a teacher?										
4	Are you satisfied with the level of your students' soft skills development?										
5	Do you pay enough attention on students' soft skills development?										
6	Do you see soft skills important in the context of Ukraine's integration to the European Higher Education Area?										

### Part II. Estimate student's \_\_\_\_\_ soft skills

(Write here the name of student under consideration)

(\*fill in to estimate each student of the experimental group)

Skills under estimation		-5	-4	-3	-2	-1	+1	+2	+3	+4	+5
1	Communicative Skills										
2	Thinking & Problem solving skills										
3	Teamwork force skills										
4	Life-long learning skills										
5	Information Management Skills										
6	Entrepreneur Skills										
7	Ethics, moral skills										
8	Professionalism skills										
9	Leadership skills										

*What are your ideas about the development of student's soft skills in the process of studying at the university?*

---



---



---