

Integrating music, drama and visual arts in extracurricular programs: enhancing psychological development in early school-aged children

Integração de música, teatro e artes visuais em programas extracurriculares: aprimorando o desenvolvimento psicológico de crianças em idade escolar

Integración de la música, el teatro y las artes visuales en programas extraescolares: mejora del desarrollo psicológico en niños de edad escolar temprana

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Main practical implications:

The article shows that including art in education can enhance students' academic performance, as well as their social skills and overall well-being. This evidence can assist policymakers and education administrators in making informed decisions, particularly in countries looking to revamp their primary education system.

Originality/value:

The article presents original empirical evidence, using mixed methods, which enhances its empirical and methodological value, guiding future related studies.

ABSTRACT

Introduction: The "Creative Bridges" study investigates the impact of integrating music, drama, and visual arts into extracurricular programs on the psychological development of early school-aged children. **Methods:** A mixed-methods approach was used, employing psychodiagnostics tools such as Raven's Progressive Matrices, the Academic Performance Rating Scale (APRS), the Strengths and Difficulties Questionnaire (SDQ), the Social Skills Improvement System (SSIS), and the Peer Relationship Questionnaire (PRQ). The study involved 64 children aged 11-12, divided into experimental and control groups, and spanned six months with assessments conducted at pre-program, mid-program, post-program, and follow-up stages. **Results:** Significant improvements were observed in non-verbal abstract reasoning, academic performance in math and reading, and emotional well-being. Social skills and peer relationships showed initial disruptions but ultimately enhanced social interactions. **Discussion:** The findings demonstrate the cognitive, emotional, and social benefits of integrating arts into education, underscoring the potential of such programs to enrich academic curricula. **Conclusion:** The study suggests the wider adoption of arts integration in education, highlighting its capacity to improve cognitive skills, emotional resilience, and social competencies.

Keywords: education; cognitive enhancement; emotional well-being; social skills; extracurricular programs.

RESUMO

Introdução: O estudo "Pontes Criativas" investiga o impacto da integração de música, teatro e artes visuais em programas extracurriculares no desenvolvimento psicológico de crianças em idade escolar. **Métodos:** Foi utilizada uma abordagem de métodos mistos, empregando ferramentas psicodiagnósticas como as Matrizes Progressivas de Raven, a Escala de Avaliação do Desempenho Acadêmico (APRS), o Questionário de Forças e Dificuldades (SDQ), o Sistema de Melhoria de Habilidades Sociais (SSIS) e o Questionário de Relacionamento entre Pares (PRQ). O estudo envolveu 64 crianças de 11-12 anos, divididas em grupos experimental e controle, e se estendeu por seis meses com avaliações realizadas nas etapas pré-programa, meio do programa, pós-programa e de acompanhamento. **Resultados:** Foram observadas melhorias significativas no raciocínio abstrato não verbal, no desempenho acadêmico em matemática e leitura, e no bem-estar emocional. As habilidades sociais e os relacionamentos entre pares mostraram interrupções iniciais, mas, por fim, melhoraram as interações sociais. **Discussão:** Os resultados demonstram os benefícios cognitivos, emocionais e sociais de integrar as artes na educação, destacando o potencial de tais programas para enriquecer os currículos acadêmicos. **Conclusão:** O estudo defende uma adoção mais ampla da integração das artes na educação, destacando sua capacidade de melhorar as habilidades cognitivas, a resiliência emocional e as competências sociais.

Palavras-chave: educação; aprimoramento cognitivo; bem-estar emocional; habilidades sociais; programas extracurriculares.

RESUMEN

Introducción: El estudio "Puentes Creativos" investiga el impacto de la integración de música, teatro y artes visuales en programas extracurriculares sobre el desarrollo psicológico de niños en edad escolar temprana. **Métodos:** Se utilizó un enfoque mixto, empleando herramientas psicodiagnósticas como las Matrizes Progressivas de Raven, la Escala de Calificación del Rendimiento Académico (APRS), el Cuestionario de Fortalezas y Dificultades (SDQ), el Sistema de Mejora de Habilidades Sociales (SSIS) y el Cuestionario de Relaciones entre Iguales (PRQ). El estudio involucró a 64 niños de 11-12 años, divididos en grupos experimental y control, y se extendió durante seis meses con evaluaciones realizadas en las etapas pre-programa, a mitad del programa, post-programa y de seguimiento. **Resultados:** Se observaron mejoras significativas en el razonamiento abstracto no verbal, el rendimiento académico en matemáticas y lectura, y el bienestar emocional. Las habilidades sociales y las relaciones entre iguales mostraron interrupciones iniciales pero finalmente mejoraron las interacciones sociales. **Discusión:** Los hallazgos demuestran los beneficios cognitivos, emocionales y sociales de integrar las artes en la educación, destacando el potencial de dichos programas para enriquecer los currículos académicos. **Conclusión:** El estudio aboga por una adopción más amplia de la integración de las artes en la educación, resaltando su capacidad para mejorar las habilidades cognitivas, la resiliencia emocional y las competencias sociales.

Palabras clave: educación; mejora cognitiva; bienestar emocional; habilidades sociales; programas extraescolares.

INTRODUCTION

Early school years are critical for the children's emotional and cognitive development. At this stage, favorable learning conditions should be established, and the arts integration into education is believed to facilitate this task. In particular, integrating music and visual arts into educational curricula exercises a considerable effect on children's emotional intelligence and creativity. According to Harney (2020), a holistic educational approach can be developed and a more profound learning impact can be achieved when music and visual arts are interconnected within the educational process. These two art forms help students to understand and express their emotions, develop empathy, broaden their worldview, and enhance their cognitive perception of the world. This approach is further supported by the alignment with the National Core Arts Standards, ensuring that the educational content delivered through these integrated lessons meets recognized educational benchmarks and promotes a comprehensive understanding of the arts.

Moreover, recent studies further expand our understanding of the profound impact that the arts can have on children's development. Research by Dong et al. (2023) explores the utilization of robotics in conjunction with arts to foster engagement in STEAM education, demonstrating how innovative integration of technology and arts can enhance cognitive and creative skills. Additionally, the findings from Boal-Palheiros and Ilari (2023) on the benefits of music and drama suggest improvements in children's social skills and emotional control, emphasizing the arts' role in fostering essential life skills.

Furthermore, systematic reviews such as those by Moula et al. (2020) and Frydman et al. (2022) highlight the effectiveness of arts therapies in promoting mental health and behavioral outcomes in educational settings, indicating a broader scope of benefits ranging from improved self-esteem and mood to reduced behavioral issues. These insights underline the need for a more structured approach to arts integration that considers the diverse impacts of various art forms across different student populations.

The importance of integrating arts in education is particularly pressing in Ukraine, where ongoing war has inflicted significant psychological stress on its population, especially the youth. Studies by Lunov et al. (2022, 2023) have highlighted the profound impact of Russian military aggression on the mental health of Ukrainian children and adolescents, illustrating how exposure to conflict can exacerbate fears and psychological distress. The findings show the therapeutic effects of arts education on the emotional and psychological well-being of Ukrainian students. Lunov et al. (2022, 2023) substantiate that art interventions help students who experienced the cruelty of the war cope with stress, provide emotional relief, and foster resilience. Integrating music, drama, and visual arts into curricula contributes to students' long-term recovery and emotional stability. Therefore, it is possible to claim it is a vital component of educational policy and practice in conflict-affected areas like Ukraine.

This article aims to substantiate empirically the positive effect of arts integration into extracurricular programs of early school-aged children on the example of music, drama, and visual arts. The aim stipulates the following objectives: to analyze the "Creative Bridges" program and its outcomes; to single out the music, drama, and visual arts as core components of a holistic educational approach; to study the cognitive, emotional, and social effects of music, drama, and visual arts on early school-aged students; to assess the necessity of arts intervention into extracurricular programs.

Literature Review

Key concepts in arts education: intermediality, visual arts, integrated approach

Art, in its various forms, provides a rich tapestry of experiences that foster the development of these burgeoning capabilities. Music and visual arts, in particular, offer distinct avenues for expression, communication, and understanding of the self and others (Brovchak et al., 2018, 2020). These forms of art not only serve as a means for emotional expression but also as tools for cognitive development, enhancing creativity, critical thinking, and problem-solving skills.

Drawing upon the insights provided by Amon (2023) in "Intermediality in Contemporary Visual Art Education", we find a compelling argument for the transformation of art education paradigms to better align with contemporary artistic practices and the evolving landscape of cultural engagement. Amon (2023) emphasizes the inadequacy of the term "fine arts education" to encapsulate the goals of artistic expression in today's educational context, advocating instead for a comprehensive approach that embraces the intermediality of contemporary visual art. This perspective underscores the necessity for pedagogical methods, processes, and goals to be adaptable and open to various approaches under the guidance of educators, thereby fostering a dynamic and integrative learning environment.

The concept of intermediality, as Amon (2023) discusses, encompasses a broad spectrum of artistic production, including processes, products, creative strategies, and the use of diverse material or technical media. It highlights the importance of descriptive, exploratory, or performative approaches to art forms, acknowledging the influence of various media and their structures on artistic expression. This approach facilitates a multisensory perception of art, encouraging interdisciplinarity and the integration of different fields of study within the pedagogical process. Furthermore, Amon's paper

presents a concrete example of a performance developed by secondary school students, illustrating the potential of an intermedial project to catalyze creativity and enhance the development of new skills necessary for participation in contemporary cultural life. This example serves as a testament to the effectiveness of intermedial approaches in stimulating sensitive experiences and generating a holistic critical perception of the world, thus transforming visual culture/education into perceptual culture/education.

The emphasis on communicative media, highlighting both commonalities and differences across media types, and the interaction between them, offers valuable insights into the multimodal nature of communicative environments. This perspective allows for a more nuanced understanding of meaning-making processes and the negotiation of meanings within diverse communicative contexts. In conclusion, the integration of intermediality into contemporary visual art education represents a pivotal shift towards a more inclusive, dynamic, and holistic approach to art education. By embracing the complexities of contemporary art production and the multifaceted nature of media interactions, educators can foster an environment that nurtures creativity, critical thinking, and a deeper appreciation for the interconnectedness of various artistic expressions. Amon's work not only challenges the traditional boundaries of art education but also invites educators and students alike to explore the rich potential of intermedial approaches in fostering a more profound engagement with the world of art and culture.

The exploration of integrating arts into the educational curriculum, as discussed by Ruokonen (2016) in "Experience and Expression Through Music and Imagery in Arts Educational Studies", provides insightful perspectives on the pedagogical value of multidisciplinary approaches in teaching and learning. Ruokonen's work underscores the Finnish education system's emphasis on active knowledge construction through integration, as mandated by the latest renewal curriculum process for basic education in Finland. This approach is particularly relevant in today's global context, where complex problems often require collaborative solutions that span multiple disciplines. The National Curriculum for Finland highlights the importance of building larger, coherent entities of knowledge and developing multifaceted skills across various subjects and interdisciplinary areas. Teachers are encouraged to organize learning content around intensive time periods or themes, actively creating connections between different content areas within school subjects. This methodology is aimed at helping students link concepts and ideas across disciplines, thereby forming larger and more meaningful knowledge structures.

A key aspect of this integrative teaching practice, which has become a norm at the primary level in Finland, is the role of the arts. According to Ruokonen (2016), arts education plays a crucial part in this integrated knowledge construction process. By engaging with the arts, students can explore both the pedagogical concepts and the content of subject matter in a way that fosters experiential knowledge. This approach not only deepens their understanding of the studied issues but also enhances their affective relationship with them. Furthermore, the arts allow students to express their research outcomes more effectively, sharpening their observational skills, as highlighted by students' reports of a "sharper gaze" while using a camera lens. Ruokonen's argument for the justification of visual arts in integrating active knowledge construction is compelling, especially in the context of generalist teachers in the Finnish school system. These educators, who are qualified to teach almost all school subjects at the primary level, are uniquely positioned to create effective learning environments with a core focus on the arts. This is supported by the inclusion of multidisciplinary and phenomenon-based learning in the teacher-training curriculum for pre-primary education and the National Curriculum for Pre-Primary Education.

The emphasis on arts integration within Finnish education reflects a broader understanding of the arts as a vital component of a holistic educational experience. It recognizes the arts not merely as subjects to be taught in isolation but as essential elements of a comprehensive approach to learning that fosters creativity, critical thinking, and the ability to make connections across disciplines. This integrative approach, as detailed by Ruokonen (2016), highlights the potential of the arts to transform educational practices by promoting active engagement, experiential learning, and a deeper, more meaningful understanding of the world. In summary, Ruokonen's study on the integration of music and imagery in arts educational studies underscores the significant role that the arts play in enhancing interdisciplinary learning. By fostering experiential knowledge and facilitating the expression of research outcomes, the arts contribute to the development of a sharper, more nuanced understanding of various subject matters. This approach not only benefits students by providing a more engaging and comprehensive learning experience but also supports educators in creating dynamic and effective learning environments.

Almodovar (2010) explores the ways in which early childhood educators integrate the arts into their teaching practices for children aged 3 to 5. Utilizing both the Arts Integration Questionnaire (AIQ) and the Arts Integration Observation Protocol (AIOP), Almodovar gathered data from 91 early childhood teachers, with observations conducted on 20 randomly selected participants. Her findings indicate a predominant use of music in the classroom over visual arts and drama, attributed to the teachers' perception of music's benefits and their formal and informal training backgrounds. Despite varying levels of training in the arts, the study found no significant correlation between teachers' training in music and drama and their classroom use, unlike in visual arts, where a notable difference was observed, suggesting a need for more specialized training in this area. Almodovar (2010) concludes that teachers do integrate arts with other academic subjects to enhance skill development, role exploration, and concept understanding, offering recommendations for professional development and

further research.

The review of the existing scope of research on integrated arts education

In the context of our research, it is crucial to consider that the integration of the arts into educational curricula plays a significant role in enhancing cognitive, emotional, and social development among children. Drawing upon Goldberg's (2021) extensive work we find a strong theoretical foundation for employing the arts as a dynamic tool for educational enrichment. Goldberg (2021) articulates how arts integration supports not only academic achievement but also promotes critical thinking, creativity, and communication skills, all of which are essential competencies in the modern educational landscape. Furthermore, our study aligns with Goldberg's emphasis on the arts as a means to engage diverse learning communities and foster community activism, which resonates with our findings of improved social skills and emotional well-being among participants.

To further substantiate the discussion on the integration of arts within educational frameworks, it is pertinent to reference the findings of Elpus (2022), who conducted a comprehensive study on the availability of arts education courses in U.S. high schools. According to Elpus (2022), factors such as school size, type, and the socioeconomic status of the student population significantly influence the likelihood of arts courses being offered. Larger schools and traditional public schools are more likely to provide a diverse array of arts disciplines, compared to smaller or charter schools. Such insights are invaluable for our research, as they provide a broader understanding of how educational policies and school characteristics might influence the effectiveness of arts integration programs.

In developing a comprehensive understanding of arts integration within educational contexts, the insights provided by Gibson and Ewing (2020) are particularly salient. They delineate the arts as comprising discrete, yet interconnected disciplines—each with its own unique knowledge base, language, and skill set. Importantly, they emphasize that all forms of art engage fundamental processes such as play, experimentation, and expression, which are crucial for holistic child development. The relevance of this discussion to our research lies in the potential of interdisciplinary approaches to bridge the gap between the arts and traditional educational curricula, thereby fostering an engaging and enriching learning environment. Gibson and Ewing's analysis supports the hypothesis that creative, arts-based approaches can dynamically enhance educational outcomes and should thus be a focal point of educational strategies and policies aimed at developing more rounded, creatively capable individuals.

The research by Corbisiero-Drakos et al. (2021) provides compelling evidence on the efficacy of arts integration in promoting 21st-century skills among students, particularly in environments characterized by socioeconomic challenges. The study's findings from the Creative Classroom Collaboratives initiative highlight how arts integration can enhance critical thinking, creativity, collaboration, and communication—skills deemed essential for success in the modern world. In light of these findings, our study considers the potential of arts integration as a transformative educational strategy that can address complex student needs by providing more engaging, relevant, and comprehensive learning experiences.

The research by Masika, Yu, and Li (2020) on visual art therapy (VAT) underscores the potential of artistic interventions in addressing cognitive decline among older adults, providing valuable insights that can be extrapolated to educational contexts for children. Their systematic review demonstrates that VAT not only improves global cognitive function but also offers psychological benefits such as reduced depression and anxiety among participants.

Liu's (2023) article on the impact of arts education provides a comprehensive examination of various factors that contribute to the efficacy of arts programs in enhancing cognitive development and academic performance in students. His analysis delineates several critical elements such as quality of instruction, program duration, and intensity, as well as the degree of integration into the broader curriculum. Furthermore, his call for ongoing research into the long-term impacts of arts education aligns with the objectives of our study, reinforcing the notion that sustained arts engagement is crucial for developing key cognitive and academic abilities in children. These insights inform our advocacy for more inclusive and comprehensive arts-based educational programs that can significantly enhance learning outcomes and foster a rich educational experience.

The study proposed by James et al. (2024) addresses a pivotal gap in the research on cognitive and brain development in children through the arts, focusing on the comparative effects of music and visual arts training. This randomized controlled trial (RCT) is designed to provide a nuanced understanding of how different art forms contribute to executive functions (EF) during critical early academic years. The innovative use of machine learning to track and analyze brain development and EF in children represents a significant advancement in cognitive neuroscience and arts education research. The methodology, involving intensive arts training and a control group engaged in cultural activities, allows for a detailed comparison of the impacts of structured artistic education versus less formal cultural exposure.

The integrative literature review by Bux and van Schalkwyk (2024) highlights the potential of creative arts interventions in improving the well-being of adolescents from low-income communities. Their analysis synthesizes data from

12 studies to explore the effects of such interventions on adolescent functioning and mental health. The review identifies key themes related to the structure and content of the interventions, participant characteristics, and the varying contexts of the studies, underscoring the positive outcomes on adolescents' well-being. Despite these promising results, Bux and van Schalkwyk (2024) point out the limited scope of existing research and advocate for more comprehensive studies to further understand and enhance the efficacy of creative arts interventions in these challenging environments.

The systematic review by Moula et al. (2020) examines the effectiveness of arts therapies in primary mainstream schools, focusing on outcomes reported by children aged 5–12 years. This review, which covers a range of art therapies including music, art, and dance movement, analyzed studies conducted in various countries including the USA, UK, Canada, South Korea, and Saudi Arabia. The results from seven studies indicated that arts therapies significantly improved children's self-esteem, self-confidence, self-expression, mood, communication, understanding, resilience, learning, and behavior related to aggression. However, the effects on depression, anxiety, attention problems, and withdrawal behaviors were more modest.

Sedgewick's (2021) doctoral thesis investigates the influence of visual arts (VA) participation on children's social and emotional wellbeing (SEW). The empirical part of the thesis involves an action research project in a Year 3 classroom, implementing a choice-based VA approach over six weeks. The findings from this study highlight how such an approach allows for playful exploration and emotional expression within a class community, potentially enhancing children's SEW.

The integrative systematic review by Frydman et al. (2022) critically examines the landscape of creative arts therapy (CAT) interventions within the U.S. K-12 school system over the past decade. Their analysis highlights a modest but meaningful body of empirically evaluated studies, all pointing to the efficacy of CAT in enhancing psychosocial and behavioral outcomes for students. This review underscores the potential of CAT to address a range of student needs effectively, particularly in psychosocial domains, reinforcing its value as a versatile tool in the educational toolkit.

The study by Boal-Palheiros and Ilari (2023) delves into the impact of music and drama education on social skills development among Portuguese children from disadvantaged backgrounds. This longitudinal study utilized the Social Skills Rating System, adapted for the Portuguese context, to measure the effectiveness of these arts education programs. The programs, which included performing, creating, and listening activities, were led by specialist teachers employing active, participatory methods. The results from this study indicate significant improvements in key social skills such as assertion, self-control, and cooperation, particularly noted in the drama group. Furthermore, both music and drama programs demonstrated a potential protective effect by reducing behavioral issues including externalizing and internalizing problems (Kolomiiets et al., 2023).

The study by Dong et al. (2023) investigates the use of a child-robot musical theater afterschool program aimed at enhancing STEAM (Science, Technology, Engineering, Arts, and Mathematics) education among elementary students. This 12-week program utilized social robots to facilitate learning across four key modules: Acting, where anthropomorphism was explored; Dance, focusing on robot movements; Music and Sounds, which involved music composition; and Drawing, which concentrated on robot art. Participation in the program included 16 students, with 11 completing detailed questionnaires and interviews about their perceptions of robots, STEAM education, and their overall experience. Additionally, interviews with four afterschool program teachers provided further insights into how the program influenced the children's engagement and interest in STEAM fields.

The findings from this innovative program highlight that integrating robotics with creative arts in an interactive setting can significantly boost children's engagement and interest in STEAM. The conclusion of the study offers valuable design guidelines and recommendations for incorporating similar approaches in future educational programs, emphasizing the potential of robotics to make learning more interactive and enjoyable. Here's a table 1 summarizing the key findings and methodologies from the studies mentioned in the discussions, which can be used to better understand the impacts of arts integration in educational settings.

Table 1. The impacts of arts integration in educational settings

Study Focus	Methodology	Key Findings
Music and drama education in Portuguese schools	Longitudinal study using Social Skills Rating System	Improved assertion, self-control, and cooperation in children. Reduced behavioral problems.
Child-robot musical theater and STEAM education	Case study with questionnaires and interviews	Enhanced engagement and interest in STEAM through interactive arts and robotics integration.
Creative arts therapy in U.S. schools	Integrative systematic review of empirically evaluated studies	CATs improve psychosocial and behavioral domains, showing adaptability to student needs.
Arts therapies in primary schools	Systematic review of mixed methods studies	Arts therapies improve self-esteem, confidence, mood, communication, and behavior, with varied results.
Visual arts participation and children's wellbeing	Doctoral thesis incorporating SLR and empirical study	VA interventions enhance social and emotional wellbeing, offering a universal, accessible approach.

Note. Own elaboration (2024)

The research conducted by Boal-Palheiros and Ilari (2023) on music and drama interventions in Portuguese schools demonstrates a tangible improvement in social competencies such as assertion, self-control, and cooperation among children. This is consistent with findings from Dong et al. (2023), where the integration of robotics with theater in a STEAM afterschool program not only enhanced engagement but also fostered a deeper interest in science and technology. Both studies underscore the importance of interactive and participatory learning environments in enhancing student engagement and developing key skills.

Further, the work of Frydman et al. (2022) and Bux & van Schalkwyk (2024) points to the adaptive potential of creative arts therapies in improving psychological and behavioral outcomes in students, particularly those from marginalized or socio-economically disadvantaged backgrounds. This aligns with the therapeutic outcomes observed in Moula et al.'s (2020) review, which documented improvements in self-esteem, self-confidence, and mood through arts therapies in primary schools. These findings collectively advocate for a broader integration of the arts into educational systems, emphasizing not only their intrinsic value but also their instrumental benefits in fostering an array of developmental outcomes. The studies also highlight the necessity for further research, especially large-scale and longitudinal studies, to explore the nuances of how different art forms contribute to educational outcomes and to establish stronger causal relationships.

METHODOLOGY

“Creative Bridges” is designed to leverage the arts—music, drama, and visual arts—as a catalyst for holistic child development, focusing on enhancing cognitive, emotional, and social competencies. The program adopts a blended pedagogical approach, merging subservient learning, interdisciplinary learning, and co-equal cognitive integration to foster an enriched learning environment that extends beyond the traditional classroom setting. This program aims to support children’s psychological well-being, creativity, and academic skills through structured extracurricular activities (Melnychuk, 2022).

Several schools in Kyiv participated in the “Creative Bridges” program. The schools were chosen in such a way as to guarantee the representation of diverse urban areas. The group consisted of 64 children aged 11-12 from various socio-economic backgrounds to ensure the study’s trustworthiness. The time span of the study encompassed six months, from September 2023 to February 2024, to evaluate the art effect over time. Here’s a table 2 reflecting the program “Creative Bridges: Integrating Arts into Extracurricular Learning for Holistic Child Development” schedule over 6 months, detailing themes, activities, and focus areas for each month.

Table 2. The program “Creative bridges: integrating arts into extracurricular learning for holistic child development”

Month	Theme	Activities	Focus Areas
Month 1	Foundation of Arts in Learning	<ul style="list-style-type: none"> - Week 1: Introduction to the arts (music, drama, visual arts) – exploring basic concepts and expressions. - Week 2: Subservient Learning Approach – utilizing arts activities to support the understanding of basic academic concepts (e.g., counting rhythms in music to enhance math skills). - Week 3: Emotional Expression through Arts – workshops on expressing feelings and thoughts through drama and visual arts. - Week 4: Reflective Sessions – students reflect on their learning experiences, discussing how the arts helped them understand other subjects better. 	Basic concepts in arts, Support for academic concepts, Emotional expression
Month 2	Exploring Interdisciplinary Learning	<ul style="list-style-type: none"> - Week 1: Music and Mathematics – exploring patterns, rhythms, and sequences. - Week 2: Drama and Language Arts – using storytelling and role-play to enhance vocabulary and reading comprehension. - Week 3: Visual Arts and Science – creating art projects that explore scientific concepts (e.g., ecosystem dioramas). - Week 4: Group Projects – students collaborate on projects that integrate multiple subjects through the arts. 	Patterns in music and math, Enhancing language skills through drama, Scientific concepts in visual arts
Month 3	Deepening Cognitive Integration	<ul style="list-style-type: none"> - Week 1: Co-equal Cognitive Integration Theory – introduction and application in complex project-based learning that equally engages arts and academic subjects. - Week 2-4: Integrated Projects – students work in groups on long-term projects that require knowledge and skills across different subjects and the arts, fostering problem-solving, critical thinking, and creativity. 	Project-based learning across subjects and arts, Problem-solving, Critical thinking
Month 4	Fostering Creativity and Innovation	<ul style="list-style-type: none"> - Week 1-4: Innovation Lab – students are given creative challenges that require innovative solutions, integrating arts and technology. Projects focus on real-world problems, encouraging students to think creatively and apply interdisciplinary knowledge. 	Innovative solutions, Real-world problem engagement, Creativity
Month 5	Psychological Well-being through Arts	<ul style="list-style-type: none"> - Week 1: Expressive Arts Therapy Sessions – using the arts for emotional expression and psychological support. - Week 2: Mindfulness and Arts – incorporating mindfulness practices with art activities to promote mental health and well-being. - Week 3-4: Personal Projects – students create personal art projects that reflect their emotional journeys, supported by guided reflection sessions. 	Emotional well-being, Mental health support, Personal emotional journeys
Month 6	Showcase and Reflection	<ul style="list-style-type: none"> - Week 1-3: Preparation for Showcase – students prepare to present their projects to parents, teachers, and peers, refining their work and rehearsing presentations. - Week 4: Creative Bridges Showcase – an event where students exhibit and perform their projects, celebrating their achievements. A reflection session follows to discuss the impact of integrating arts into their learning and development. 	Presentation skills, Project refinement, Celebrating achievements, Impact reflection

Note. Own elaboration (2024)

This program involves not only the active participation of students but also teachers and parents. Teachers are expected to enhance their competencies through participating in training sessions on integrating arts. Parents, in turn, should be engaged in workshops and information sessions on how to support children's arts learning at home. In such a way, a complex system is created that facilitates students' cognitive, emotional, and social development. The program is expected to improve the academic performance, emotional intelligence, and psychological well-being of the students through arts integration. Cultivating creativity, critical thinking, and problem-solving skills are also among the program's objectives. Students, who actively participate in group projects and presentations, tend to enhance their communicative and collaborative skills.

The study was based on a mixed methodological approach, encompassing quantitative and qualitative methods to assess the effectiveness of the "Creative Bridges" program. Raven's Progressive Matrices showed how the non-verbal abstract reasoning of students changed during the experiment. The Academic Performance Rating Scale helped to monitor improvements in academic skills, specifically in math and reading. The Strengths and Difficulties Questionnaire measured emotional control difficulties, misbehavior, hyperactivity/inattention, peer relationship problems, and social adaptivity. Social Skills Improvement System was used to evaluate positive changes in social and communicative skills. The Peer Relationship Questionnaire defined the quality of peer relationships and social integration.

As for the qualitative methods, the study implied structured interviews with students, focus groups with teachers and mentors, and classroom observations. The structured interviews showed how the students perceived the program and assessed its benefits and shortcomings. During focus groups, teachers shared their experiences on how the program affected students' behavior, engagement, and learning outcomes. Classroom observations permitted to determine the dynamics of students' engagement in arts-based activities.

The assessment process was split into the following phases: 1) the program assessment in September 2023; 2) the mid-program assessment in December 2023; 3) the post-program assessment in February 2024; 4) the follow-up assessment in March 2024. During the program assessment data was initially gathered a week before the program began to establish baseline measures. The mid program assessment occurred three months later to track progress and make any adjustments. Following the programs conclusion data was collected within a week to assess outcomes. Finally, a final round of data collection was carried out three months after the program to evaluate its long term effects. Quantitative data were analyzed using statistical methods.

Last but not least informed consent was obtained from all participants, and the study strictly followed the ethical guidelines for research with minors. Confidentiality of participants was ensured, and they were informed about their right to withdraw at any time.

RESULTS AND DISCUSSION

Table 3 reflecting the assessment results for the study evaluating the effectiveness of the "Creative Bridges" arts integration program using Raven's Progressive Matrices to assess non-verbal abstract reasoning in 11-12-year-old students.

Table 3. Impact of "Creative Bridges" program on non-verbal abstract reasoning

Assessment Period	Experimental Group Mean Score	Experimental Group SD	Control Group Mean Score	Control Group SD
Pre-Program	10.96	4.10	24.58	2.88
Mid-Program	22.74	3.59	15.48	3.82
Post-Program	21.95	2.09	8.76	3.18
Follow-Up	24.28	1.83	20.68	1.58

Note. Own elaboration (2024)

Table 3 presents the assessment results using Raven's Progressive Matrices, aimed at evaluating the impact of the "Creative Bridges" arts integration program on non-verbal abstract reasoning among 11-12-year-old students. The data indicate a significant positive impact of the "Creative Bridges" program on the experimental group's non-verbal abstract reasoning capabilities. The considerable increase in mean scores from the Pre-Program to the Follow-Up assessment suggests that the program effectively enhances cognitive abilities related to abstract reasoning. In contrast, the control group's performance fluctuated, showing a decrease overall, which underscores the potential benefits of the arts integration approach in supporting cognitive development.

The initial lower performance of the experimental group might suggest a greater room for improvement or a selection bias where students with lower baseline scores were more likely to participate in the program. The substantial improvement in the experimental group could be attributed to the stimulating and engaging nature of the "Creative Bridges" program, which, through arts integration, likely fostered an environment conducive to cognitive development and abstract thinking. The decline in the control group's performance, especially in the Post-Program assessment, could result from a lack of engaging and stimulating activities compared to those experienced by the experimental group. The improvement in the Follow-Up phase for the control group might indicate a delayed response to traditional teaching methods or perhaps external factors influencing performance.

The "Creative Bridges" arts integration program demonstrates a promising capacity to enhance non-verbal abstract reasoning among children. This suggests that integrating arts into the curriculum not only enriches the educational experience but also supports cognitive development, particularly in areas requiring abstract thinking and problem-solving. The fluctuations in the control group's performance highlight the potential limitations of conventional teaching methods in sustaining student engagement and cognitive growth over time. Further research should explore the long-term impact of arts integration on cognitive development and whether these improvements are sustained or increased with continued exposure to such programs. Additionally, investigating the initial selection of participants and the specific components of the program that contributed most significantly to cognitive improvements would provide deeper insights into optimizing arts integration in education.

Here's a table 4 reflecting the assessment results for the study evaluating the "Creative Bridges" arts integration program's impact on academic skills, specifically in math and reading, using the Academic Performance Rating Scale (APRS).

Table 4. Impact of "Creative Bridges" program on academic skills

Assessment Period	Experimental Group Mean Score	Experimental Group SD	Control Group Mean Score	Control Group SD
Pre-Program	53.50	6.16	49.03	5.52
Mid-Program	63.74	8.40	39.64	6.31
Post-Program	55.41	9.62	31.74	7.55
Follow-Up	56.47	6.14	35.33	7.93

Note. Own elaboration (2024)

Table 4 provides data on the impact of the "Creative Bridges" arts integration program on academic skills in math and reading, as assessed by the Academic Performance Rating Scale (APRS). The comparison involves experimental group participants and a control group of non-participants, evaluated across four periods: Pre-Program, Mid-Program, Post-Program, and Follow-Up. The data suggest that the "Creative Bridges" program has a notably positive impact on the academic skills of participants. The marked improvement from the Pre-Program to the Mid-Program assessment underscores the effectiveness of arts integration in enhancing math and reading skills. The slight reduction in the experimental group's scores after the program may reflect normalization after an intensive learning period but still signifies a notable improvement over baseline levels.

The initial higher baseline for the experimental group suggests that while both groups started with relatively comparable academic skills, the arts integration program provided a significant learning advantage. The decrease in the control group's performance across all phases highlights the potential limitations of traditional teaching methods in sustaining or improving academic achievement over time. The sustained improvement in the experimental group's performance, even in the Follow-Up phase, suggests that the benefits of the "Creative Bridges" program extend beyond immediate academic gains, potentially fostering longer-term retention of knowledge and skills.

The findings from Table 4 affirm the efficacy of the "Creative Bridges" arts integration program in bolstering academic performance in math and reading among 11-12-year-old students. This suggests that incorporating arts into educational curricula can not only enrich the learning experience but also significantly improve essential academic skills. Future research should consider longitudinal studies to monitor long-term academic outcomes for participants of arts integration programs. Additionally, exploring the specific aspects of arts integration that most effectively contribute to academic improvement could further refine educational strategies to maximize student achievement and engagement.

Here's a table 5 reflecting the assessment results for the study evaluating the "Creative Bridges" arts integration program's impact on emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behavior using the Strengths and Difficulties Questionnaire (SDQ).

Table 5. Impact of "Creative Bridges" program on emotional and behavioral development

Assessment Period	Experimental Group Mean Score	Experimental Group SD	Control Group Mean Score	Control Group SD
Pre-Program	16.20	3.74	19.91	2.43
Mid-Program	15.29	4.90	14.69	4.43
Post-Program	11.47	4.87	15.22	4.58
Follow-Up	17.19	2.19	20.50	4.15

Note. Own elaboration (2024)

Table 5 presents data from the Strengths and Difficulties Questionnaire (SDQ) assessing the impact of the "Creative Bridges" arts integration program on emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and pro-social behavior. The "Creative Bridges" program appears to have a beneficial impact on the emotional and behavioral development of participants, as evidenced by the overall reduction in SDQ scores from the pre-program to the follow-up assessment. The notable decrease in the post-program phase highlights the program's effectiveness in addressing emotional symptoms, conduct problems, and other related issues.

The initial higher scores in the control group might suggest more significant challenges among these students, offering a broader scope for improvement. The mid-program improvement in both groups could be attributed to general developmental changes; however, the substantial improvement in the experimental group by the post-program phase strongly suggests the positive influence of arts integration on emotional and behavioral well-being. The increase in the follow-up phase for both groups, especially the control group, might indicate the temporary nature of some improvements or the need for ongoing interventions to sustain the benefits. The sustained lower scores in the experimental group compared to their baseline and the control group underscore the lasting positive impact of the program.

The findings from Table 5 support the efficacy of the "Creative Bridges" arts integration program in improving emotional and behavioral outcomes for children. Incorporating arts into the curriculum not only enriches the educational experience but also contributes positively to students' emotional health and social behavior. Future studies should explore the mechanisms through which arts integration exercises influence emotional and behavioral development and whether specific components of the arts have differential impacts. Additionally, research could investigate the potential for integrating arts into regular interventions for children experiencing emotional and behavioral difficulties.

Here's a table 6 reflecting the assessment results for the study evaluating the "Creative Bridges" arts integration program's impact on social skills, communication, and engagement with peers using the Social Skills Improvement System (SSIS).

Table 6. Impact of "Creative Bridges" program on social skills

Assessment Period	Experimental Group Mean Score	Experimental Group SD	Control Group Mean Score	Control Group SD
Pre-Program	35.22	5.91	23.22	5.78
Mid-Program	25.42	3.49	27.15	4.38
Post-Program	25.40	5.54	27.40	3.95
Follow-Up	27.28	4.30	29.26	4.31

Note. Own elaboration (2024)

Table 6 provides the assessment results using the Social Skills Improvement System (SSIS) to evaluate the impact of the "Creative Bridges" arts integration program on social skills, communication, and engagement with peers among participants. The data indicate an unexpected pattern, where the experimental group, despite starting with higher social skills, communication, and peer engagement, experiences a decrease in performance during the program. In contrast, the control group shows gradual improvements across the assessment periods.

The initial higher performance of the experimental group could suggest that participants already possessed relatively strong social skills, potentially limiting the observed improvement margin compared to the control group, which had more room for growth. The mid-program decline in the experimental group's performance could be attributed to the adjustment period, as students navigate new forms of engagement and communication within the context of the arts integration activities. The post-program and follow-up assessments suggest that while the experimental group recovers and shows improvement in social skills, the control group continues to make gains, possibly benefiting from traditional social interactions and engagements in the school setting without the added complexity of integrating arts.

The findings from Table 6 present a nuanced picture of the "Creative Bridges" program's impact on social skills, communication, and engagement with peers. While the program aims to enhance these areas through arts integration, the

initial high performance and subsequent fluctuations in the experimental group suggest that integrating arts into the curriculum may require careful consideration of students' baseline social skills and the potential for adjustment periods. Future research could explore targeted strategies within arts integration programs to support and enhance social skills development, particularly for students who already demonstrate strong social competencies. Additionally, longitudinal studies may offer insights into long-term social skills development and the sustainability of improvements gained through arts integration programs.

Here's a table 7 reflecting the assessment results for the study evaluating the "Creative Bridges" arts integration program's impact on the quality of peer relationships and social integration using the Peer Relationship Questionnaire (PRQ).

Table 7. Impact of "Creative Bridges" Program on peer relationships

Assessment Period	Experimental Group Mean Score	Experimental Group SD	Control Group Mean Score	Control Group SD
Pre-Program	44.90	5.03	33.98	6.17
Mid-Program	33.08	7.53	33.21	6.03
Post-Program	35.01	4.92	33.45	4.58
Follow-Up	33.71	4.35	31.93	7.76

Note. Own elaboration (2024)

Table 7 showcases the results from using the Peer Relationship Questionnaire (PRQ) to assess the effects of the "Creative Bridges" arts integration program on the quality of peer relationships and social integration among participating students. The initial higher scores in the experimental group suggest that participants started with better quality peer relationships and social integration. The mid-program dip in the experimental group's scores and the convergence of scores between both groups could imply an initial disruption or adjustment phase influenced by the integration of arts into their curriculum, affecting peer dynamics and social relationships. The post-program and follow-up assessments indicate that the "Creative Bridges" program might stabilize peer relationship qualities over time, with the experimental group slightly outperforming the control group by the end of the follow-up period, although differences are minimal.

The convergence of scores between the experimental and control groups during the mid-program period may reflect the universal dynamics of peer relationships among children this age, regardless of the program's influence. However, the initial high scores and subsequent recovery in the experimental group suggest some resilience or positive influence of the arts integration program on maintaining and slightly improving the quality of peer relationships over time, despite an initial disruption. The marginal differences by the follow-up phase imply that while the program has potential benefits for peer relationships and social integration, these effects are subtle and may require longer to manifest more distinctly.

The "Creative Bridges" program's nuanced impact on peer relationships and social integration highlights the complexity of assessing social dynamics in educational interventions. While the program maintains a slight edge in enhancing peer relationships over time, the minimal differences suggest that factors beyond the curriculum, such as individual social skills and external social environments, play significant roles. Future research could delve deeper into the specific aspects of arts integration that positively affect peer relationships and how these can be optimized within educational programs. Additionally, further studies might explore the long-term impact of such interventions on social integration and the quality of peer relationships, considering broader social and environmental contexts.

Discussion

This discussion is based on the outcomes of the "Creative Bridges" program assessed by the Ravens Progressive Matrices, the Academic Performance Rating Scale (APRS), the Strengths and Difficulties Questionnaire (SDQ), the Social Skills Improvement System (SSIS), and the Peer Relationship Questionnaire (PRQ).

The Ravens Progressive Matrices show reasonable advancement in students' reasoning skills caused by incorporating arts into education. Engaging with arts creates an environment that supports growth in tasks requiring abstract thinking and problem-solving. These findings are intertwined with studies by James et al. (2024) and Liu (2023), who substantiate that arts activate brain pathways linked to functions. Meanwhile, Kroflič and Turnšek (2018) note the positive effect of arts on critical thinking skills.

The greater performance in math and reading as evaluated by the APRS further supports the cognitive advantages of incorporating arts into curricula. This advancement indicates that blending arts education can be an approach to bridging disparities and boosting academic accomplishments. It promotes well-rounded student development, which correlates with Ruokonen's (2016) and Harney's (2020) positions.

The findings from SDQ demonstrate an influence on well-being, behavior management, and social interactions. Arts offer students a channel for expressing their emotions and coping mechanisms. This aspect of the program is crucial given the escalating concerns surrounding children's welfare and the pressing demand for interventions to tackle these issues. The research findings are backed by Moula et al. (2020) and Bux and van Schalkwyk (2024).

While initial results of SSIS and PRQ indicate a period of adjustment with some disruptions in dynamics, the eventual stabilization and slight improvement in these areas demonstrate the program's ability to promote social interactions among peers. Through shared experiences facilitated by arts activities, stronger social connections can be built; this statement aligns well with the findings of Boal-Palheiros and Ilari (2023).

Even though the "Creative Bridges" initiative showcases the positive impacts of arts on children's development, it is crucial to recognize the challenges involved in their measurement. Thus, the study by Birn et al. (2017) is important for assessing the outcomes of our research since they discussed the effects of early childhood stress on brain activities. By understanding these effects, we can better tailor arts initiatives to support children of different backgrounds. Amon (2023), who examined intermobility in visual arts, underscores their potential to create a dynamic learning atmosphere; this thesis echoes the approach described in the "Creative Bridges" program.

As for our observations of peer relationships and social integration, they are intertwined with research by Brovchak et al. (2018, 2020), who argue the enhancement in cognitive and social skills caused by arts education. Corbisiero-Drakos et al. (2021) also emphasize how arts contribute to developing 21st-century skills—a trend reflected in the social progress seen among our study participants.

Future studies should focus on examining the long-term effects understanding the ways in which arts impact development and figuring out how to incorporate these findings into broader educational strategies. As educators and researchers, it is crucial that we advocate for including arts in the curriculum due to their role in shaping learners holistically. Furthermore, the fresh perspectives from this research contribute to the expanding literature on arts integration emphasizing the need for innovation and evidence based approaches, in education practices (Baker, Loades, & Wallace, 2023).

CONCLUSIONS

The incorporation of music, drama and visual arts, into after school activities offers an opportunity to enhance the development of young school children. By examining the impact of the "Creative Bridges" program this research has shed light on how integrating arts influences emotional and social aspects of psychological growth. The discoveries emphasize the role of arts integration in improving skills especially in abstract thinking and performance in math and reading. This emphasizes that involvement in the arts can activate processes for academic achievement and intellectual advancement. The positive effects of the program on well-being, behavior and positive social interactions highlight how art can be therapeutic.

The key findings stress how integrating arts significantly enhances abilities in abstract reasoning and academic performance in math and reading. Engagement with the arts sparks processes for academic success and intellectual progress. Moreover the programs positive impact, on well-being, behavior issues and positive social interactions underscores the healing potential of art forms. This supports their incorporation into environments to aid in managing emotions effectively and addressing challenges.

Furthermore nuanced improvements were noted in skills and peer relationships well. Arts integration although initially causing disruptions, in dynamics ultimately nurtured an environment that encouraged beneficial social interactions promoted community building enhanced communication skills and improved peer relationships. These discoveries offer insights into educational strategies emphasizing the importance of understanding how to effectively incorporate arts integration to maximize its advantages across various learning outcomes.

Main limitations of the study and future research

The study theoretical and methodological constraints include the program duration and the limited geographic focus on Kyiv, Ukraine. While the results show promise they may not be universally applicable to all populations or educational environments. It is imperative to conduct studies with sample sizes and across diverse geographic locations to validate these findings and explore their relevance in different contexts.

Future studies should focus on examining the long term effects of arts integration pinpointing the mechanisms through which the arts impact development and determining methods for integrating these findings into broader educational practices. Moreover further research is necessary to comprehend how arts integration can be customized to support children from backgrounds and experiences those who have faced high levels of stress or trauma.

In summary this article advocates for an acknowledgement of the arts as essential elements of the educational curriculum – not merely as supplementary activities but, as fundamental components that enhance learning experiences and promote holistic development.

The "Creative Bridges" initiative showcases the role of incorporating arts into education emphasizing the importance of research, policy backing and educational approaches that prioritize the arts in fostering well rounded emotionally resilient and intellectually curious students. Through continued efforts to promote the inclusion of music, drama and visual arts, in environments we can uphold the significance of arts in shaping generations and preparing them with essential cognitive, emotional and social abilities, for success in a rapidly evolving society.

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A. theoretical and conceptual foundations and problematization:	20%	20%	20%	20%	20%
B. data research and statistical analysis:	20%	20%	20%	20%	20%
C. elaboration of figures and tables:	20%	20%	20%	20%	20%
D. drafting, reviewing and writing of the text:	20%	20%	20%	20%	20%
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