DOI: https://doi.org/10.26529/cepsj.1909

Artistic and Creative Development Through the Integration of Contemporary Artistic Practices into the Primary School Curriculum

Katja Kozjek Varl[1] and Jerneja Herzog*[2]

In the educational standards, creativity is named as one of the key competences in education. However, not enough is being done to promote creativity in the education system. In this paper, we present the results of a study that used a pedagogical experiment to investigate how the inclusion of contemporary artistic practices can successfully influence the development of artistic-creative skills in eighth graders. The results show the success of the pedagogical experiment, which confirmed that by including the PISUPOŠ programme (Programme for the Implementation of Contemporary Art Practices in Primary School), which covers the content of contemporary visual arts, all of the identified factors of artistic creativity were successfully developed.

Keywords: art education, artistic-creative skills, contemporary visual arts, creativity

1 Faculty of Education, University of Maribor, Slovenia.
2 *Corresponding Author. Faculty of Education, University of Maribor, Slovenia; jerneja.herzog@gmail.com.

Likovnoustvarjalni razvoj ob vključevanju sodobnih umetniških praks v osnovnošolski kurikulum

Katja Kozjek Varl in Jerneja Herzog

Izobraževalni standardi navajajo ustvarjalnost kot eno ključnih kompetenc v izobraževanju. Še vedno pa za razvijanje ustvarjalnosti v izobraževalnem sistemu ne naredi(mo) dovolj. S pomočjo pedagoškega eksperimenta smo želeli preučiti, kako lahko z vključevanjem sodobnih umetniških praks uspešno vplivamo na razvoj likovnoustvarjalnih sposobnosti pri osmošolcih. Rezultati kažejo na uspešnost pedagoškega eksperimenta; ta je potrdil, da smo z vključevanjem programa PISUPOŠ, ki je zajemal vsebine sodobne likovne umetnosti, uspešno razvijali prav vse dejavnike likovne ustvarjalnost.

Ključne besede: pouk likovne umetnosti, likovnoustvarjalne sposobnosti, sodobna likovna umetnost, ustvarjalnost

Introduction

The development of creativity is influenced by various environments and factors. First and foremost are the family and the family environment, then the education system and various organisations (clubs, depending on the hobby), as well as direct factors such as printed resources, media, computers and online social environments. Trstenjak (1981) equates the influence of the environment with the pressure that a certain environment or society exerts, directly or indirectly, on an individual, noting that society can also have an inhibiting effect. A more important factor for the promotion and development of children's creativity is the family or the creative family environment. In addition to all other functions, the family has a significant influence on the child's creative behaviour (Herzog & Duh, 2011; Kemple & Nissenberg, 2000). Herzog and Duh (2011) cite a three-part model for a creative family environment that ensures the child's creative behaviour: (a) respect for the child in the form of consultation with the child and explanation of family choices, (b) fostering independence by providing psychological safety for exploration and decision-making, free expression of emotions and risk-taking with new ideas, and (c) an enriched learning environment that values play and provides role models (Kemple & Nissenberg, 2000).

In contrast to routine activities, creative activities contribute significantly to the development of this competence at school. Therefore, art objects have great creative potential in the classroom, and much depends on the teacher's competences and methodological approaches (Huzjak & Županić Benić, 2017). The teacher must use appropriate teaching methods and imagine creative tasks that encourage the creative behaviour of students (Herzog & Duh, 2011). Artistic-creative skills have a direct impact on the development of a person's overall creative potential (Duh, 2004; Herzog, 2009, 2017; Herzog & Duh, 2020), which can be influenced by teachers with an appropriate approach and suitably designed artistic tasks (Tacol, 1999, 2003). Herzog and Duh (2011) state that artistic creativity correlates to a high degree with general creativity, and that the development of artistic creativity has a positive influence on the development of general creativity (Dinkelmann, 2008). Creativity is expressed in play, action and thinking. It can be developed by working with artistic material or through special tasks. Creativity also involves exploring and experimenting with ideas, materials, technologies and techniques. In art and design, creativity enables the creation of imaginative images, artefacts, and other original and valuable outcomes (Rutland, 2009). Therefore, the teaching of art in school must be based on the development of creativity (Herzog & Duh, 2011). According to

McLennan (2010), it is more important for the development of children's creativity to stimulate the creative process itself than to strive for the end product.

Artistic creativity is therefore an area that develops in pupils through active artistic activity with the support of a long-term pedagogical process, a stimulating environment and a creative teacher (Duh, 2004; Vahter, 2016). Creativity is developed through students' own activity (Duh, 2004), which leads to an artistic-creative product that helps us to monitor the development of students' artistic abilities (Duh, 2004; Herzog, 2009; Karlavaris, 1981).

Artistic-Creative Development

The artistic and creative development of children is a complex process that largely depends on the environment, individual personality characteristics and differences between children that arise as a result of the simultaneous learning process and the maturation of the individual (Duh & Korošec, 2009). According to Duh and Korošec (2009), the monitoring of artistic and creative development, which is expressed primarily through psychomotor skills, provides insight into the creative potential of children. The authors also emphasise the importance of promoting various abilities, such as expression, thinking, perception and critical thinking. Artistic-creative abilities therefore have a direct impact on the development of the entire creative potential of the individual (Duh, 2004; Herzog, 2009, 2017), which can be influenced by teachers with an appropriate approach and suitably designed artistic tasks (Tacol, 1999, 2003). This means that, as Duh claims (2004), "creativity is developed through one's own activity" (p. 32). Without the encouragement that students receive in fine arts classes, they would not be able to create artistic products (Herzog, 2017).

Measurement of Artistic Creativity

In the field of artistic creativity, researchers, including Sternberg (1999), have used various methods of measurement. Special tests are available for measuring and evaluating artistic ability, which have been tested several times in practice and show high reliability, as stated in Duh (2004). Researchers use standardised tests to measure artistic ability, with which we can verify various aspects of artistic-creative development, the development of artistic-appreciative abilities, artistic-design development and optical-thematic development (Duh, 2004; Herzog et al., 2023). In our wider area, tests of artistic creativity have also been developed by Karlavaris and Kraguljac (Duh, 2004; Pečjak, 1987), some of which are described by Duh (2004).

It is crucial that all tests of creativity meet the criteria of reliability, validity, objectivity and sensitivity (Čagran & Bratina, 2011; Pečjak, 1987; Zorman, 1968). In addition to these objective criteria, as pointed out by Pečjak (1987), there is a subjective side to assessment, which includes the opinion of the teacher or another person who knows the tested individual well. Therefore, there are no uniform bases for judgement when determining creativity. Numerical, descriptive and graphic scales are used to measure artistic creativity and ensure accuracy, with each level being described in words. This enables a more accurate and substantive evaluation of artistic expression (Duh, 2004).

Research Problem

The aim of the present research was to experimentally measure the artistic and creative development of eighth graders during the implementation of the Programme for the Implementation of Contemporary Art Practices in Primary Schools (hereinafter: PISUPOŠ), which envisages the inclusion of contemporary artistic practices in the teaching of fine arts. We were interested in whether an experimental group (EG) exhibited a higher or lower level of artistic-creative ability in comparison to a control group (CG). The PISUPOŠ programme, which was designed to advance the artistic creativity of students, is specific because of the continuous introduction of contemporary art. This was followed up in the initial and final testing with the LV2 art test, a standardised test to check the progress of artistic skills.

Research Hypotheses

It was expected that the proposed work programme would have a positive effect on the development of students' artistic skills, and that differences would be found between the students who performed artistic tasks according to the PISUPOŠ programme and those in the CG.

The general hypothesis in our study is:

H_{SPL}: When examining the performance of planned and executed art tasks with eighth-grade students, it is expected that the students in the experimental group will achieve higher artistic and creative levels than the students in the control group.

Specific hypotheses:

$H_{SPL}1.1$: The students in the experimental group have a higher level in the redefinition factor than the students in the control group.

$H_{SPL}1.2$: The students in the experimental group have a higher level in the originality factor than the students in the control group.
$H_{SPL}1.3$: The students in the experimental group have a higher level in the elaboration factor than the students in the control group.
$H_{SPL}1.4$: The students in the experimental group show a higher level of sensitivity to artistic problems than the students in the control group.
$H_{SPL}1.5$: The students in the experimental group show a higher level in the flexibility factor than the students in the control group.
$H_{SPL}1.6$: The students in the experimental group show a higher level of fluency than the students in the control group.

Method

Research Sample

The study included eighth-grade students from six primary schools in the area of the Institute for Education of the Maribor Regional Unit. There are a total of 21 primary schools in the Maribor region. Since the research was conducted in the third educational triad, in which the number of hours for visual arts is limited to one hour per week, we identified schools with a flexible timetable (two hours per week). In this way, we achieved continuous work over 15 consecutive weeks without weekly interruptions, which allowed us to optimise the study. We wanted to include at least 100 pupils in the study, which corresponds to one-fifth of primary school students in Maribor and represents a sufficient sample for conducting the study and for optimal analysis and generalisation of the results. When analysing the data, we considered only the results of students whose parents had signed a consent form for participation and who were present at both the initial and final stages of the test (N = 121). The final study sample consisted of 54.54% girls and 45.45% boys. Students from urban schools accounted for 55.37% of the sample, while 44.62% were from suburban schools. The experimental group comprised 49.58% of the sample and 50.41% were in the control group.

Based on a review of theoretical starting points and previous findings, as well as an analysis of the opinions of art teachers about art and trends in modern art didactics (the results of which are not presented in the present article), we made a number of didactic decisions that helped us to design the work programme for implementing contemporary art practices in the teaching of visual arts in the third triad of primary education (PISUPOŠ) in line with the current visual arts curriculum. The package of didactic decisions includes didactic-organisational features, content features, features of didactic communication and

activities, and the position of and relationships between students and teachers. The PISUPOŠ programme contains suggestions for the selection of a contemporary work of art, the connection of a work of art or an artist with methods and forms of work, and the development of appropriate methods and didactic steps (Kozjek Varl & Herzog 2023). Two ways of incorporating contemporary artworks into the classroom are also presented:

(a) by familiarising students with the content of a contemporary artwork, focusing on the idea (concept, content); and

(b) by having students express and develop their own idea through artistic practices in various contemporary or conventional forms.

The first working mode (a) is based on learning about contemporary visual artists, the principles of creating an artwork, and the communication values or conceptual design of the artwork. Based on what they have learnt, the students carry out artistic tasks, experience the concepts they have learnt and express themselves in this way. The second working mode (b) involves the development of an individual conceptual design and the realisation of an artistic task in the manner of or according to a principle that the students have chosen. In this case, it is a higher level of artistic expression, as it is based on the knowledge already acquired in the field of contemporary visual arts.

The content of contemporary visual art was combined with an interpretation of artistic concepts from the curriculum and an explanation of the reasons for their creation.

The purpose of the pedagogical experiment is to confirm the usefulness of the inclusion of contemporary visual arts through targeted art assignments. The goal is to encourage eighth graders to develop artistically and creatively, to develop a positive attitude towards contemporary visual arts, and to reflect critically on the given themes.

Research Instruments

The LV2 art test, also known as the four-character test, is a standardised and verified test (Duh, 2004). It allows test takers to "creatively solve the task, show what they can do and what skills they have in their artistic expression" (Duh, 2004, p. 110). The initial and final tests provide information about the student's level of artistic and creative development, which was of interest for the present study.

The LV2 art test consists of four different artistic tasks. For each task, the students were given a specific time (20 minutes) and material (summarised by

Duh, 2004). The first task required an imitation of the student's favourite artwork, the second task required the students to paint a picture with a harmony of shapes and colours, and the third task required them to imagine themselves in a given situation (the students imagined and drew a small creature observing the inside of an old tree stump). The fourth task required the students to translate verbal signs into visual signs according to the following passage/verse: "The fragrant light of the heights is enchanted by the scattered murmur of cheerful water."

Each of the four tasks is designed to assess a particular aspect of artistic skill development, as illustrated in Table 1.

Table 1

Observation of the individual factors in artistic development based on the tasks in the LV2 art test (summarised by Duh, 2004)

	Task 1	Task 2	Task 3	Task 4
Artistic-Creative Development	Redefinition	x	x	x
	Originality	x	x	Originality
	x	Elaboration	x	x
	x	Sensitivity to Art Problems	x	Sensitivity to Art Problems
	x	x	Flexibility	Flexibility
	x	x	Fluency	x
	General Art Level	General Art Level	General Art Level	General Art Level
Material	Wax Crayons	Wax Crayons	Black Marker	Wax Crayons
Title of the Art Task	Imitate Your Favourite Artwork	Composition of Harmonious Shapes and Colours	A Tiny Creature Observes the Inside of an Old Tree Stump	The Fragrant Light of the Heights Is Enchanted by the Scattered Murmur of Cheerful Water

The art tasks in the LV2 art test are designed to provide information about the child's general artistic development, while at the same time enabling partial observation of various factors of artistic development (Duh, 2004), as can be seen in Table 2.

Together with the teachers of the experimental and control groups, we ensured equal conditions for all of the subjects: the same drawing sheets, coloured pencils and markers for each student, a uniform presentation of the purpose of the test, labelling of the task on the board, forewarning of the students, correct marking of the art tasks (1–4), and appropriate recording of the student code. The artworks were evaluated by a committee.

Data Processing Procedure

The study is based on an analytical-descriptive and causally non-experimental method of pedagogical research (Sagadin, 1993). The differences between the groups were determined using non-parametric tests.

In the empirical part, quantitative and two basic qualitative research methods of pedagogical research were used: the descriptive and the causal non-experimental method (Mason, 2017; Mažgon et al., 2008; Sagadin, 1993; Vogrinc, 2008; Vogrinc et al., 2007).

A pedagogical experiment (a pilot survey) was first conducted (Cencič, 2007, 2009; Kožuh et al., 2009). The course of the pedagogical experiment, in which students from six primary schools (three EG and three CG) participated, was documented with examples of the students' work. A quantitative study was then conducted using the LV2 art test (Duh, 2004) on all of the groups of students participating in the study (EG and CG). The test and the test analysis were carried out before and after the pedagogical experiment. The test was used to monitor progress in the students' artistic and creative development. The analysis used frequency distributions, arithmetic means, standard deviation, asymmetry and flatness coefficients.

When preparing the PISUPOŠ programme, we considered the principle of graduality to get to know contemporary art practices and new concepts related to contemporary visual arts. Graduality seemed necessary to us because these students of contemporary visual arts were not yet familiar with pedagogical experiments. Simultaneous familiarisation with new concepts could result in resistance on the part of the students, as the content and especially the contemporary artistic approaches were new to them. More detailed content and starting points are listed in the table (Table 2).

Table 2

More detailed content and starting points of the PISUPOŠ programme

Field of Art	Art Concepts	Starting Point – Contemporary Art	Concept Handling
Drawing	Illusion of Space	Peter Kogler, Monika Gryzmala	Concept/Idea and Installation and Photographing as Documentation of Artwork
	Space Keys	Damien Gilley	Concept/Idea
	Drawing after Observation	Marcel Duchamp, Martin Roller, Claes Oldenburg	Concept/Idea

Field of Art	Art Concepts	Starting Point – Contemporary Art	Concept Handling
Painting	Quantitative Colour Contrast	Yayoi Kusama	Spatial Layout/Installation
	Tone Painting	Ignac Meden, Wallen Mapondera	Conceptual Design of the Painting Base
Graphics	Gravure Printing	Paula Schuette Kraemer, Angie Hoffmeister, Črtomir Frelih	Installation
Sculpture	Composition in Sculpture, Small Plastic	Richard Serra	Sketch, Concept Note, Minimalism and Large Plastic
	Small Plastic	Nela Azevedo, Jose Damasceno, Dona Conlon	Ecology
Architecture	Composition in Architecture	Marjetica Potrč	Globalisation
	Construction and Stability	Zaha Hadid, Santiago Calatrava	Shell

Before implementing the planned PISUPOŠ programme, we carried out the LV2 art test in both groups (EG and CG). In art tests, tasks must be set in such a way as to elicit a certain level of rapid response, but they must not be too specific, so that room is left for individual variation. The tasks should be neither too complex nor too simple, so that the person being tested can complete them in a certain amount of time (Duh, 2004, p. 109). In some studies (Duh, 2004; Herzog et al., 2023), the LV2 art test provided "sufficiently valid, reliable and objective results" (Duh, 2004, p. 119). In the present study, the LV2 art test was used test to observe and measure individual factors in the students' artistic abilities in the initial phase and later in the final phase. The results of the LV2 art test were evaluated by a committee.

The basic research problem refers to progress in the artistic skills of eighth graders from the point of view of the implementation of contemporary artwork in the visual arts classroom. The experimental programme differs from the control programme in the selection and presentation of art examples. As mentioned above, the experimental programme focuses on contemporary art practices.

In the control group, the teachers carried out the artistic tasks according to the established work programme, while the teachers in the experimental group worked according to the PISUPOŠ programme. We did not specifically prepare the teachers in the control group for the research work, but simply planned the test dates together and checked the implementation of the planned lessons. The teachers in the control groups were expected to teach the art lessons according to the established working method. The teachers who took part in the experimental group were prepared in advance for the experimental work,

as this required detailed preparation involving the introduction of innovations. At the initial stage of planning and designing the PISUPOŠ programme, we invited cooperation from the teachers participating in the experimental group. Such co-operation was necessary because the involvement of the teachers contributed to their motivation and mutual communication, while at the same time increasing the reliability of the introduction of innovations.

In line with the aims of the quantitative and qualitative research approach, the LV2 art test was used as the data collection instrument for all of the students involved in the research. This test was used to measure the students' artistic abilities before starting the pedagogical experiment (initial condition) and after the pedagogical experiment (final condition). The data were compared and the progress in the artistic abilities of the students was determined.

The research study was approved by the Faculty of Arts, University of Maribor Ethical Research Committee (no. 038-6-61/2020/10/FFUM).

Results and Discussion

The results obtained for each factor of artistic creativity are presented together in both the initial and final measurements.

Table 3

Descriptive analysis of the value of the individual factors of artistic-creative development in the initial and final phase

Factors	*N*	MIN and MAX No. of Points			Mean		Standard Deviation	
			Initial	Final	Initial	Final	Initial	Final
REDEFINITION	121	MIN	0.00	0.25	1.9	2.1	0.8	0.1
		MAX	3.75	4.50				
ORIGINALITY	121	MIN	0.00	0.50	3.6	3.9	1.5	1.8
		MAX	7.75	8.25				
ELABORATION	121	MIN	0.25	0.50	2.3	2.5	0.8	0.9
		MAX	4.00	4.50				
SENSITIVITY TO ART PROBLEMS	121	MIN	0.50	0.75	3.8	4.5	1.5	1.9
		MAX	7.50	8.75				
FLEXIBILITY	121	MIN	0.25	0.75	3.9	4.2	1.7	1.8
		MAX	7.75	8.75				
FLUENCY	120	MIN	0.25	0.25	2.3	2.4	0.95	0.9
		MAX	4.75	4.50				

* Only fully completed answers were included in the statistical processing

The results of the arithmetic mean for the redefinition factor show that the students improved their score by 9.5% in the final measurement. This reflects an improvement in artistic structure in the final state and a partial redefinition of the art products. With the redefinition factor, we can therefore speak of student progress, while the variation between the results also decreased.

Slightly less student progress can be recognised in the final state with regard to the originality factor, although the dispersion of the results clearly increased. It can be said that the implemented work programme led to more original ideas with some students.

The results show that the products of the initial measurement had minimal elements of originality and an elementary level of artistic structure, while in the measurement of the final state we could observe partial originality and partial good artistic structure in the artworks.

With regard to the elaboration factor, we can again speak of progress made by the students in the final state, which is reflected in the 8% range. The spread of the results also decreased. The results show that in the initial measurement, the students demonstrated a fairly good process of creating or constructing a work of art in their products.

The greatest improvement is evident in sensitivity to art problems, with the results in the final measurement showing an increase of 15%. In the final measurement, we found that the students were better able to recognise artistic problems and demonstrate a sensitivity towards them in their artwork. The spread of results increased.

In the final measurement, the students improved their score on the flexibility factor by 6%. This reflects an improvement in their ability to discover new ways of expression and a more diverse use of artistic means and artistic processes.

The students also improved their score on the fluency factor by 6%. The results show that they were more successful in adapting their artistic ideas to the artistic means of expression in the final measurement.

Table 4
Descriptive analysis of the overall value of the factors of artistic-creative development in the initial stage

Factors	*N*	MIN and MAX POINTS			Mean		Standard Deviation	
			Initial	Final	Initial	Final	Initial	Final
Artistic-Creative Development	120	MIN	3.25	5.00	18.0	19.6	6.3	7.6
		MAX	33.00	38.50				

* Only fully completed answers were included in the statistical processing

In the overall assessment of artistic and creative development factors (Table 4), the students achieved an average of 18.0 points, with the highest score achieved being 33 and the lowest 3.25 out of a possible 45 points. Taking all four tasks into account, the maximum score that could be achieved for the factors is 45. Each factor included in the assessment of artistic and creative development is awarded 5 points (Duh, 2004). Based on the result (M = 18.0), we can say that the students in the initial situation showed average results at the level of joint artistic and creative development. In the overall assessment of the factors of artistic and creative development in the final stage, the students achieved an average of 19.6 points), with the highest score achieved being 38.5 and the lowest being 5 out of a possible 45 points.

The results show that the students made progress on the common level of artistic and creative development in the final measurement.

Review of the Specific Effects of the Experiment

Below, we present the results of the covariance analysis that was used to test the effectiveness of the experiment. The results are presented for the individual factors of artistic creativity separately for the experimental and control groups. The results and the analysis of the results of the covariance of the individual factors of artistic development are presented first.

Table 5

Descriptive statistical parameters (group), test for homogeneity of variances and analysis of the covariance of the scores

		N	MIN	MAX	*x*	*S*	*F*	*P*
REDEFINITION	EG	60	1.00	4.50	2.6	0.8	53.240	0.001
	CG	61	0.25	3.75	1.5	0.8		
ORIGINALITY	EG	60	2.00	8.25	5.0	1.5	74.990	0.001
	CG	61	0.50	6.00	2.9	1.5		
ELABORATION	EG	60	1.75	4.50	3.1	0.9	62.648	0.001
	CG	60	0.50	3.75	2.1	1.3		
SENSITIVITY TO ART PROBLEMS	EG	60	2.50	8.75	6.1	2.5	84.471	0.001
	CG	60	0.75	6.75	3.7	3.1		
FLEXIBILITY	EG	60	2.75	8.75	5.2	1.4	89.451	0.001
	CG	60	0.75	6.50	3.1	1.5		
FLUENCY	EG	60	1.50	4.50	2.1	0.7	105.118	0.001
	CG	60	0.25	3.75	1.8	0.8		
ARTISTIC-CREATIVE DEVELOPMENT	EG	60	13.00	38.50	24.6	5.3	218.132	0.001
	CG	60	5.00	29.00	14.7	6.2		

* Only fully completed answers were included in the statistical processing

Table 5 shows the results of the analysis of the individual factors of artistic creativity and the overall level. The result of the F-test of variance homogeneity shows that the assumption (group) in the factor of artistic redefinition is justified ($P = 0.492$), and thus the condition for calculating the covariance is fulfilled. The analysis of covariance revealed a statistically significant difference ($P = 0.001$) in favour of the students in the experimental group. This means that the students in the experimental group achieved better results. We therefore conclude that the introduction of the experimental PISUPOŠ programme had a positive effect on increasing the level of the artistic-creative factor of redefinition in the students in the experimental group compared to the students in the control group, where the PISUPOŠ programme was not introduced. This confirms hypothesis $H_{SPL}1.1$.

The result of the F-test of variance homogeneity shows that the assumption (group) in the factor of artistic originality is justified ($P = 0.549$), and thus the condition for calculating the covariance is fulfilled. The analysis of covariance revealed a statistically significant difference ($P = 0.001$) in favour of the students in the experimental group. The results show that the students in the experimental group performed better. We therefore conclude that the

introduction of the experimental PISUPOŠ programme had a positive effect on increasing the level of the artistic-creative factor of originality among the students in the experimental group compared to the students in the control group, where the PISUPOŠ programme was not introduced. This confirms hypothesis $H_{SPL}1.2$.

The result of the F-test of variance homogeneity shows that the assumption (group) in the factor of artistic elaboration is justified (P = 0.019), and thus the condition for calculating the covariance is fulfilled. The analysis of covariance revealed a statistically significant difference (P = 0.001) in favour of the students in the experimental group. This means that the students in the experimental group achieved better results. We therefore conclude that the introduction of the experimental PISUPOŠ programme had a positive effect on increasing the level of the artistic-creative factor of elaboration among the students in the experimental group compared to the students in the control group, where the PISUPOŠ programme was not introduced. This confirms hypothesis $H_{SPL}1.3$.

The result of the F-test of variance homogeneity shows that the assumption in the factor of sensitivity to artistic problems is justified (P = 0.047), and thus the condition for calculating the covariance is fulfilled. The analysis of covariance revealed a statistically significant difference (P = 0.001) in favour of the students in the experimental group. This means that the students in the experimental group achieved better results. We therefore conclude that the introduction of the experimental PISUPOŠ programme had a positive effect on increasing sensitivity to artistic problems among the students in the experimental group compared to the students in the control group, where the PISUPOŠ programme was not introduced. This confirms hypothesis $H_{SPL}1.4$.

The result of the F-test of variance homogeneity shows that the assumption in the factor of artistic flexibility is justified (P = 0.509), and thus the condition for calculating the covariance is fulfilled. The analysis of covariance revealed a statistically significant difference (P = 0.001) in favour of the students in the experimental group, who also achieved better results in the artistic flexibility factor than the students in the control group. We therefore conclude that the introduction of the experimental PISUPOŠ programme had a positive effect on increasing the level of flexibility among students in the experimental group compared to the students in the control group, where the PISUPOŠ programme was not introduced. This confirms hypothesis $H_{SPL}1.5$.

The result of the F-test of variance homogeneity shows that the assumption (group) about the factor of artistic fluency is justified (P = 0.521), and thus the condition for calculating the covariance is fulfilled. The analysis

of covariance revealed a statistically significant difference (P = 0.001) in favour of the students in the experimental group. This means that the students in the experimental group achieved better results. We therefore conclude that the introduction of the experimental PISUPOŠ programme had a positive effect on increasing the level of the artistic-creative factor of fluency among the students in the experimental group compared to the students in the control group, where the PISUPOŠ programme was not introduced. This confirms hypothesis $H_{SPL}1.6$.

The result of the F-test of the homogeneity of variances shows that the assumption is also justified in the total value of the factors of artistic-creative development (P = 0.168), and thus the condition for the calculation of the covariance is fulfilled. The analysis of covariance revealed a statistically significant difference (P = 0.001) in favour of the students in the experimental group. This means that the students in the experimental group achieved better results. We therefore conclude that the introduction of the experimental PISUPOŠ programme had a positive effect on increasing the level of the factors of artistic-creative development among the students in the experimental group compared to the students in the control group, where the PISUPOŠ programme was not introduced. Thus, we can fully confirm hypothesis $H_{SPL}1$ (*the students in the experimental group will have a higher level of joint artistic-creative development than the students in the control group*).

Conclusion

Contemporary art offers many didactic opportunities for inclusion in art lessons and for cross-curricular integration. The role of the teacher is to recognise these, adapt them to the content of the curriculum and the age group of the students, and thus bring them closer to the students. Research (Kozjek Varl & Duh, 2017; Kozjek Varl & Herzog, 2021) shows that students respond well to content dealing with contemporary art, so teachers could utilise the opportunities that contemporary art offers with even greater interest.

The present study sought to investigate the success of the development of artistic and creative skills through contemporary art content. The content of the research is very topical and welcome in relation to recent changes in the Slovenian school system. The revision of curricula and the development of strategies represent opportunities for the results of current research to be particularly taken into account or incorporated. Therefore, among all of the other tasks and purposes, we sought to emphasise this aspect of the study. By conducting a pedagogical experiment, we have shown that by the integration

of contemporary art content into all areas of the visual arts (drawing, painting, graphics, sculpture and architecture), each factor of artistic creativity can yield positive development in redefinition, elaboration, originality, fluency, flexibility and sensitivity to artistic problems. This is manifested in the difference between the two groups of the study in favour of the experimental group, which constitutes the practical value of the research. We should, however, mention the limitations of our study related to the fact that we could not control all of the factors that could have a significant impact on the development of artistic skills (the socioeconomic status of the students' families, general cognitive abilities, openness of the students to new approaches, etc.).

In light of current social trends and the changing role of the student (or teenager) in society, the school space can greatly contribute to dealing with issues that stress, irritate or inspire the student/teenager. An appropriate approach by the teacher is therefore needed to establish dialogue with the student/teenager, in order to motivate him/her and stimulate his/her thinking. Such an approach is fully enabled by contemporary visual art because it deals with themes that are topical, and that speak to the individual and to society. We would therefore like to point out that the results of this study can be applied without restriction to pedagogical practice and the educational process, not only in primary schools but also in secondary schools. If the teacher can make a connection between contemporary art and the student, this leads to the student being motivated to think critically, find meaning, form their own identity and ultimately, as demonstrated in the present research, develop their artistic and creative skills. We attribute many benefits to cultural education. It is therefore crucial that the content of arts education be well planned, and that more importance be given to arts education in the future as the education system changes. At this point, we also see opportunities for further research to analyse early education curricula from the perspective of incorporating modern visual arts, and to analyse and promote the cross-curricular integration of contemporary art with other subjects, focusing on the development of critical thinking.

References

Cencič, M. (2007). *Raziskovalni pogledi na razvijanje pedagoške prakse, Izbrana pedagoška področja* [Research perspectives on the development of pedagogical practice, selected pedagogical fields] (pp. 9–33). Univerza na Primorskem, Pedagoška fakulteta.

Cencič, M. (2009). *Kako poteka pedagoško raziskovanje: primer kvantitativne empirične neeksperimentalne raziskave* [How educational research is done: An example of quantitative empirical non-experimental research]. Zavod RS za šolstvo.

Čagran, B., & Bratina, T. (2011). *Uvod v metodologijo pedagoškega raziskovanja: skripta zbranega študijskega gradiva* [Introduction to the methodology of pedagogical research: A script of the collected study material]. Pedagoška fakulteta Univerze v Mariboru.

Dinkelmann, K. (2008). *Kreativitätsförderung im Kunstunterricht*. [Developing creativity in art education]. Herbert Utz Verlag.

Duh, M. (2004). *Vrednotenje kot didaktični problem pri likovni vzgoji* [Evaluation as a didactic problem in art education]. Univerza v Mariboru Pedagoška fakulteta.

Duh, M., & Korošec, R. (2009). Likovnooblikovni razvoj učencev v osnovni šoli [Artistic development of pupils in elementary school]. *Journal of Elementary Education*, *2*(2/3), 33–41.

Herzog, J. (2009). Dejavniki likovne ustvarjalnosti in likovnopedagoško delo [Factors of artistic creativity and art pedagogical work]. *Journal of Elementary Education*, *2*(2/3), 19–31.

Herzog, J. (2017). Spremljava likovnega razvoja učencev v tretjem vzgojno-izobraževalnem obdobju osnovne šole [Observation of the artistic development of pupils in the third period of elementary school education]. *Journal of Elementary Education*, *10*(4), 349–364.

Herzog, J., & Duh, M. (2011). Artistic and creative achievements of primary school students with regard to gender and stratum. *Metodički obzori: časopis za odgojno-obrazovnu teoriju i praksu*, *6*(11), 37–48.

Herzog, J., & Duh, M. (2020). The state of art appreciation among nine- and ten-year-old students in Slovenian primary school. *Center for Educational Policy Studies journal*, *10*(4), 97–116.

Herzog, J., Duh, M., & Zupančič, T. (2023). *Conditions and research in contemporary art education*. Verlag Dr. Kovač.

Huzjak, M., & Županić Benić, M. (2017). Measuring creativity in visual arts teaching methodology in elementary school. *Croatian Journal of Education: Hrvatski časopis za odgoj i obrazovanje*, *19*(3), 43–59.

Karlavaris, B. (1981). *Razvijanje kreativnosti putem likovnog vaspitanja u osnovnoj školi* [Developing creativity through art education in elementary school] (Vol. 36). Institut za pedagoška istraživanja.

Karlavaris, B., & Kraguljac, M. (1981). *Developing creativity through art education in elementary school.* Institut za pedagoška istraživanja, Prosveta.

Kemple, K. M., & Nissenberg, S. A. (2000). Nurturing creativity in early childhood education: Families are part of it. *Early Childhood Education Journal*, *28*(1), 67–71.

Kozjek Varl, K., & Duh, M. (2017). Prikaz medpredmetnega povezovanja na primeru implementacije sodobne umetnosti v osmi razred osnovne šole [Demonstration of cross-curricular integration using the example of the introduction of contemporary art in the eighth grade of elementary school]. *Journal of Elementary Education*, *10*(4), 377–397.

Kozjek Varl, K., & Herzog, J. (2021). The impact of contemporary art on the creativity of twelve-year-olds. *Croatian Journal of Education: Hrvatski časopis za odgoj i obrazovanje*, *23*(Sp. Ed. 2.), 33–48.

Kozjek Varl, K., & Herzog, J. (2023). Progress in fine arts creativity of 13 year olds through contemporary fine art. In J. Györkös, R. Blonder, A. F. Delouis, J. Javornik, & K. Petridis (Eds.), *Athena Research Book, Volume 2* (pp. 493–498). Univerzitetna založba Univerze v Mariboru.

Kožuh, B., Mažgon, J., & Vogrinc, J. (2009). *Statistične metode v pedagoškem raziskovanju* [Statistical methods in pedagogical research]. Znanstvena založba Filozofske fakultete.

Mason, J. (2017). *Qualitative researching*. SAGE Publications.

Mažgon, J., Kožuh, B., & Medveš, Z. (2008). *Razvoj akcijskega raziskovanja na temeljnih postavkah kvalitativne metodologije* [The development of action research based on the basic principles of qualitative methodology]. Znanstvenoraziskovalni inštitut Filozofske fakultete.

McLennan, D. M. P. (2010). Process or product? The argument for aesthetic exploration in the early years. *Early Childhood Education Journal*, *38*(2), 81–85.

Pečjak, V. (1987). *Misliti, delati, živeti ustvarjaln*o [Think, work, live creatively]. Državna založba Slovenije.

Rutland, M. (2009). Art and design and design and technology: Is there creativity in the designing?. *Design and Technology Education*, *14*(1), 56–67.

Sagadin, J. (1993). *Poglavja iz metodologije pedagoškega raziskovanja* [Chapters from the methodology of pedagogical research]. Zavod Republike Slovenije za šolstvo in šport.

Sternberg, R. J. (1999). *Handbook of Creativity*. Cambridge University Press.

Tacol, T. (1999). *Didaktični pristopi k načrtovanju likovnih nalo*g [Didactic approaches to planning art assignments]. Debora.

Tacol, T. (2003). *Likovno izražanje. Didaktična izhodišča za problemski pouk likovne vzgoje v devetletni osnovni šoli* [Artistic expression. Didactic starting points for problem-based lessons in art education in a nine-year elementary school]. Debora.

Trstenjak, A. (1981). *Psihologija ustvarjalnosti* [The psychology of creativity]. Slovenska matica.

Vahter, E. (2016). Looking for a possible framework to teach contemporary art in primary school. *International Journal of Art & Design Education*, *35*(1), 51–67.

Vogrinc, J. (2008). *Kvalitativno raziskovanje na pedagoškem področju* [Qualitative research in the pedagogical field]. Univerza v Ljubljani, Pedagoška fakulteta.

Vogrinc, J., Valenčič Zuljan, M., & Krek, J. (2007). Akcijsko raziskovanje kot del procesov zagotavljanja kakovosti dela v vzgojno-izobraževalni instituciji [Action research as part of quality assurance processes in an educational institution]. *Sodobna pedagogika [Journal of Contemporary Educational Studies]*, *124*(5), 48–67.

Zorman, L. (1968). *Preverjanje in ocenjevanje znanja ter opazovanje učencev v šoli* [Checking and evaluating knowledge and observing pupils in school]. Državna založba Slovenije.

Biographical note

Katja Kozjek Varl, PhD, is an assistant lecturer in Didactics of Fine Arts. She works in two departments, the Department of Preschool Education and the Department of Fine Arts at the Faculty of Education of the University of Maribor. Her field of research is the development of artistic creativity in students and the development of methods for including contemporary art in the curriculum.

Jerneja Herzog, PhD, is an Associate Professor of Didactics of Department for Fine Arts and Department of Elementary Education at the Faculty of Education of the University of Maribor. Her research focuses mainly on the development of artistic skills, artistic creativity, artistic appreciation in children of all ages and in gifted students in the artistic field. She also devotes a lot of time to developing methods for adapting artworks for the blind and visually impaired.