

Pedagogical Innovation as a Holistic Education Model in an Interdisciplinary Formula

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ABSTRACT

In the Polish education system, pedagogical innovation is an innovative curricular, organizational, or methodological solution aimed at improving the quality of school work. The legal basis is the Regulation of the Minister of National Education of August 9, 2017, the Education Law. Polish education is gradually opening up to innovation, although this process faces systemic challenges. Pedagogical innovation in Poland develops most dynamically where teachers' passion, principal openness, and local government support are combined. This article contains an analysis of the research procedures involved in the planned multi-stage process. Full information on the preparation and implementation, along with a description of the results achieved, and the main goal: the development and preparation for use of a "Holistic Education Model in an Interdisciplinary Formula Incorporating Innovative Physical Activity Therapy, Video-Audio Projects, Empathy, and the Therapeutic Value of Positive Assessment."

Keywords: pedagogical innovation; holistic model of education; interdisciplinarity in pedagogy

Background and objective science. The aim of the study is to present the process, research and results of the implementation of the pedagogical innovation entitled "A holistic model of education in an interdisciplinary formula with the participation of innovative physical activity therapy, videosound projects, empathy and the therapeutic value of positive assessment in the years 2022-2024 for secondary schools", which ended with a success resulting from the increase in positive assessments during youth education on the example of secondary schools in Poland.

Material and methods. The research was conducted through observation, analysis, and implementation of pedagogical innovations in a proprietary formula. 128 students participated. The participants were people of various ages (ranging from 15 to 20 years old).

Results. Subject grades increased by 2-3 grade points compared to grades before the implementation of the holistic model, i.e., for a total of 128 students. All students achieved grades above satisfactory. Of these, 46% received good grades (i.e., 59). 40% received very good grades (i.e., 51), and 14% received excellent grades (i.e., 18). The subjects selected for comparison of educational and behavioral outcomes were history and mathematics. Regardless of the subjects selected for participation in the model, grades in other subjects, both behavioral and subject-specific, increased similarly.

Conclusions. After completing the research using the " Holistic Interdisciplinary Education Model with Innovative Physical Activity Therapy, Video-Sound Projects, Empathy, and the Therapeutic Value of Positive Assessment in 2022-2024 Using the Example of Secondary Schools," the results were analyzed.

The possibility of using the model, in the author's opinion, exists not only in Poland.

INTRODUCTION

The field of pedagogy, a crucial element of educational practice, is constantly evolving as societal needs shift and technological advances evolve. Research in pedagogy serves as a key framework for understanding effective teaching strategies, learning processes, and the overall impact of educational methodologies on student outcomes. The goal is to explore the various dimensions of pedagogical research, examining its theoretical foundations, empirical research, and practical implications in various educational contexts. By exploring the interplay between cognitive development and instructional techniques, this discussion will highlight how research can inform and improve teaching practices. Furthermore, it will highlight the importance of data-driven decision-making and reflective practice in pedagogy, identifying the importance of ongoing research in achieving educational excellence. By fostering a comprehensive understanding of these elements, we contribute to richer dialogues about the role of research in shaping effective teaching and learning environments.

Research plays a crucial role in shaping educational practices, serving as a foundation for innovation and improvement in teaching methodologies. By examining diverse pedagogical approaches, educators can identify best practices that resonate with diverse student needs and learning styles. For example, open educational practices emphasize the importance of inclusiveness and equity in pedagogy, advocating the use of open educational resources and collaborative learning environments that actively engage students in their education [1]. Furthermore, ongoing research on new pedagogical frameworks, such as circular pedagogy, emphasizes the need to adapt educational methods to the demands of contemporary society while supporting lifelong learning [2]. Therefore, research not only informs instructional strategies but also promotes a culture of continuous improvement, ensuring that educational systems evolve to meet both current and future challenges facing students.

Examining theoretical frameworks in pedagogy reveals the rich interplay between diverse educational philosophies that shape teaching practices and learning experiences. By integrating critical pedagogy and disability, educators can challenge conventional notions of identity and knowledge, creating a more inclusive environment that embraces diverse student experiences. This approach aligns with the idea that standardized curricula often perpetuate social inequalities and cultural norms, functioning as vehicles for reproduction rather than transformation [3]. Furthermore, a critical lens allows teachers to recognize the hidden meanings underlying their pedagogical choices and resist the normative pressures of the deficit model, which categorizes students in terms of what they lack, as various scholars have argued [4]. Ultimately, adopting a constructivist approach that encourages dynamic interactions between teachers and students can foster an empowering educational landscape that celebrates unique identities and promotes equity in learning.

Examining key pedagogical theories reveals significant insights into their impact on modern teaching practices, emphasizing the interplay between theory and application. For example, the technology-specific knowledge framework emphasizes the integration of technology, pedagogy, and content knowledge to enhance learner experiences. Recent research at Nottingham Trent University demonstrates how this framework can improve educational outcomes in engineering by promoting more coherent instructional approaches [5]. However, implementing pedagogical changes is often fraught with challenges. An analysis of New Zealand's physics curriculum reform shows that barriers such as insufficient understanding of change, lack of systemic support, and time constraints hinder effective pedagogical adaptation [6]. Thus, while pedagogical theories can inform improved teaching methodology, their practical application requires a supportive environment that supports teachers in navigating the complexities of pedagogical change.

The implementation of innovative teaching strategies has become a key element of modern educational research, especially as educators strive to improve student engagement and learning outcomes. For example, inquiry-based pedagogy has shown significant promise in science education by promoting critical thinking and deepening understanding, particularly in Initial Teacher Education programs [7]. This approach encourages students to explore scientific concepts through hands-on inquiry, thus promoting a more active learning environment. Furthermore, integrating artistic methods into pedagogy serves as another innovative strategy, transforming traditional teaching paradigms by cultivating a sense of empathy and caring in the educational

context. These diverse strategies not only cater to diverse learning styles but also foster community among teachers and students engaged in experimental practices. Therefore, the adoption of innovative teaching methods is essential to fostering a more dynamic and inclusive educational landscape.

Technology integration in the classroom has become a focal point in contemporary educational research, emphasizing the need for transformative pedagogical practices. Research indicates that effective technology implementation can increase student engagement and achievement, but results can vary significantly depending on factors such as teacher attitudes and instructional strategies [8]. This variability highlights the importance of examining teachers' decision-making processes, particularly regarding opportunities for student voice in digital environments. Research suggests that many teachers employ monologic practices that limit student interaction with technology, inhibiting critical engagement [9]. Therefore, it is crucial for teachers and policymakers to develop professional development programs that promote dialogic approaches to teaching, which allow for a more inclusive learning atmosphere. Reorienting professional practices to embrace digital literacy and critical pedagogy can increase the effectiveness of technology integration, ultimately preparing students for success in a rapidly changing global landscape.

Objective tests

Isolating and applying model elements of the pedagogical innovation process and, consequently, obtaining a "Holistic model of education in an interdisciplinary formula with the participation of innovative physical activity therapy, video-sound projects, empathy and the therapeutic value of positive assessment" enabling the students participating in the process to obtain higher subject grades and improve the quality of their behavior at school.

MATERIALS AND METHODS

Participants

128 students participated in the project. The participants were people of various ages (from 15 to 20) who were high school students in Poland.

Procedure

The research was conducted in three stages using the following self-developed elements:

1. innovative physical activity therapy,
2. video-sound project in the therapy of high school youth,
3. empathy of the educator,
4. The therapeutic value of positive evaluation.

The first stage consisted of reviewing the documentation regarding students in individual classes and simultaneously using empathy and positive evaluation as a therapeutic value.

The author possesses innate empathy. This allowed him to cultivate positive relationships from childhood – first with his peers, then as an adult in the uniformed services. Throughout his life, the author has been able to collaborate with those in need of support. He began his sports adventure at the age of nine. First, he took up rowing, then Judo, Boxing, and finally Karate, which he currently practices. From the age of nine to 19, he cared for the elderly as a Scout. He lived in a housing estate where a large group of children and young people required support, including for health reasons. From 2002 to 2018, he served as President of the "Together Against Violence" Association in Gdańsk. He also implemented Poland's largest violence prevention program in the Tricity area from 1999 to 2003, serving as Coordinator. The author joined a private high school complex upon its establishment in 2020. In this phase, the first stage of the subject-specific classes, in addition to demonstrating understanding, acceptance, and support for schoolchildren, he adapted his actions to the needs

of all students, taking into account the opinions of Psychological and Pedagogical Counseling Centers, as well as information about psychiatric and symptomatic support according to his own abilities. He achieved a high level of behavioral standards in classes. To further support the students and improve their grades, the author familiarized himself with materials on innovation in pedagogy and the latest scientific trends in the subject area. To implement the principle of mutual respect, he allowed students to shake hands, first pointing out that this was a historically conditioned behavior demonstrating mutual respect, dating back to the period of chivalry. This small measure helped to "cool down" the youth's emotions before and during the classes.

Before the lesson, the author used the verbalization method by lowering his voice and introducing the lesson pragmatics with a two-minute conversation about the students' well-being, impressions, sharing positive emotions and smiling slightly.

The above-mentioned methods helped to calm down students' pre-lesson emotions and enabled them to implement the subject's core curriculum.

This situation was not entirely satisfactory, given the difficulties experienced by students receiving special educational support. This motivated the author to reflect even more deeply and familiarize himself with the literature and experiences of other practitioners. Thanks to international literature, and particularly Ukrainian literature, the author became aware of broader opportunities for supporting young people, specifically by developing a model for implementing curricular tasks that incorporates contemporary scientific achievements.

Recognizing the low level of sporting activity among young people, the author analyzed, from the perspective of his own life experiences, options enabling short, coordinated exercises in the form of physical activity during breaks between lessons or just before classes.

After reviewing the extensive literature, the experiences of many other scientists, and the film library in this field, the author realized that it would be necessary to combine several interdisciplinary activities into a single, holistic model of pedagogical support for therapy and improving students' cognitive abilities to achieve the highest possible grades. And thus, he entered the second stage. Through his personal research, he analyzed many possible solutions for implementing forms of physical activity for young people during breaks between lessons or at the very beginning of classes, taking into account a period of no longer than three minutes at the beginning of the class, of course together with empathy and support with positive evaluation.

Analysis statistical

Subject grades improved by 2-3 grade points compared to their grades before the holistic model was implemented, for a total of 245 students. All students achieved grades above satisfactory. Of these, 46% received good grades, 40% received very good grades, and 14% received excellent grades.

RESULTS

Table 1. Participants in classes using the Holistic Education Model in an interdisciplinary formula with the participation of innovative physical activity therapy, video-sound projects, empathy and the therapeutic value of positive assessment

Total number of students participating	245
Students on the autism spectrum	41
Students with ADHD	27
Students with information about psychological care	19
Students with dyslexia	15
Students with selective mutism	7
Students with ADHD + Autism Spectrum Disorder	5
A student with a combination of autism spectrum disorder and cerebral palsy	1

Kategoria	Procent
liczba uczniów bez dokumentacji diagnostycznej	68,06%
Uczniowie spektrum autyzmu	11,39%
Uczniowie z ADHD	7,50%
pomoc psychiatryczna	5,28%
uczniowie z dysleksją	4,17%
Uczniowie z mutyzm wybiórczy	1,94%

Source: own materials

The phased implementation allowed for observed improvement in participant behavior. This improvement is unmeasurable in the initial period, as behavioral assessments are only provided midyearly.

Classes IV – a total of 4 classes of students, 49 in total , including 28 requiring support,

Class III – a total of 4 classes, 57 students in total, including 25 requiring support,

Second grade – a total of 5 classes, 69 students in total, including 30 requiring support, First grade - a total of 5 classes, 70 students in total, including 32 requiring support.

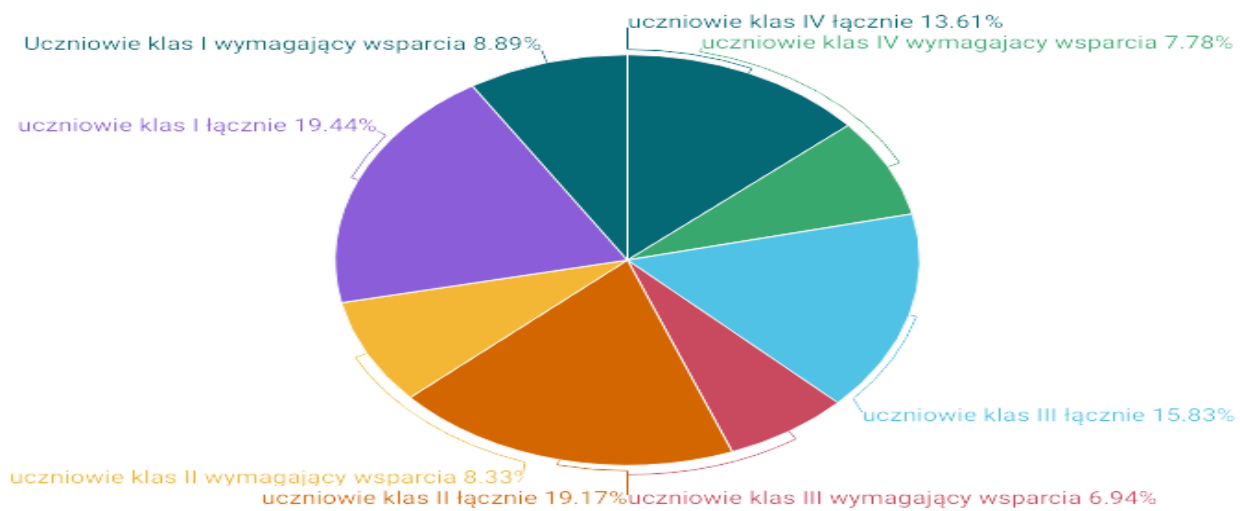


Fig. 2. Summary information about participants divided into classes

Source: own materials

Then, 50% of all classes were randomly selected to participate in the study. The number of students was uneven due to the diversity within the classes, resulting in:

Classes IV – 2 classes of students in total, 23 students in total, including 11 requiring support,

Class III – 2 classes of students in total, 29 students in total, including 9 requiring support, Second grade – 3 classes of students in total, 35 students in total, including 15 requiring support, First grade - 3 classes in total, 41 students in total, including 17 requiring support.



Fig. 3. Summary information about participants divided into classes

Source: own materials

After the second semester, we have annual grades for comparison. Due to the implementation of the holistic model, behavioral grades after improvement for the six-month period become stable (students accept the classroom situation and participate) and remain at a higher level (students achieve one grade higher than the recommended mid-year grade). Subject grades improve for the majority, i.e., 80% of participants.

Observing students outside the current model also improves the situation, but only slightly. Grades improve for the most active students, and behavior during classes stabilizes. Parents play a crucial role here, becoming more active after receiving information about their children's mid-year and annual assessments.

The third and fourth semesters of the implemented holistic model proved decisive. The end of the year confirmed the initial assumptions. The following results were achieved: students were highly engaged in both classroom and extracurricular activities, often initiating initiatives to benefit the city's residents. An example is the launch of poetry and photography workshops for residents (students from vocational schools and high schools) entitled "Open Evening with Poetry and Photography."

Subject grades increased by 2-3 grade points compared to grades prior to the launch of the holistic model. All students achieved grades above satisfactory, including 46% of participants who received good grades. 40% received very good grades, and 14% received excellent grades. The subjects selected for comparison of educational and behavioral outcomes were history and mathematics. Regardless of the subjects selected for participation in the model, grades in other subjects, both behavioral and subject-specific, increased similarly.

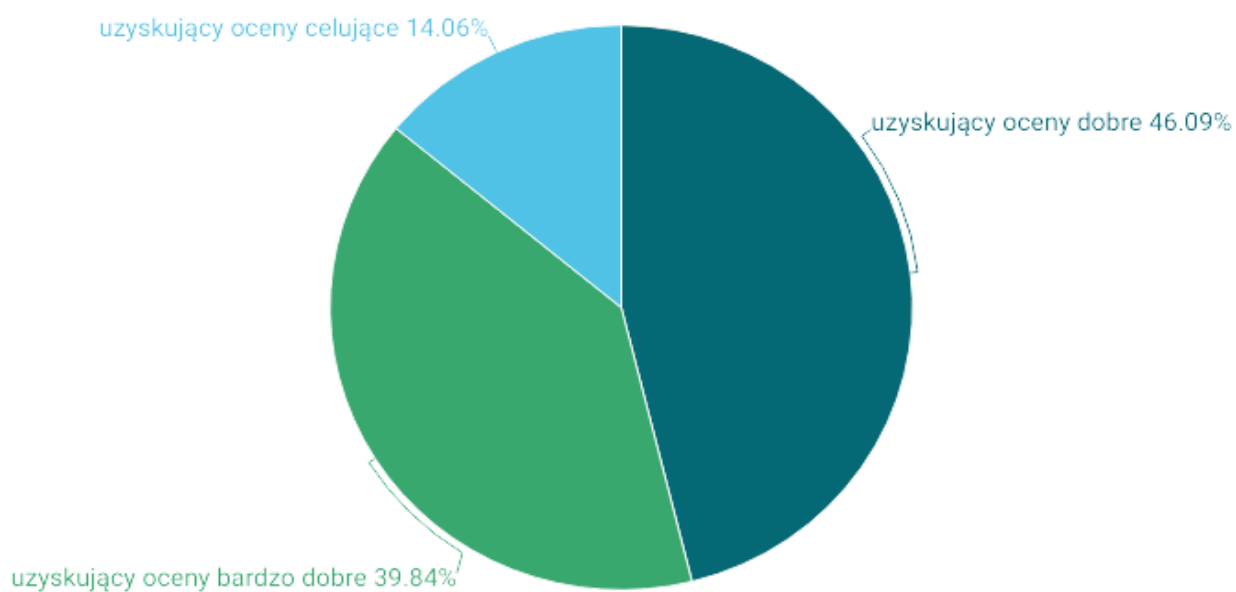


Fig. 4. Learning outcomes of students participating in the implemented holistic model in 2022-2024

Source: own materials

DISCUSSION

The presented educational model (2022-2024) is an ambitious attempt to break down traditional divisions between subjects by integrating several key elements:

Main pillars of innovation:

1. Innovative physical activity therapy - going beyond standard physical education, taking into account the individual psychophysical needs of students
2. Video-sound projects - the use of digital media as tools of expression and communication
3. Development of empathy - purposeful shaping of socio-emotional competences

4. Therapeutic value of positive assessment - transformation of the assessment system in a direction that supports development Potential benefits:
 - Integration of competencies - combining physical, emotional, technological and academic development
 - Personalization of education - taking into account diverse learning styles
 - Mental health support - especially important in the post-pandemic context • Preparing for the challenges of today - developing competences of the future Implementation challenges:
 1. Logistics - inter-subject coordination, time management
 2. Personnel - preparing teachers for interdisciplinary work
 3. Evaluation of effects - how to measure the success of such a complex approach?
 4. Balance - how not to overload the educational program?

Things to consider:

- How specifically are elements of physical activity therapy combined with media projects?
- How is the development of empathy integrated into subject content?
- How does the positive assessment system affect students' motivation and self-esteem?
- What are the initial observations from the pilot implementation?
- Is the model scalable and adaptable to different school contexts?

It is worth considering whether the presented model could constitute:

- A comprehensive response to the youth mental health crisis
- A prototype of future education in the digital era
- A bridge between formal education and the needs of the labor market

The author invites you to share your reflections on the potential, limitations and practical aspects of implementing a holistic education model.

When analysing the available literature, no literature or attempts at similar modelling of support for students in learning and educational processes were found.

CONCLUSIONS

The use of many elements enabling the creation of a model of pedagogical innovation was the culmination of a process lasting several years.

The author, having reviewed the extensive literature, the experiences of many other scientists and the film library in this field, realised that it would be necessary to combine several activities in an interdisciplinary manner into one, holistic model of pedagogical support for therapy and improving students' cognitive abilities to achieve the highest possible grades in the subjects.

Through his personal research, he analyzed many possible solutions for implementing forms of physical activity for young people during breaks between lessons or at the very beginning of classes, taking into

account a period of no longer than three minutes at the beginning of the class, of course together with empathy and support with positive evaluation.

Several months of research revealed the need to not only incorporate a short-term form of physical activity, but also combine it with an audiovisual format, including a soundtrack. This led the author to the concept of mudra – which should be described and explained at this point before moving on to the next stage.

Mudras - Mudras are an integral part of many traditional therapeutic practices, such as yoga, Ayurveda, and Chinese medicine. Their history dates back to ancient Hindu and Buddhist texts, where mudras were used to influence the flow of energy in the body and mind. The word "mudra" comes from Sanskrit and means "gesture" or "sign." Mudras have deep symbolic and spiritual meaning, and their use is often linked to meditation and spiritual practices. In a therapeutic context, mudras are a combination of gestures, hand positions, breathing, and concentration that aim to bring inner balance and improve mental and physical health. They originate primarily from Indian and Chinese cultures, where they have been practiced for centuries as effective therapeutic methods. Mudras are an integral part of Ayurveda and yoga, and their use was intended to ensure harmony of body, mind, and spirit.

The growing interest in holistic approaches to education has led to a reassessment of traditional teaching methods, particularly the integration of practices that enhance students' mental and emotional well-being. Among these approaches, mudras—often referred to as symbolic hand gestures in yoga and Indian classical dance—have gained prominence for their therapeutic properties. These gestures are not only rooted in ancient texts but also influence the body's energy flow, promoting relaxation, concentration, and emotional regulation. In the context of classroom practice, implementing mudras offers a compelling means of supporting students in managing stress, increasing concentration, and fostering a sense of community. As teachers strive to create enriching environments conducive to learning, understanding the role of mudras provides valuable insight into how simple yet effective techniques can contribute to students' overall well-being, thus encouraging a more comprehensive educational experience.

Mudras, intricate hand gestures originating from ancient Indian traditions, serve as more than just physical expressions; they contain profound historical and cultural meaning. These symbolic gestures have been used for thousands of years in various spiritual and healing practices, particularly in the fields of yoga and Buddhism. Historically, mudras have been used not only as meditation tools but also as gateways for practitioners to access higher states of consciousness, grounding them in their spiritual pursuits [10]. Their use extends beyond personal enlightenment, as these gestures have been integrated into communal rituals and therapeutic practices, reflecting broader societal values surrounding health and well-being. In contemporary contexts, particularly in educational settings, mudras are being re-evaluated for their therapeutic properties, demonstrating the interplay between historical meaning and modern psychosomatic practices, ultimately fostering an environment conducive to holistic student engagement and emotional regulation [11].

The incorporation of mudras, or symbolic hand gestures, into educational settings has attracted attention for their potential psychological benefits, particularly in enhancing students' focus and emotional regulation. Engaging in mudras can foster a state of mindfulness, promoting a deeper connection between mind and body, which is crucial in a learning environment. Research indicates that mudras can facilitate a sense of calm and clarity, allowing students to approach academic challenges with reduced anxiety and improved concentration [12]. Furthermore, these gestures have been linked to increased self-awareness, enabling students to more effectively recognize and manage emotions. This emotional intelligence is crucial for developing resilience, especially in the face of academic pressure. By integrating mudras into daily practices in schools, teachers can cultivate a supportive atmosphere that improves both mental well-being and academic performance, thus enriching the overall educational experience.

The incorporation of mudras—hand gestures rooted in ancient practices—has shown significant potential for increasing concentration and reducing anxiety among students. Engaging in specific mudras activates parts of the brain associated with concentration and emotional regulation, supporting a supportive learning environment. Research indicates that mindfulness-based interventions such as yoga can improve students' emotional self-regulation, particularly in underserved populations struggling with chronic stressors such as

poverty and violence [13]. By integrating mudra practice into schoolwork, teachers can offer students effective grounding tools, thereby promoting resilience and emotional stability. This is crucial because persistent stress can lead to debilitating consequences, including learning difficulties and distorted self-control. Therefore, implementing mudras not only cultivates a sense of calm and increased focus but also equips students with strategies for navigating academic pressures, contributing to their overall wellbeing and academic success.

This therapeutic approach reflects the growing recognition of the importance of holistic wellbeing within education, encouraging schools to adopt strategies that prioritize students' overall health and wellness as key components of educational success [14].

The practice of mudras, or hand gestures, presents a compelling strategy for improving posture and alleviating physical discomfort among students. By engaging in specific mudras during classroom activities, students can utilize the therapeutic benefits associated with these gestures, which are believed to promote energy flow and increase body awareness. Research indicates that such practices can relieve tension and improve physical alignment, fostering a supportive learning environment [15]. Furthermore, incorporating mudras can help students manage stress and anxiety, contributing to an overall sense of well-being and comfort, crucial for effective learning [16]. Furthermore, proper posture, reinforced by mudra practice, can prevent the development of musculoskeletal discomfort, often exacerbated by prolonged sedentary behavior in academic settings. By integrating mudras into daily school routines, teachers can facilitate not only physical well-being but also promote a holistic framework for student health that supports both academic and personal development.

The author selected three mudras indicated as having a positive effect on the brain for prelesson and/or end-of-lesson practice by young people from the YouTube platform:



Fig.5 Mudra No. 1

Source: <https://www.youtube.com/>



Fig. 6 Mudra No. 2

Source: <https://www.youtube.com/>

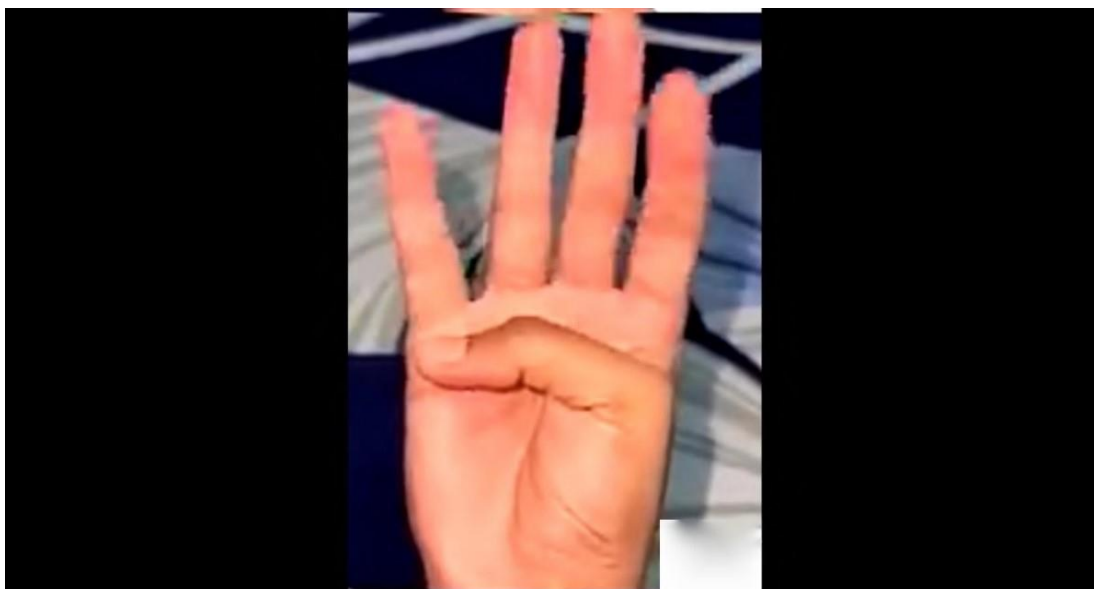


Fig. 7 Mudra No. 3

Source: <https://www.youtube.com/>

Mudras are performed by clenching properly positioned fingers, or by applying pressure to a designated area with the fingers. This is clearly visible in the audio-video project, which, as the final element after incorporating other pedagogical forms, encapsulated and holistically encompassed all activities into a single model.

The use of empathy, positive evaluation, and mudras proved incomplete, especially for some young people sensitive to sounds in the classroom. This motivated the author to explore the possibility of playing music during exercises, but one whose sounds would enhance participants' brain function. This necessity introduced the author to new research findings on enhancing intellectual abilities through music, including Mozart's proven and already used music. This led to the completion of the second stage, with the knowledge that the relationship between music and cognitive development has intrigued researchers for decades, culminating in the phenomenon known

as the Mozart effect. This term refers to the alleged enhancement of cognitive abilities, particularly spatial-temporal reasoning, attributed to listening to Mozart's compositions.

Initially evaluated in the 1990s, this effect sparked widespread public interest, leading to a surge in the inclusion of classical music in educational settings, with the belief that it could stimulate intelligence. However, while some studies support the notion that exposure to Mozart's music can lead to temporary cognitive enhancement, debate continues regarding the longevity and breadth of these effects. Therefore, exploring the nuances of the Mozart effect encourages a deeper analysis of the interrelationship between music, learning, and intelligence, prompting a reassessment of our understanding of the potential impact of auditory stimuli on cognitive development.

The Mozart effect, a term discovered in the early 1990s, posits that listening to classical music, particularly compositions by Wolfgang Amadeus Mozart, can temporarily improve cognitive functioning, particularly spatial cognitive function. This phenomenon has gained considerable interest in cognitive psychology because it suggests that auditory stimuli can influence mental processes and intelligence. Various studies have investigated these claims, with some demonstrating that exposure to music can lead to improved performance on cognitive tasks, particularly among children. For example, research indicates that exposure to classical music can increase measurable intelligence, such as spatiotemporal reasoning, as assessed by instruments such as the Naglieri Nonverbal Ability Test (NNAT) [17]. However, not all studies consistently support this effect; some studies found no significant differences between musical and control conditions [18]. This inconsistency does not occur in the holistic model developed by the author that forms the basis of this dissertation.

The theoretical basis of the Mozart effect is rooted in the belief that exposure to classical music, particularly Mozart's compositions, can improve cognitive functions such as spatiotemporal reasoning, which is essential for problem-solving and higher-order thinking. In examining the relationship between music exposure and cognitive abilities, research has identified a potential link between musical engagement and improvements in measurable intelligence, particularly in children. One study highlighted the importance of classical music in supporting spatiotemporal intelligence, using tests such as the Naglieri Nonverbal Assessment Test (NNAT) to assess cognitive gains following music exposure [19]. However, this field is marked by inconsistency; while some studies highlight positive results, others have found negligible effects when contrasting different musical genres, suggesting that not all types of music confer the same cognitive benefits [20].

The exploration of the relationship between music and intelligence is particularly exemplified in original research examining the so-called Mozart effect. In this groundbreaking work, researchers examined the effect of listening to Mozart's compositions on spatial reasoning skills. The findings revealed that participants who engaged with Mozart's music before performing cognitive tasks experienced a temporary enhancement of their analytical abilities, suggesting that auditory stimulation can significantly impact cognitive performance. For example, a detailed study found that specific types of background music in a learning environment improved memory retention compared to silence, highlighting a direct correlation between musical engagement and factual recall [21]. This is consistent with theories about how different experiences and preferences shape cognitive skills, suggesting that music, particularly compositions with Mozart's intricate structures, may contribute to the development of intellectual abilities [22]. In this way, these studies highlight the fascinating intersection between auditory stimuli and cognitive enhancement, warranting further investigation.

The practical implications of the Mozart effect suggest significant potential for enhancing cognitive abilities, particularly in children. Research supports the idea that exposure to classical music, like exposure to Mozart, can facilitate improvements in spatial-temporal reasoning, a key component of problem-solving and creativity. Research indicates that such auditory stimuli can increase measurable intelligence, leading to higher academic achievement in settings such as primary and secondary education [23]. Furthermore, findings on talent development highlight that early experiences and systematic engagement with music play a significant role in cultivating skills that contribute to intellectual proficiency [24]. These insights can inform educational practices, encouraging the integration of music education into curricula to capitalize on its potential cognitive benefits. Ultimately, understanding the relationship between exposure to classical music and intellectual development highlights the importance of incorporating the arts into educational frameworks to support a more comprehensive approach to learning.

In educational settings, applying the Mozart effect presents an intriguing opportunity to improve cognitive performance and learning outcomes among students. Research indicates that exposure to classical music, particularly Mozart, can lead to temporary increases in spatial-temporal reasoning, a key component of problem-solving and design tasks [25]. This phenomenon suggests that incorporating classical music into classroom activities can stimulate cognitive engagement and improve academic achievement. Furthermore, while studies examining the long-term effects of music participation on academic achievement have yielded mixed results, such as those associated with students with disabilities participating in music for several years [26], initial exposure to classical music can still create a favorable learning atmosphere. Therefore, strategic implementation of the Mozart effect in curriculum design could serve as an innovative approach to supporting enhanced learning experiences and cultivating an environment more conducive to intellectual growth. For my own use, the author has adopted Mozart's music with an indication of its effects on the brain:

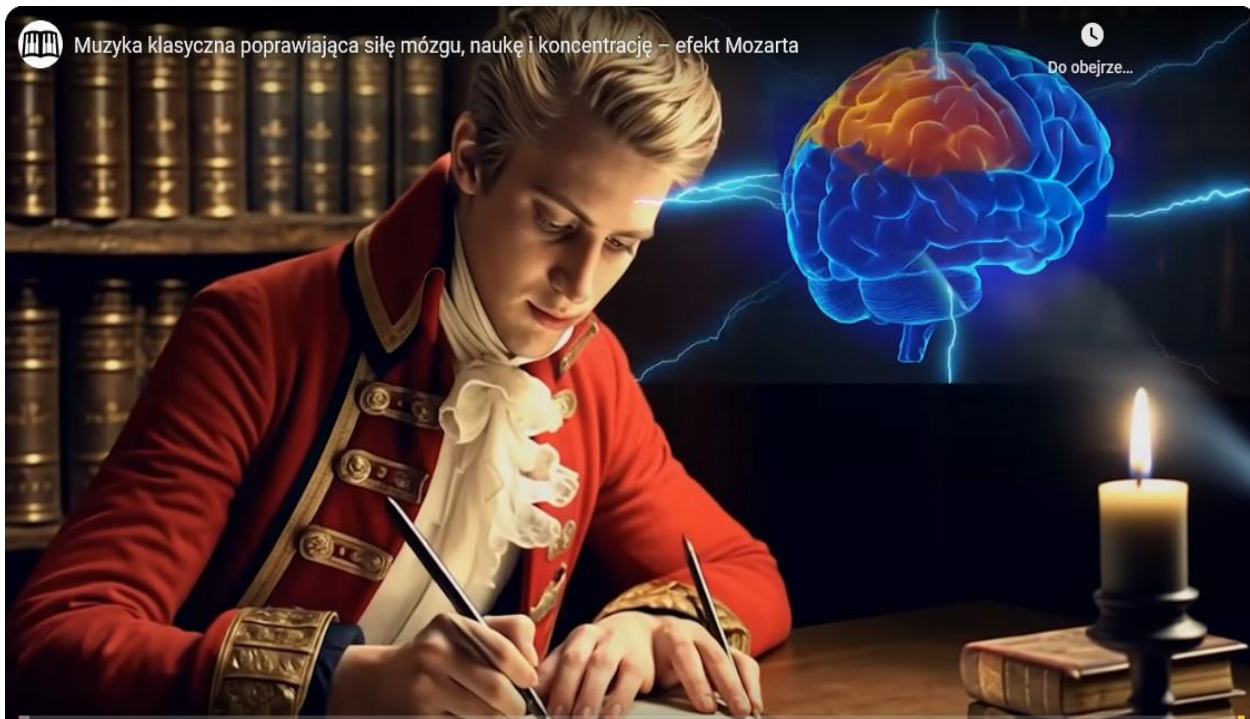


Fig. 8 The Mozart Effect Source: <https://www.youtube.com/>

After obtaining all the elements and implementing them step by step, the author personally created a model of a video-audio project for therapy and academic support for high school students in MP4 format, combining three selected mudras with Mozart's background music for use by interested parties [27]. The volume of the music can be adjusted smoothly depending on their needs. It is recommended that each mudra be performed for at least one minute. The model will be made available for this dissertation by attaching a recording on a USB flash drive. This completed the third stage. During this time, observations were made of students' grades and behavior during and after lessons. Students improved their behavior toward each other and toward teachers and began to achieve higher grades in their subject teaching [28].

The fourth stage involves the initial implementation of all the above-mentioned elements for a six-month period, initially three to five minutes before or during lessons. This will then continue from September 2023 to June 2024, in a pre-lesson format and before the end of lessons.

This phase was completed with complete success. After two years, students achieved higher marks for their conduct, as well as improved subject grades by one or even three grades, in some cases, above those they achieved in the same subjects at the beginning of their secondary school education.

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