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Effectiveness of an Integrative Model for Developing Soft Skills: an experimental study in general education institutions

Abstract

Introduction. In the contemporary education system, acquiring subject-specific knowledge alone is no longer sufficient; therefore, developing students' soft skills, including communication, teamwork, critical thinking, self-management, and learning motivation, has become an important educational priority. In general education institutions in particular, there is an increasing need to provide a scientific basis for pedagogical models aimed at the systematic and purposeful development of these skills. In this regard, the present study is relevant because it experimentally evaluates the effectiveness of an integrative model for developing soft skills. This study aimed to develop an integrative model for fostering soft skills in general education institutions, implement it in teaching and learning, and experimentally assess its impact on students' personal, social, and cognitive development. **Methodology and Methods.** The study used a pedagogical experiment with a mixed-methods approach combining quantitative and qualitative research methods. The study used questionnaires, tests, classroom observations, and interviews to collect data. The researchers developed an analytical framework to assess soft skills and analyzed the collected data using Jamovi statistical software. A total of 238 students participated in the study and were divided into experimental and control groups. The experiment was conducted in several general education institutions in the Turkistan region. **Scientific novelty.** The findings showed that implementing the integrative model significantly improved communication, teamwork, self-management, learning motivation, and cognitive soft skills among students in the experimental group compared with those in the control group ($p < 0.001$). In addition, modular training programs for teachers, professional experience-sharing activities, and webinars for parents helped improve the effectiveness of the educational process, adding *practical significance*. The findings support the integrative model for developing soft skills as an effective pedagogical solution that can be implemented in general education institutions.

Keywords: soft skills, integrative model, general education institutions, pedagogical experiment, analytical framework.

Introduction. In recent years, integrative and innovative pedagogical approaches have been widely investigated as potential solutions to this issue. In particular, generative artificial intelligence has been increasingly examined as a means of supporting personalized learning, student engagement, and the development of transferable competencies when it is integrated within a pedagogically structured learning environment (González-Rico & Sintés, 2024; Haroud & Saqri, 2025). Such environments

can facilitate students' active participation in the educational process while providing flexible forms of learning support. Research has also substantiated the effectiveness of microlearning and flipped learning approaches in developing soft skills. Short, purposefully designed learning modules help optimize cognitive load, support long-term knowledge retention, and facilitate the development of specific skills (Al-Zahrani, 2024; Bedoya et al., 2024). These approaches are particularly

suitable for learners studying in digital environments.

Furthermore, developing a feedback culture and professional reflection is an important component of soft skills development. Exchanging opinions and providing feedback play a significant role in fostering students' communication abilities, responsibility, and professional thinking (Ellegaard et al., 2024). The increasing integration of artificial intelligence into education has further heightened the importance of soft skills. Generative AI tools are increasingly regarded as effective means of supporting the development of learners' critical thinking, information analysis, and self-regulation skills (Pulk & Koris, 2025; González-Rico & Sintés, 2024; Haroud & Saqri, 2025; Hikmawati & Mohammad, 2025; Imron et al., 2021; Jainuri et al., 2025). However, effective use of these technologies requires implementation within a pedagogically grounded, well-structured model. Developing soft skills has also shown positive outcomes in language-related subjects and written assignments. In particular, essay-writing activities have been found to enhance learners' critical thinking significantly, ability to express independent opinions, and reflective skills (Ramankulova et al., 2025). This confirms the effectiveness of integrating soft skills development into subject-specific content.

Recent research also emphasizes the educational and employment relevance of soft skills. Rybowska (2024) found that students were aware of soft skills and generally regarded them as important in professional contexts, while also identifying a need for more systematic soft-skills training within academic curricula. Similarly, Yan and Mohamad Nasri (2025) reported that systematic soft-skills development in higher education was associated with stronger early employment outcomes. Although these studies focus on higher education, their findings support the importance of developing communication, teamwork, problem-solving, and self-management competencies earlier in the educational pathway. In this context, an experimental investigation of the effectiveness of an integrative model for developing soft

skills in general education institutions is highly relevant. This model aims to support students' personal, social, and academic development by integrating traditional teaching methods, digital technologies, microlearning, and elements of artificial intelligence.

The present study enables an experimental assessment of the effectiveness of an integrative model for soft skills development and its influence on students' learning engagement, critical thinking, communication, and social skills. The findings may provide a scientific and methodological basis for improving contemporary pedagogical approaches to soft skills development and implementing them in general education institutions. Contemporary educational research regards soft skills development as a complex, multidimensional phenomenon. The expansion of networked and digital learning environments has created a need to reconsider how these skills develop. Jaldemark et al. (2022) demonstrate that networked learning models based on interaction and collaborative activity among learners play an important role in developing communication, collaboration, and reflection skills. The authors argue that social interaction and experience within digital environments contribute to the natural development of soft skills.

Overall, the reviewed scholarly literature clearly demonstrates the need to implement an integrative model for soft skills development. By combining microlearning, networked learning, artificial intelligence, and subject-specific content, such a model can comprehensively support learners' personal and professional development. Based on the theoretical analysis and the findings of the experimental study, the following principal research questions were formulated:

How does an integrative model for developing soft skills in general education institutions influence students' personal, social, and cognitive development?

Is there a statistically significant difference between the experimental and control groups in terms of the development levels of soft and cognitive skills?

How do modular training programs for teachers, professional experience-sharing

among educators, and webinars for parents contribute to improving the effectiveness of soft skills development?

This study aims to develop an integrative model for fostering soft skills in general education institutions, implement it in the teaching and educational process, and experimentally evaluate its impact on students' personal, social, and cognitive development. This article was prepared within the framework of the Professor-Researcher Program of Khoja Akhmet Yassawi International Kazakh-Turkish University.

Materials and Methods. The study was designed as a pedagogical experiment using a mixed-methods research approach that combined quantitative and qualitative methods. The research design aimed to evaluate the effectiveness of an integrative model developed to foster soft skills among students in general education institutions. The quantitative component assessed students' social, personal, and cognitive soft skills and compared the performance of the experimental and control groups before and after implementing the integrative model. The qualitative component complemented the quantitative findings through pedagogical observations and interviews, providing additional information on students' engagement, interaction, participation in group activities, and experiences during the educational process. Before the experimental stage, the study reviewed national and international scholarly literature on soft skills development and integrative pedagogical approaches. The researchers identified relevant publications through Web of Science, Scopus, and Google Scholar. The review prioritized studies published between 2015 and 2025. The literature search included the keywords "soft skills," "integrative model," "general education institutions," "pedagogical experiment," "analytical framework," and related terms. The theoretical analysis established the conceptual basis of the integrative model and the analytical framework used in the study's empirical stage.

Participants. A total of 238 students participated in the pedagogical experiment. Of these, 120 students were assigned to the control

group (CG), and 118 to the experimental group (EG).

The study was conducted in five general education institutions located in Turkistan, Kazakhstan, under the Department of Education of Turkistan City, Education Directorate of the Turkistan Region:

Municipal State Institution "General Education School No. 32";

Municipal State Institution "General Education School No. 33";

Municipal State Institution "General Education School No. 34";

Zhumabek Tashenov IT School-Lyceum No. 23;

Damu-Bilim 1 School Limited Liability Partnership.

Both groups participated in the study's pre-test and post-test stages. The pre-test was administered before implementation of the experimental intervention to determine students' initial level of cognitive soft skills. A comparison of pre-test scores showed no statistically significant difference between the experimental and control groups, indicating comparable baseline levels before the intervention. After implementing the integrative model, both groups completed the post-test. The post-test results were then used to evaluate differences between experimental and control groups and determine the effectiveness of the pedagogical intervention.

Data Collection Tools. Data was collected using a soft skills questionnaire, a cognitive soft skills test, pedagogical observations, and interviews. These instruments were incorporated into an analytical framework developed to assess different dimensions of students' soft skills.

Soft Skills Questionnaire. The questionnaire assessed students' social and personal soft skills. It consisted of 12 items structured around four main constructs: communication skills, teamwork ability, self-management and responsibility, and learning motivation. The communication skills construct assessed students' ability to express their thoughts clearly and confidently, share their opinions, and listen to and understand others' views. These skills were considered important indicators of students' participation in classroom

interaction and group activities. The teamwork ability constructs assessed students' capacity to collaborate with others, share responsibility for achieving a common goal, and participate in joint decision-making. The study paid particular attention to students' interaction in project-based and collaborative learning activities. The self-management and responsibility constructed reflected students' ability to manage their time, complete assigned tasks independently, and demonstrate responsibility and autonomy in the learning process. Learning motivation constructed assessed students' interest in learning, active participation in lessons, and level of intrinsic motivation. The questionnaire employed a five-point Likert scale. Responses were coded as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The questionnaire's internal consistency was assessed using Cronbach's alpha. The overall Cronbach's alpha for the 12-item questionnaire was .823, indicating an acceptable level of internal consistency.

Cognitive Soft Skills Test. A test assessed students' soft cognitive skills. The test was evaluated on a 20-point scale, with higher scores indicating a higher level of cognitive soft skills. The test was administered twice. The pre-test was conducted before implementing the integrative model to assess students' initial level of cognitive soft skills and to examine comparability between the control and experimental groups. The post-test was administered after completion of the experimental intervention to assess changes in cognitive soft skills and determine differences between the two groups.

Pedagogical Observation. Pedagogical observation was used to obtain qualitative information about students' participation in the educational process. Particular attention was paid to students' engagement in learning activities, participation in group and project-based tasks, interaction with peers, communication, and ability to work collaboratively. The observations were used as supplementary evidence to support the interpretation of the quantitative questionnaire and test findings.

Interviews. Interviews provided additional qualitative information about students' expe-

riences during the implementation of the integrative model. The interview component focused on students' engagement in learning, interest in group and project-based activities, communication with peers, and ability to express their ideas. The interview findings were then categorized by key themes and compared with the quantitative results.

Data Collection Process. The data collection process followed a sequential order. At the initial stage, the pre-test was administered to students in both the experimental and control groups. The pre-test aimed to determine the initial level of cognitive soft skills and establish whether the two groups were comparable before the experimental intervention. The integrative model for developing students' soft skills was then implemented in the educational process. The intervention included activities to systematically develop communication, teamwork, critical thinking, self-management, responsibility, and motivation to learn. To support the implementation of the model, a modular teacher training program was developed and piloted. The program strengthened teachers' theoretical and practical understanding of soft skills development and supported the integration of relevant pedagogical strategies into teaching practice. Within the modular program, teachers participated in practical sessions that included role-playing activities, group and small-team tasks, case-based analysis of pedagogical situations, and reflective exercises. These activities were intended to facilitate the exchange of professional experience and strengthen teachers' ability to apply soft skills development strategies in the educational process.

Professional support was also provided through round-table discussions and professional dialogue sessions organized among teachers from the participating schools. During these activities, teachers discussed the effectiveness of the implemented methods, difficulties encountered during the intervention, examples of lesson activities, and practical approaches to developing students' communication, teamwork, and critical-thinking skills. The intervention incorporated parental involvement through

specialized webinars. During these webinars, parents received scientific and methodological recommendations for developing students' communication, social, and self-management skills in the family environment. The intervention also addressed issues related to responsibility, emotional stability, self-regulation, and effective parent-child interaction. Throughout the implementation period, data were collected using questionnaires, tests, pedagogical observations, and interviews. After completion of the experimental intervention, the post-test was administered to students in both groups. The collected quantitative and qualitative data were then prepared for statistical and content analysis.

Ethical Consideration. The Ethics Committee of Khoja Akhmet Yassawi International Kazakh-Turkish University, Kazakhstan granted ethical approval for this study (Ref. No. 46, [22.10.2025]).

Data Analysis. The study used questionnaires, tests, pedagogical observations, and interviews. The collected quantitative data were analyzed using the Jamovi statistical software. Cronbach's alpha was calculated in Jamovi to assess the questionnaire's internal consistency. Values above 0.70 were considered indicative of an acceptable level of reliability. The one-sample t-test is a statistical test used to analyze values obtained from a single administration of a questionnaire. The formula required to calculate the one-sample t-test is presented in Equation (1):

$$t = \frac{\bar{X} - \mu_0}{\frac{S}{\sqrt{n}}} \quad (1)$$

μ_0 – is the hypothesized population mean.

Independent-samples t-test: Equation (2) presents the formula used to calculate the independent-samples t-test.

$$t = \frac{\widehat{X}_1 - \widehat{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}} \quad (2)$$

Qualitative data were analyzed using content analysis. The interview findings were classified according to key thematic categories and

interpreted in comparison with the quantitative data.

Results. Development of Modular Training Programs for Teachers

As part of the study, modular training programs for teachers were developed to support the effective organization of the process of developing students' soft skills. In line with contemporary educational requirements, these programs were designed to enhance teachers' professional competence and enable them to acquire pedagogical and psychological mechanisms for systematically developing soft skills in the educational process. The programs aimed to deepen teachers' theoretical knowledge of integrating soft skills into teaching and educational activities, improve their practical expertise, and develop their ability to apply innovative pedagogical methods. In line with this aim, the modular programs were designed with a flexible structure adapted to teachers' professional practice. The training module entitled "The Psychology of Soft Skills Development" was introduced as an example of the modular program. This module was intended to explain the psychological and pedagogical foundations of soft skills development. It provided a comprehensive examination of the characteristics of an individual's social, emotional, and communicative development. It covered the concept and structure of soft skills, students' age-related psychological characteristics, mechanisms for fostering learning motivation, the role of emotional intelligence, and strategies for its development. The module included a series of practical sessions to integrate theoretical knowledge with hands-on activities. During these sessions, teachers participated in role-playing activities, group and small-team tasks, analyses of authentic pedagogical situations through case studies, and reflective exercises to develop soft skills. These activities facilitated the exchange of professional experience and ideas among teachers and supported the purposeful application of effective methods for developing students' soft skills in the teaching process. Thus, the modular training programs improved teachers' professional preparation, supported the

implementation of the integrative model for soft skills development in practice, and enhanced the quality of teaching and educational processes in general education institutions.

Exchange of Professional Experience Among Teachers

During the project, the participating teachers organized professional experience-sharing activities to promote interaction and share effective pedagogical practices. In particular, round-table discussions and professional debates examined the practical implementation outcomes of the integrative model aimed at developing soft skills. The professional experience-sharing activities strengthened teachers' professional reflection and contributed to the broader dissemination of effective pedagogical practices aimed at developing soft skills through collaborative analysis and mutual support. In addition, such interaction supported teachers' professional development and improved the quality of implementing innovative methods in general education institutions.

Webinars for Parents

To actively involve parents in developing students' soft skills, the study organized a series of specialized webinars. These webinars were designed to help parents support their children's personal and social development with informed guidance. During the webinars, parents received scientific and methodological recommendations on how to develop students' communication, social, and self-management skills in the family environment, enhance their sense of responsibility, foster emotional stability, and strengthen self-regulation abilities. In addition, the webinar discussed in detail the psychological and pedagogical features of establishing effective parent-child interaction and partnership-based relationships. The webinars were organized in an interactive format, enabling parents to share their experiences, obtain answers to relevant questions, and analyze real-life situations. This, in turn, enhanced parents' role in developing soft skills and contributed to strengthening cooperation between schools and families.

As a result, the webinars for parents were identified as an important component of the educational process, enabling the effective use

of family potential in developing students' soft skills and ensuring the integrity and continuity of the educational process. To evaluate the effectiveness of the pedagogical methods implemented during the study, the researchers conducted monitoring and comparative analyses using the developed analytical framework. A total of 238 students participated in the study: 120 in the control group (CG) and 118 in the experimental group (EG). The experiment was conducted at General Education Schools No. 32, No. 33, and No. 34, Zhumabek Tashenov IT School-Lyceum No. 23, and the private school Damu-Bilim 1. The research data were collected through the questionnaire, testing, and interview components of the analytical framework and subsequently subjected to statistical analysis.

Questionnaire Component

The questionnaire component assessed students' social and personal soft skills. In accordance with the proposed analytical framework, students' soft skills were examined across four principal dimensions, or constructs. These constructs were theoretically grounded and enabled a comprehensive assessment of students' personal and social development within the teaching and educational process.

The first dimension was communication skills. This construct reflected students' ability to express their thoughts clearly and confidently, articulate their opinions, and listen to and understand others' perspectives. Communication skills were regarded as an important indicator of students' classroom engagement and interaction in group settings. The second dimension was teamwork ability. This construct included students' capacity to work collaboratively in a group, share responsibility in achieving a common goal, and participate in joint decision-making. Teamwork ability was considered particularly important in project-based and collaborative learning environments. The third dimension was self-management and responsibility. This construct reflected students' ability to manage their time effectively, complete assigned tasks independently, and demonstrate autonomy in the learning process. Self-management skills were regarded as a key factor directly

influencing students' academic achievement. The fourth dimension was learning motivation. This construct was intended to assess students' interest in learning, active participation in lessons, and level of intrinsic motivation. Learning motivation was regarded as a driving force in developing soft skills.

Each construct was measured with three to five questionnaire items, which increased the reliability of the collected data and facilitated processing in Jamovi statistical software. The questionnaire employed the widely used

five-point Likert scale as the measurement instrument. Students rated their responses as follows: "1 – strongly disagree," "2 – disagree," "3 – neutral," "4 – agree," and "5 – strongly agree." This scale allowed quantification of students' attitudes toward each statement. Cronbach's alpha coefficient was calculated to determine the internal consistency of the questionnaire component and the reliability of the measurement instrument. The reliability analysis was conducted using the Jamovi statistical software (Table 1).

Table 1

Results of the Internal Consistency Assessment of the Questionnaire

Reliability Statistics	
Cronbach's alpha	Number of items
.823	12

Note. The questionnaire consisted of 12 items. The obtained Cronbach's alpha value (.823) indicates satisfactory internal consistency.

The calculation showed that the overall Cronbach's alpha coefficient for the questionnaire component was 0.823. According to the relevant literature, an alpha coefficient above 0.70 indicates an acceptable level of instrument reliability, whereas a value above 0.80 demonstrates high internal consistency.

Therefore, the obtained result confirms the homogeneity of the questionnaire's internal structure and the consistency among the measured indicators. A descriptive statistical analysis was conducted based on the responses of 238 students obtained through the questionnaire component (Table 2).

Table 2

Results of the Descriptive Statistical Analysis of the Soft Skills Assessment Questionnaire

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
N	238	238	238	238	238	238	238	238	238	238	238	238
Missing	0	0	0	0	0	0	0	0	0	0	0	0
Mean	3,53	3,47	3,45	3,50	3,45	3,40	3,43	3,51	3,46	3,53	3,42	3,47
Median	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00	3,00
Standard Deviation	0,979	0,940	0,987	0,940	1,00	0,948	0,960	0,958	0,912	0,962	0,933	0,953
Min	2	2	2	2	2	2	2	2	2	2	2	2
Max	5	5	5	5	5	5	5	5	5	5	5	5

Note. *M* = mean; *Mdn* = median; *SD* = standard deviation. Responses were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). No missing responses were identified.

No missing values were identified for any questionnaire item, indicating that the dataset was complete and suitable for statistical analysis. The mean values ranged from 3.40

to 3.53, suggesting that students' soft skills development was above average. Most medians were 3.00, while several items had a median of 4.00, indicating that most students tended

to agree with the corresponding statements. Standard deviations ranged from 0.91 to 1.00, indicating a relatively consistent response pattern and stable data. A total of 238 students participated in the study, including 120 students in the control group and 118 students in the experimental group. The test results were analyzed using a 20-point assessment scale, where higher scores indicated a higher level of development of students' cognitive soft skills. The test data were processed using Jamovi, which enabled descriptive and comparative

analyses. The testing component served as an objective data source for evaluating the effectiveness of the implemented pedagogical methods. It provided a statistical basis for identifying differences between the control and experimental groups. The pre-test was administered to determine the students' initial level of cognitive soft skills. A total of 120 students from the control group and 118 students from the experimental group participated in the assessment. The evaluation used a 20-point scale (Table 3).

Table 3

Comparison of the Initial Test Results of the Experimental and Control Groups (Pre-Test)

Group	N	M	Mdn	SD	SE	t	df	p
CG	120	10.70	11.00	2.27	0.208	1.14	236	.256
EG	118	11.10	11.00	2.14	0.197	—	—	—

Note. CG = control group; EG = experimental group; M = mean; Mdn = median; SD = standard deviation; SE = standard error. The independent-samples *t* test indicated no statistically significant difference between the groups at the pre-test stage, $t(236) = 1.14$, $p = .256$.

According to the descriptive statistics, the control group had a mean score of ($M = 10.7$) ($SD = 2.27$), while the experimental group had a mean score of ($M = 11.1$) ($SD = 2.14$). The median value was 11.0 in both groups, indicating that the students' initial performance levels were comparable. The standard error values were ($SE = 0.208$) for the control group and ($SE = 0.197$) for the experimental group, confirming data stability. An independent-samples *t*-test was conducted to determine whether the initial scores differed significantly between the control and experimental groups. The analysis yielded ($t = 1.14$), ($df = 236$), and ($p = 0.256$). The result indicated no statistically

significant difference between the groups ($p > 0.05$). The pre-test findings confirmed that the control and experimental groups had comparable baseline levels. This indicates that the two groups were equivalent in cognitive soft skills before the experiment began and provides a scientific basis for attributing any subsequent differences in the post-test results to the effects of the implemented pedagogical methods. The post-test was administered after completion of the experimental intervention to determine the level of development of students' cognitive soft skills. A total of 120 students from the control group and 118 students from the experimental group participated in the post-test (Table 4).

Table 4

Comparison of the Post-Test Results of the Experimental and Control Groups

Group	N	M	Mdn	SD	SE	t	df	p
CG	120	11.50	11.50	2.89	0.264	9.01	236	<.001
EG	118	14.40	14.40	2.03	0.187	—	—	—

Note. CG = control group; EG = experimental group; M = mean; Mdn = median; SD = standard deviation; SE = standard error. The independent-samples *t* test showed a statistically significant difference between the groups at the post-test stage, $t(236) = 9.01$, $p < .001$.

According to the descriptive statistics, the control group had a mean score of ($M = 11.5$) ($SD = 2.89$), whereas the experimental group had a mean score of ($M = 14.4$) ($SD = 2.03$). The median values were 11.5 and 14.4, respectively, indicating substantially higher performance in the experimental group. The standard errors were ($SE = 0.264$) for the control group and ($SE = 0.187$) for the experimental group, confirming the stability of the data. An independent-samples *t*-test was conducted to determine whether the post-test results differed significantly between the control and experimental groups. The analysis yielded ($t = 9.01$), ($df = 236$), and ($p < .001$). This result indicates that the difference between the two groups was highly statistically significant. The post-test findings demonstrated that the cognitive soft skills of students in the experimental group developed to a considerably higher level than those of students in the control group. Compared with the pre-test results, the control group showed only minor changes, whereas the experimental group showed a clear positive trend. These findings provide scientific evidence of the high effectiveness of the implemented pedagogical methods in developing students' cognitive soft skills.

Discussion. The questionnaire findings showed that students demonstrated above-average levels of communication, teamwork, self-management, and learning motivation. These results indicate that soft skills are interconnected personal and social competencies that schools can purposefully support within the learning environment. This finding aligns with the contemporary meta-analysis by Cipriano et al. (2023), which synthesized 424 studies involving students from kindergarten through Grade 12 and showed that systematically organized school-based social and emotional learning interventions can improve students' skills, attitudes, peer relationships, school functioning, and academic outcomes. In this respect, the present findings extend previous evidence by demonstrating that an integrative approach can simultaneously address communication, collaboration, self-management, and learning motivation within general education institutions (Cipriano et

al., 2023). The test results further supported the effectiveness of the integrative model in developing students' cognitive soft skills. The lack of a statistically significant difference between the experimental and control groups at the pre-test stage indicated comparable baseline performance, while the significantly higher post-test scores of the experimental group showed positive changes following the intervention. Similar effects have been reported in studies emphasizing collaborative and technology-supported learning. Wei et al. (2025) found that integrating generative artificial intelligence into collaborative activities supported collaborative problem-solving and team creativity, while Chaiyarat (2024) showed that structured cooperative learning activities significantly enhanced seventh-grade students' creative problem-solving and learning motivation. Taken together, these findings support the view that cognitive soft skills develop more effectively when learners actively participate in structured, collaborative, and problem-oriented learning activities rather than receiving knowledge passively (Chaiyarat, 2024; Wei et al., 2025).

The positive development of self-management and learning motivation observed in the present study is also consistent with recent research on self-regulation and learner autonomy. The meta-analysis by Mammadov and Schroeder (2023), which synthesized 153 studies, showed that autonomy-supportive educational environments were positively associated with autonomous motivation, behavioral engagement, self-regulated learning, and students' self-beliefs across different educational levels. Similarly, Xu et al. (2023) showed that self-regulated learning strategies are closely associated with academic achievement, particularly when learners receive structured support in technology-enhanced learning environments. The present study therefore suggests that the effectiveness of the integrative model may be related not only to the development of specific interpersonal skills but also to the creation of learning conditions that encourage students to take responsibility for their learning, regulate their activities, and participate more actively in educational tasks (Mammadov & Schroeder, 2023; Xu et al., 2023).

The qualitative findings obtained through interviews and pedagogical observations complemented the quantitative results. Students in the experimental group reported greater engagement in learning, increased interest in group and project-based activities, and greater confidence in expressing their ideas. These results are consistent with Zahn et al. (2025), who identified communication, collaboration, problem-solving, and related interpersonal competencies as central themes in contemporary soft skills research. Luengo-Aravena et al. (2024) also support this view, emphasizing the close relationship between digital skills and students' ability to participate effectively in collaborative problem-solving activities. The convergence of questionnaire, test, observation, and interview findings in the present study strengthens the interpretation that soft skills develop most effectively in learning environments that give students repeated opportunities for interaction, collaboration, problem-solving, and active participation (Luengo-Aravena et al., 2024; Zahn et al., 2025).

Another important finding is that the study did not treat soft skills development as an isolated extracurricular activity; it integrated it into the broader teaching and learning process. The model combined classroom activities with teacher professional support, collaborative pedagogical practices, parental involvement, and systematic assessment. This multidimensional approach aligns with evidence showing that the effectiveness of school-based interventions depends not only on individual learning activities but also on implementation quality and the educational context in which they are embedded. Cipriano et al. (2023) showed that intervention characteristics, implementation quality, and contextual factors significantly influence outcomes of school-based social and emotional learning programs, while Mammadov and Schroeder (2023) demonstrated the importance of both teacher and parent support for positive student outcomes. Thus, the present findings emphasize the value of coordinating school, teacher, learner, and family-level support when developing soft skills in general education (Cipriano et al., 2023; Mammadov & Schroeder, 2023).

Overall, the results indicate that the integrative model can support the development of students' social, personal, and cognitive soft skills by combining structured pedagogical activities, collaborative learning, teacher support, parental involvement, and systematic assessment. At the same time, the findings should be interpreted within the context of the participating schools in Turkistan. Further research involving schools from different regions, larger and more diverse student populations, and longer intervention periods would help determine the generalizability and sustainability of the observed effects. Longitudinal studies could also examine whether improvements in communication, teamwork, self-management, motivation, and cognitive soft skills are maintained over time and transferred to other academic and social contexts (Cipriano et al., 2023; Xu et al., 2023).

Conclusion. The study showed that the integrative model for soft skills development effectively improved students' communication, teamwork, self-management, learning motivation, and cognitive soft skills in general education institutions. The experimental group showed significantly better post-test results than the control group, confirming the effectiveness of the implemented pedagogical intervention. The study's main contribution is the development and empirical validation of an integrative model that combines instructional content, pedagogical methods, teacher professional support, parental involvement, and systematic assessment of soft skills within the school learning process. The model provides a structured approach for integrating soft skills development into general education rather than treating these skills as an additional or separate component. The findings offer a practical framework that can support educational practice and teacher professional development. Future studies may examine the model's effectiveness in different educational contexts and with larger, more diverse student populations.

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