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Diagnosing Soft Skills in Primary School Students within the Context of the New Ukrainian School Reform

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Abstract: The paper presents findings of the study conducted on soft skills (transversal skills) in Ukrainian primary school students. The study sample encompasses students representing 150 schools of various types, including experimental schools involved in piloting of the new State Standard of Primary Education. Six students were randomly selected among third graders (aged 8-9) from each school. The study employed such methods as case study, observation, content analysis and survey. Their combination allowed for a comprehensive investigation of primary school students' soft skills.

The findings have shown that students' best-developed skills are those belonging to personal and social domains, namely collaboration and copying with emotions. The weakest skills are related to cognitive domain and include critical and systemic thinking, reading comprehension, ability to logically argue for one's position. Students in pilot schools have revealed certain advantage over other students in such skills as ability to articulate thoughts orally and in writing, creativity, initiative, collaboration, and problem-solving.

The study of the formation of cross-cutting skills of students was carried out using the case method, observation method, content analysis and questionnaires.

To determine the level of formation of each end-to-end skill, a methodology was developed, which was based on taking into account the results of the group's performance of both tasks (cognitive and creative) and expert observations of the implementation process.

Keywords: *soft skills (transversal skills); case study; observation; content analysis; surveying.*

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Introduction

Establishment of a competency-based approach in global pedagogy has significantly enhanced the role of the so-called 'soft' skills in schooling. For the first time, the set of soft skills relevant for the 21st century was published by the World Economic Forum in 2015. In the following five years, this list was being continuously adjusted, and in 2020 the Top 10 skills were defined as: analytical thinking and innovation; active learning and learning strategies; complex problem-solving; critical thinking and analysis; creativity, originality and initiative; leadership and social influence; technology use, monitoring and control; technology design and programming; resilience, stress tolerance and flexibility; reasoning, problem-solving and ideation (World Economic Forum, 2020).

These developments have triggered changes in education policies all over the world, including Ukraine. International monitoring studies (PISA, TIMMS, PIRLS) also focus not only on subject-specific knowledge and skills but also on soft skills.

In 2016 Ukraine embarked on the general secondary education reform, called the New Ukrainian School, aiming to achieve a major overhaul of the education content, including development of soft skills in students. The Ukrainian Law on Education (Verkhovna Rada of Ukraine, 2017) provides a list of skills common for all key competences, comparable with the set of soft skills proposed by the World Economic Forum: reading comprehension, ability to articulate one's thoughts orally and in writing, critical and systemic thinking, creativity, initiative, ability to logically argue for one's position, ability to cope with one's emotions in a constructive way, risk assessment, decision-making, problem-solving, collaboration (Verkhovna Rada of Ukraine 2017, art. 12). This list, in its turn, informs the definition of mandatory students' learning outcomes in the State Standard for Primary Education (Cabinet of Ministers of Ukraine, 2018) and the State Standard for Lower-Secondary Education (Cabinet of Ministers of Ukraine, 2020). These reference points are quite new for Ukrainian educators as it is not something that curricula developers and teachers used to focus on. Hence the need to explore special features of building such skills in students in the process of instruction.

The rollout of the New Ukrainian School Reform started in 2017/18 school year with piloting of the State Standard for Primary Education in 100 schools, and in 2018/19 school year, all first-graders in all Ukrainian schools started their schooling according to the new State Standard and Model Curricula.

Literature review

The theoretical framework for this study is multi-dimensional; it includes theoretical and experimental exploration of various specific aspects regarding soft skills development in students and teachers, grouping of soft skills, examining the specificity of group interaction among students, and research methodology rationale.

The first aspect of theoretical research relates to the 21st century skills as an object of scholarly interest among contemporary scholars. In scientific research, the topic of soft skills in students and 21st century competences has also been gaining popularity in recent decade.

It should be noted that *soft skills* as a term remains to be disputable within education communities. Alongside references to *soft skills*, the OECD studies (OECD, 2021), various academic and education circles use the term *social and emotional learning* (SEL) (Deming, 2017, Matteson et al., 2016). We agree with Joksimovic, Siemens, Wang, San Pedro & Way, 2020 that the diversity of terminology to name respective skills will only increase. In Ukraine, for example, a commonly used term is *transversal skills*. However, the list of abilities and their characteristics strongly suggests that these concepts are essentially identical, because they all include the same set of elements.

The publication "Assessment and Teaching of 21st Century Skills" (Binkley et al., 2012) describes new ways of thinking and 21st century skills, giving operational definition of such skills. The authors also propose methodological and technological solutions for assessment of education process, concluding that success lies in the ability to communicate, share, and use information to solve complex problems.

Numerous research papers (Binkley et al., 2012; Collet et al., 2015; Matteson et al. 2016) prove the importance of social skills alongside cognitive skills and offer approaches and tools to research them (Bruine de Bruin et al., 2020; Buckingham et al., 2016; Lai & Viering, 2012).

The second aspect of theoretical study concerns structuring of soft skills. European Commission (2020) describes nine competences organized in three areas: *Personal Area*, *Social Area*, and *Learning to Learn Area*. The *Personal Area* includes self-regulation, flexibility, and wellbeing; the *Social Area* includes empathy, communication, and collaboration; and the *Learning to Learn Area* includes growth mindset, critical thinking, and managing learning. Similar approach to classification is found in Collet, Plessis & Hine (2015). The authors identify ten soft skills and group them into cognitive, interpersonal, and intrapersonal dimensions.

Transversal skills defined in the Ukrainian educators' community have somewhat different emphasis, but still can also be grouped into three areas mentioned above. For example, creativity and ability to cope with one's emotions can be referred to the personal area; ability to collaborate would be attributed to the social area, and the cognitive (*learning to learn*) area would include such skills as reading comprehension, ability to articulate thoughts orally and in writing, critical systemic thinking, ability to logically argue for one's position, ability to solve problems and assess risks. It is apparent that skills falling into cognitive domain predominate in this approach.

Determining attribution of transversal skills to individual areas is a way to gain deeper understanding of their nature, establish causality and envisage paths for their further development.

Aspects of student interaction are of interest for our research, because the research methodology stipulates the study of students' soft skills in the process of group interaction. This aspect is addressed by Han, Krieger & Greiff (2021) who investigate interactions among students, teachers, and content interwoven with time. Another work which presents interest for our research is by Worsley, Anderson, Melo & Jang (2021) who identify seven different dimensions (7C): Climate, Compatibility, Communication, Conflict, Context, Contribution, and Constructive, based on a survey of 131 university students. These categories expand prior research and can be used as criteria to evaluate effectiveness of collaboration, allowing to focus on different dimensions of group interaction.

Well-developed social and emotional skills are important drivers of academic accomplishments in ordinary education settings. This proposition is supported by the findings of the OECD international survey *Beyond Academic Learning* (2021). The survey was aimed to examine and evaluate conditions and factors contributing or inhibiting development of social and emotional skills in children at age 10 and 15. Reports of typical behaviours, thoughts and feelings were used to measure social and emotional skills. Necessary information was collected through a survey of 10-year-old and 15-year-old students, their parents and teachers from 9 countries.

There is a balanced set of questions/items per scale in the form of simple statements such as "I like learning new things" (item assessing students' creativity) and "I stay calm even in tense situations" (item assessing stress resistance). Researchers used a 5-point Likert type agree/disagree response scale, with answers ranging from 1 — completely disagree to 5 — completely agree. These methods are used the most frequently in soft skills assessments. They provide a simple and efficient way to collect information

from a large number of respondents and provide a remarkably high approximation of objective measures.

The next aspect of theoretical exploration is related to research methodology, which is addressed in the section below.

Metodology

The nationwide study was carried out in Ukraine as an effort to monitor effectiveness of the education reform, with one of the objectives being to assess transversal (soft) skills in primary school students. The sample was composed of 3-grade students at primary level of education. The rationale behind this choice relates to the Ukrainian legislative framework that envisages two cycles within primary schooling: Cycle I (grades 1-2) – Adaptation and Play; and Cycle II (grades 3-4) – Subject-Based Learning. Thus, the study focused on transversal skills of students who have completed Cycle I before the mass-scale implementation of the education reform, so the sample included students from pilot schools who studied according to the new State Standard.

The geographic coverage included 24 Ukrainian oblasts and the city of Kyiv. Furthermore, in each oblast the sample covered all types of populated areas – oblast centres, large cities with population over 100,000 residents as well as towns, townships, and villages. The sample represents 36 large cities, including 25 oblast administrative centres, 51 towns and townships, and 39 villages. The survey included 150 schools and used stratified sampling based on three school types: pilot schools; specialized schools (gymnasiums, lyceums, collegiums, schools offering advanced programmes in individual subjects); mainstream schools.

To study transversal skills, in each school a group of six students was randomly selected and asked to complete two competence-based assignments. In primary school grades, when learning activity is still not developed at individual level, the student community is a subject. Therefore, for the purpose of this research, it is a group of students that possesses transversal skills rather than individual students in a class.

Homogeneity of grouping was ensured by the adopted selection approach: each group was formed by selecting students from the same class, meaning that they were approximately the same age and having similar experience (or lack thereof) with competence-based assignments in school. For the purpose of this research, it was also important for children to be selected randomly, instead of using some pre-defined criteria (such as performance, gender, etc.).

The development of students' transversal skills was studied through application of the following methods: case study, observation, content analysis and survey.

Case study

Case study method is used both for learning purposes and for researching various social, managerial, or economic processes. This is the perspective adopted by many researchers (Thomas, 2021, Zainal, 2007).

An essential feature of case study research is the opportunity for a holistic view of the process, when observations enable to study many different aspects (Gummesson, 1988). Yin defines a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the object of study and context are not clearly evident and the investigator has little control over events" (Yin, 1989). Yin views the goal of case studies as understanding complex social phenomena and real-life events. The case study is also defined as an ideal methodology when a holistic, in-depth investigation is needed (Feagin et al., 1991).

In our study, we created the situation of students' school life, specifically the situation of group interaction for its comprehensive investigation through expert observation.

Another aspect of application was related to designing case assignments to be completed by a group. We designed a competence-based assignment that involved processing of texts. In this research, a competence-based assignment is understood as an assignment that simulates a real-life situation and requires from students processing of several sources to be achieved successfully.

The development of competence-based assignments was informed by the studies of Zanchi & Zampini (2021), Thomas (2021), as well as PISA framework document (OECD, 2013). Since the competence-based assignment involved reading and interpretation of texts, as a basis we took reading processes that could be assessed: finding information (accessing and identifying information, looking for and selecting necessary text), comprehension (deriving direct meaning, integrating meanings, making inferences, identifying and addressing contradictions), evaluation and reflection (evaluating quality and accurateness of texts, reflecting on content and form).

The selection of sources for competence-based assignments was guided by several considerations:

- diversity of form (fiction, nonfiction, chart, map, image, etc.);

- diversity of relations between information sources: overlapping information items across different sources; subordination of information items; complementarity of information items across different sources; contradictions and contrasting information items);
- correspondence between information contained in sources with various education areas in the State Standard for Primary Education (language and literature, mathematics, sciences, civics, and history).

The designed methodologies and assignments have been reviewed by international experts: Malgorzata Zytko, University of Warsaw Professor, Patricia Castanheira, the Lego Foundation research specialist, Pasi Reinikainen, key expert of the Finnish Education Institute.

Each group of students performed two competence-based assignments that were different in function, content, and form. Experts' observation was focused on performance of these tasks by groups.

Observation method

The methodology for observation and evaluation of observation findings was based on research by Carroll & O'Loughlin (2014), Angrosino & Rosenberg (2011). A set of measures was developed to observation manifestations of transversal skills during performance of competence-based assignments, and experts were familiarized with these measures in advance.

To ensure the group dynamics, it was expert, not teacher, who instructed the students and interacted with a group as necessary during their performance of competence-based assignments. The group was working on given assignments in a separate space with neither teacher nor school administrators present.

The data was consolidated by converting qualitative findings into the quantitative four-level scale – low, medium, fair, and high.

Content analysis

In addition to observation of students' performance of competence-based assignments, successful completion of tasks was assessed, followed by content analysis of students' performance of the second assignment that involved creativity. Content analysis is a method to study oral or written communication messages (Cole, 1988).

The elaboration of content analysis methodology used the research by Weber (1990), Drisko & Maschi (2016), and Stemler (2015).

The object of content analysis was creative assignments performed by students. In particular, attention was given to the nature of students' inputs, originality of material presentation on posters, independent

reasoning. Records were also made of how successfully students completed their tasks to compare the quality of process with outcomes of group effort.

Besides identifying the dependence of groupwork outcomes on process-related factors, the content analysis findings were taken in consideration during evaluation of such soft skills as creativity, critical and systemic thinking, ability to logically argue for one's position.

Survey

The student survey was used to analyse the results of their self-assessment of comfort and efficiency of teamwork and performance of case tasks. The toolkit was developed based on the research by Krosnick (2018), and Saris & Gallhofer (2014).

Students were to complete post-performance self-assessment of their participation in teamwork by answering a set of questions.

The questionnaire included the following blocks: emotions relating to groupwork ("Did you enjoy working in a group? Please explain your answer. Would you like to work in a team next time?"); teamwork efficiency ("Did the team benefit from your participation in addressing the task? Please explain your answer."); mutual assistance in a team ("Were team members helping each other?").

The questionnaire used close-ended questions with answer options. Answer options were also offered in questions seeking explanation. This approach was chosen mainly due to the age of students.

The survey findings were used in the analysis of teamwork observations as an additional source of information and measure confirming fairness of expert's conclusions.

Determining the degree of skill development

To determine the degree of transversal skill development, a methodology was designed based on consideration of group performance on both (cognitive and creative) assignments and expert observations of performance process.

Reading comprehension was analysed based on students' performance on both competence-based assignments that involved processing, analysis, interpretation, evaluation, and transformation of several texts.

Ability to articulate thoughts orally and in writing was studied based on expert observations of the process of students' performance on both competence-based assignments as well as the results of content analysis of students' performance of the second assignment.

Critical and systemic thinking was assessed based on the performance of the first competence-based assignment involving identification of true/false/doubtful statements and based on systemic presentation of credible material in the second assignment.

Creativity was determined based on content analysis of students' performance of the second competence-based assignment and expert observation of ideas generation in a group.

Initiative was determined based on expert observation of such measures as "performance of the role of other participants", and "ability to control one's time, situation as a whole, other participants".

Ability to logically argue for one's position was investigated based on experts' records of ways of argumentation offered by students during group discussions.

Ability to cope with one's emotions was investigated based on expert observations of students' behaviour and emotional reactions during their selection for the groupwork and performance of both competence-based assignments as well as their ability to prevent conflict and independently manage conflict when one arises.

Decision-making skills were assessed on the basis of observations of the process of students' performance on both competence-based assignments.

Problem-solving skills were assessed on the basis of observations of students' performance in terms of content and form of presentation of their outcomes and efficiency in solving of both competence-based assignments in the focus group.

Collaboration within a group was assessed using such measures as mutual assistance in a group, engagement, performance, and distribution of roles in a group.

Results

The analysis of study findings was conducted in several strands: to identify main trends in primary school students' acquisition of transversal skills; to compare findings from pilot schools with findings from other schools included in the sample; to identify essential characteristics (learning environment) for groups of students with highest and lowest scores in order to substantiate conditions that have positive and negative impact on building soft skills.

Based on this research, we were able to identify the following trends.

1. *Reading comprehension* turned out to be one of the skills for which students demonstrated the lowest performance. Only 22% of students displayed high level of reading comprehension skills.

Similar trend was also revealed for other skills and abilities related to cognition and learning.

2. *Ability to articulate thoughts orally and in writing* during performance of creative (second) task was revealed to be at a higher level, comparing to performance of cognitive (first) task. It is considerably easier for students to express themselves orally than in writing. The majority (82% and 88% for the first task and the second task, respectively) engaged in discussions during performance; about half of discussions were triggered by the need to ask other group participants to repeat or clarify information; discussion involving argumentation took place in 19% and 26% of student groups during their work on the first task and the second task, respectively.

While working on the second (creative) task, students were more willing to engage in productive discussions and their inputs were more understandable to each other.

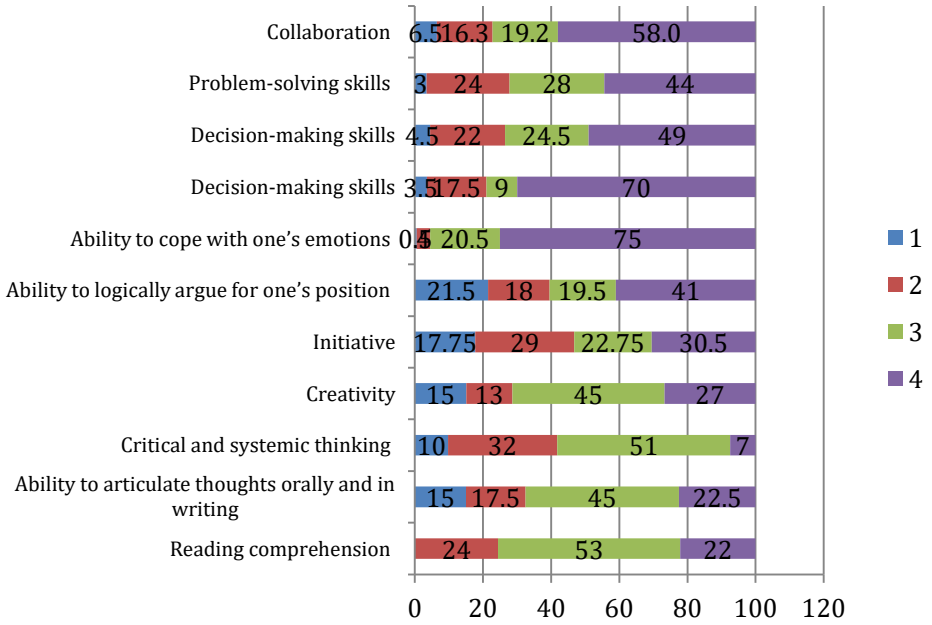

Fig. 1. Overall results from the study of the development of transversal skills in 3-grade students
Source: Authors' own conception

1. *Critical and systemic thinking* is not sufficiently developed in primary school students: only 7% identified all false statements in the assignment and displayed the ability to structure information and present it in a systematic way; 51% were quite successful in the task performance, albeit with a few mistakes; and 10% did not display any elements of critical and systemic thinking at all.

2. *Creative* tasks appeared to be more interesting and emotionally rewarding for children than cognitive tasks that involved processing, analysis, interpretation, evaluation of texts. Students were also more successful in completion of creative tasks: in the course of performance, they were more successful in articulating their thoughts orally, generating ideas, self-organizing in a group, coping with emotions in a constructive way, decision-making, engagement in task performance and mutual assistance.

3. The display of *initiative* was observed in half of the groups: 45% and 47% of students took on roles of other participants, when needed. This can signify appropriate mutual help, but also excessive expression of leadership by some participants. When asked, students took on roles of other participants in 41% of cases during performance of the first assignment and 38% of cases during performance of the second assignment. Here no significant differences were found in the behaviour of students during performance of the first and second assignment.

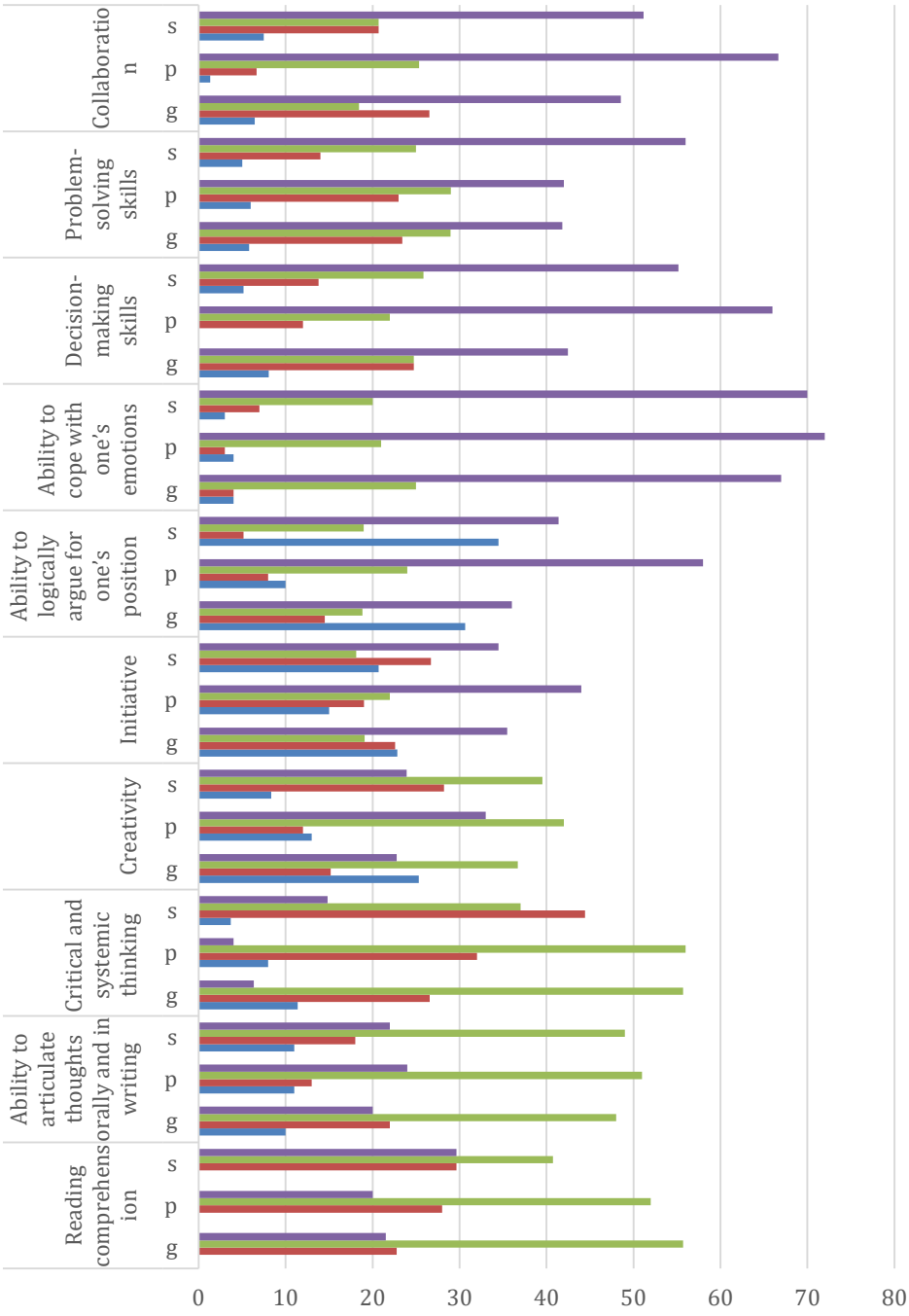

Fig. 2. Comparison of findings for different types of schools (G – general schools, P – pilot schools, S – specialized schools). Source: Authors' own conception

1. When challenged to *logically argue for one's position*, primary school students are not always able to offer compelling evidence. Only 60.5% of participants can logically argue for their position (41% used information from texts as arguments, 19.5% offered arguments based on their own experience).

2. The best developed transversal skill appeared to be the *ability to cope with one's emotions in a constructive way*. During task performance, 75% of students displayed positive emotions, 20.5% displayed a well-balanced mix of positive and negative emotions, 4% displayed no emotions during groupwork, and only 0.5% had prevalent negative emotions. Experts were able to observe the ability to overcome conflict in 38% of groups, among which 70% of students demonstrated the ability to resolve conflict in the group on their own, which is sufficiently high, since the ability to resolve conflict in a constructive way has a complex and integrated nature and is only nascent in primary school. In 17.5% of cases, the conflict was resolved with the help of the expert, and only in 3.5% of cases the group was not able to resolve conflict.

3. *The ability to take joint decisions* was displayed by approximately half of students (45% during performance of the first assignment, and 53% during performance of the second assignment). The groups appeared to be unable to reach joint decisions in 6% and 3% of cases, respectively; and 26% and 19% of groups were able to do so with the help from the expert.

4. High level of *problem-solving skills* was demonstrated by less than half of group participants (44.5%).

5. More than half of student groups (58%) demonstrated the *ability to collaborate within the team* (revealed the ability to interact, help each other and organize themselves in a group).

The observation of groupwork yielded the highest scores for 3-graders on the 'mutual assistance' measure: 84% of students demonstrated readiness to help in a group manifested as offers of help to others during task performance, mutual support, and effective interaction in a team. 19% of students collaborated in a group, with some misunderstandings or uncoordinated work observed; 16% of groups demonstrated elements of group interaction but at the same time their work was largely uncoordinated, there were difficulties with distribution of roles, ability to agree on how the task should be dealt with, etc., and 7% of students displayed inability to jointly work on a task.

The comparison of findings from pilot schools, where students were following the new State Standard, with findings from other schools revealed the following.

The most significant differences (more than 10%) between students in pilot schools and in other schools were identified in the following areas of transversal skills: collaboration, decision-making, problem-solving, ability to argue for one's position, initiative, and creativity.

Students in pilot schools demonstrated somewhat higher scores on the ability to articulate their thoughts orally and in writing, but the difference versus students from non-pilot schools was found to be insignificant.

This cohort also demonstrated high results on such measures as ability to generate ideas (in 50% of cases all or almost all students produced ideas during discussions); initiative (66% demonstrated high and fair levels); engagement in discussion (more than 90% of groups demonstrated active involvement); positive emotional atmosphere of collaboration; problem-solving skills (70% demonstrated high level; 21% demonstrated fair level); interaction within a team.

The obtained findings show that students in pilot schools outperform other students in almost all soft skills. This gives reasons to assert that the new State Standard and curricula are indeed more conductive for building soft skills in students.

The analysis of learning environment of best-performing groups has helped identify the following common characteristics: class size from 20 to 30 students, teachers systematically use individual and pair work in classroom.

The groups with lowest performance share the following characteristics: children attend general schools in rural areas or small towns; class size is less than 20 students; teachers prefer front-facing instruction.

All this suggests that school type (which typically also determines qualification of teachers), class size and organization of classroom learning are contributors affecting acquisition of soft skills. However, class size may not be a significant factor, since rural schools generally have smaller classes than urban schools, and the same is true for non-specialized versus specialized schools.

Discussion

Transversal skills are rather challenging to study because they are more visible in the process than in the result. Furthermore, for the observation purposes, it is essential to select such types of activity that would require from participants simultaneous application of several skills. Nevertheless, the analysis focused both on process and results of students' performance. The first task served as a basis to assess reading comprehension and critical and systemic thinking, whereas students'

performance on the second task helped assess their creativity and ability to articulate their thoughts in writing. Both tasks served to assess the rest of transversal skills: ability to articulate thoughts orally, initiative, ability to logically argue for one's position, to cope with one's emotions in a constructive way, to assess risks, to take decisions, to solve problems, and to collaborate.

To this end, several methods were used for the diagnostics: case study, observation, content analysis and student survey. Experts focused their observation on groups comprised of six students who were randomly selected through play. This method of grouping had a positive impact: it reduced tension among children and helped avoid potential influence of their teacher on the selection process. Students' motivation was ensured through playful task setting. Experts involved in the observation exercise confirmed the efficacy of this method and its positive impact on organization of groupwork.

Observation protocols in tabular format provided rather comprehensive information about identified transversal skills. On the downside, conclusions were drawn from observations and as such were dependent on experts' preparedness. At the same time, we do not envisage any other way to assess transversal skills since there manifestations can be detected only through observation.

Another downside of such group observation method is impossibility to draw conclusions about individual participants. However, most transversal skills are difficult to reveal outside of the group context; therefore, we believe that, in principle, interaction of students in a group is an appropriate object of observation.

The analysis of study findings reveals that medium-size classes (20 to 30 students) have shown better performance that small (<20) or large (>30) classes. At the same time, we propose that in this particular case it is not the class size but rather the school location that plays a significant role, since small classes are mainly found in rural schools. It means that the findings are to be treated carefully, without making hasty conclusions.

In the analysis process, some differences were noticed between students' performance on the second (creative) and first (cognitive) tasks. It also suggests that the nature of assignment influences identification of transversal skills. This observation is important when it comes to producing guidelines for teacher with regard to building transversal skills in students.

The identified advantages and downsides of the designed methodology will be taken into account during the second phase of monitoring.

Conclusion

For the purpose of monitoring study, the methodology was designed and tested to diagnose soft skills in primary school students involving a combination of methods: case study, observation, content analysis and survey. Piloting of the methodology enabled to conclude that the selected combination of methods was appropriate and suitable for a comprehensive study of skills that, by their nature, belong to different domains: personal, social, and cognitive. The core methods that allowed for making inferences about development of soft skills were observation and content analysis.

The findings of the monitoring study aimed to explore the effectiveness of building transversal skills in primary school students in Ukraine in the context of education reform helped establish the following trends. The best-developed skills are related to personal and social domains: collaboration and coping with one's emotions. The weakest skills are those related to cognitive domain: critical and systemic thinking, reading comprehension, ability to logically argue for one's position. Students that follow the new State Standard have demonstrated better performance as regards ability to articulate thoughts orally and in writing, creativity, initiative, collaboration, and problem-solving.

It has been found that groups that successfully completed offered assignments share some common characteristics: class size from 20 to 30 students, teachers systematically use individual and pair work in classroom

The outlook for further investigation includes comparison of findings about the development of transversal skills in students who studied according to the previous State Standard (2011) and those who studied according to the new State Standard for primary School. For this purpose, a monitoring study is planned to be conducted, involving 2-grade students who studied according to the new State Standard for Primary School. The comparison will enable to draw conclusions about effectiveness of new education programmes and curricula in reaching the objectives of the new State Standard for Primary School regarding the development of transversal skills in primary school.

References

Angrosino, M., & Rosenberg, J. (2011). Observations on observation. Continuities and Challenges. In N. K. Denzin, & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative* (4th ed.) (pp. 151-175). Sage.

Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). Defining Twenty-First Century Skills In P. Griffin, B.

McGaw, & E. Care (Eds.), Assessment and Teaching of 21st Century Skills (pp. 17-66). Springer. https://doi.org/10.1007/978-94-007-2324-5_2

Bruine de Bruin, W., Parker, A. M., & Fischhoff, B. (2020). Decision-Making Competence: More Than Intelligence? *Current Directions in Psychological Science, 29*(2), 186–192. https://doi.org/10.1177/0963721420901592

Buckingham Shum, S., & Crick, R. D. (2016). Learning analytics for 21st century competencies. *Journal of Learning Analytics, 3*(2), 6–21. https://dx.doi.org/10.18608/jla.2016.32.2

Cabinet of Ministers of Ukraine. (2018). *Pro zatverdzhennya Derzhavnoho standartu pochatkovoyi osvity* [Resolution of the Cabinet of Ministers of February 21, 2018 № 87 On approval of the State standard of primary education]. Cabinet of Ministers of Ukraine. https://zakon.rada.gov.ua/laws/show/87-2018-%D0%BF#Text

Cabinet of Ministers of Ukraine. (2020). *Pro deyaki pytannya derzhavnykh standartiv povnoyi zahal'noyi seredn'oyi osvity* [Resolution of the Cabinet of Ministers of September 30, 2020 № 898 About some issues of State standards of complete general secondary education]. Cabinet of Ministers of Ukraine. https://zakon.rada.gov.ua/laws/show/898-2020-%D0%BF#Text

Carroll, C., & O'Loughlin, D. (2014). Peer observation of teaching: enhancing academic engagement for new participants. *Innovations in Education and Teaching, 51*(4), 446-456. https://doi.org/10.1080/14703297.2013.778067

Cole, F. L. (1988). Content analysis: process and application. *Clinical nurse specialist*, *2*(1), 53-57. https://doi.org/10.1097/00002800-198800210-00025

Collet, C., du Plessis, K., & Hine, D. (2015). Employability skills: Perspectives from a knowledge-intens ive industry. *Education + Training*, *57*(5), 532–559. https://dx.doi.org/10.1108/ET-07-2014-0076

Deming, D. J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, *132*(4), 1593–1640. https://dx.doi.org/10.1093/qje/qjx022

Drisko, J., & Maschi, T. (2016) *Content Analysis.* Oxford University Press. https://dx.doi.org/10.1353/pla.2016.0009

European Commission. (2020). LifeComp: *The European Framework for Personal, Social and Learning to Learn Key Competence.* European Commission. https://publications.jrc.ec.europa.eu/repository/handle/JRC120911

Feagin, J. R., Orum, A. M., & Sjoberg, G. (1991). *A case for the case study.* UNC Press Books.

Gummesson, E. (1988). Qualitative methods in management research: Case study research, participant observation. Chartwell-Bratt Ltd.

Han, A, Krieger, F., & Greiff S. (2021). Collaboration Analytics Need More Comprehensive Models and Methods *The Journal of Learning Analytics, 8*(1), 13-29. https://doi.org/10.18608/jla.2021.7288

Joksimovic S., Siemens G., Wang Y. E., San Pedro M. O. Z., & Way J. (2020). Editorial Beyond Cognitive Ability Learning Analytics. *Journal of Learning Analytics*, *7*(1), 1-4. http://dx.doi.org/10.18608/jla.2020.71.1

Krosnick, J. A. (2018). Questionnaire Design. In D. Vannette, & J. Krosnick (Eds.), *The Palgrave Handbook of Survey Research*. Palgrave Macmillan.

Lai, E. R., & Viering, M. (2012). Assessing 21st Century Skills: Integrating Research Findings. *National Council on Measurement in Education*, *Vancouver*. Pearson.

Matteson, M. L., Anderson, L., & Boyden, C. (2016). "Soft skills": A phrase in search of meaning. *Portal: Libraries and the Academy*, *16*(1), 71–88. https://dx.doi.org/10.1353/pla.2016.0009

OECD. (2013). *PISA 2015 draft frameworks*. OECD. http://www.oecd.org/pisa/pisaproducts/pisa2015draftframeworks.htm

OECD. (2021). *Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills*. OECD Publishing. https://doi.org/10.1787/92a11084-en

Saris, W., & Gallhofer, N. (2014) D*esign, evaluation, and analysis of questionnaires for survey research*. Hoboken.

Stemler, S. (2015) Content analysis. In R. A., Scott, & M. C. Buchmann (Eds.), Emerging Trends in the Social and Behavioral Sciences. John Wiley & Sons. https://doi.org/10.1002/9781118900772

Thomas, G. (2021). *How to do your case study*. SAGE Publications.

Verkhovna Rada of Ukraine. (2017). *On Education: Law of Ukraine*, September 2017. Verkhovna Rada of Ukraine. https://zakon.rada.gov.ua/laws/show/2145-19#Text

Weber, R. P. (1990). *Basic Content Analysis* (2nd ed.). SAGE Publications, Inc.

World Economic Forum. (2020). *The future of jobs reports*. World Economic Forum. http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf

Worsley, M., Anderson, Kh., Melo, N., & Jang J. Y. (2021). Designing Analytics for Collaboration Literacy and Student Empowerment. *Journal of Learning Analytics, 8*(1), 30-48. https://doi.org/10.18608/jla.2021.7242

Yin, R. K. (1989). Case study research: Design and methods. Sage Publications.

Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan,* 9, 2-6. https://core.ac.uk/download/pdf/11784113.pdf

Zanchi, P., & Zampini, L. (2021). The Narrative Competence Task: A standardized test to assess children's narrative skills. *European Journal of Psychological Assessment, 37*(1), 15–22. https://doi.org/10.1027/1015-5759/a000569