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# THE ROLE OF GENDER IN MONITORING FINE ARTS CREATIVE SKILLS OF ELEMENTARY SCHOOL STUDENTS

## ABSTRACT

The following article presents the results of research, whose purpose was the analysis of the artistic creativity level and development of fine arts skills among students in the third cycle of elementary school. We monitored the level of artistic creativity and analysed the differences between artistic creativity from the viewpoint of factors among eighth-grade students of different elementary schools in Maribor, Slovenia. The aim of the research, which included 101 students (n=101), was to highlight the importance of art-oriented educational work on creativity among students finishing elementary school, in comparison to the students of lower grades.

The results revealed that the level of artistic creativity between genders, showed statistically significant differences in only one factor – fluency, with the girls being more successful. There was a tendency of elaboration and flexibility, where girls achieved slightly better results as well. In comparison to previous research, we can conclude that the girls in lower and higher grades were more creative than boys.

**Keywords:** artistic creativity, factors of artistic creativity, fine arts, gender

# ULOGA SPOLA U OPAŽANJU KREATIVNIH VJEŠTINA U OSNOVNIM ŠKOLAMA

## Sažetak

U radu se prikazuju rezultati istraživanja čija je svrha bila analizirati razinu likovnih sposobnosti i likovnog razvoja učenika u trećem obrazovnom razdoblju. Pratila se razina likovne kreativnosti i analizirale su se razlike u likovnim sposobnostima u smislu čimbenika kod učenika osmog razreda slovenskih osnovnih škola s mariborskog područja. Cilj istraživanja, koje je obuhvatilo 101 učenika (N = 101), bio je ukazati na važnost likovnopedagoškog rada na kreativnosti kod učenika na kraju osnovne škole u odnosu na mlađe učenike.

Rezultati su pokazali da razina likovne kreativnosti sa stajališta spola pokazuje statistički značajne razlike samo u jednom faktoru – fluentnosti, i to u korist djevojaka. Pokazala se tendencija izrade i fleksibilnosti također u korist djevojaka koje su postigle nešto bolje rezultate. U usporedbi s dosadašnjim istraživanjima, pokazalo se da su učenice, i mlađe i na kraju osnovnog obrazovanja, kreativnije.

**Ključne riječi:** likovna umjetnost, likovni razvoj, čimbenici likovne umjetnosti, spol.

## Introduction

In the educational process of teaching fine arts, students are also co-creators of the learning process. One of the main aspects of fine arts as a school subject is the development of creativity, in which the students obtain skills and techniques of artistic creativity (Duh and Herzog, 2020). Creativity has apparent benefits for individuals and society as a whole, thus it is no surprise that much research has focused on creativity, especially in the last twenty years, Runco notes. Real systematic research of creativity began with Guilford, who compared creativity and divergent thinking, and included convergent mental functions (Trstenjak, 1981). Duh (2004) states that creativity is multi-layered and has multiple meanings, on the other hand, he defines creativity as a product of the creative process. Keong (2008) understands creativity as making connections, where they did not exist before. As an example, he cites Picasso, who created a sculpture by connecting a bicycle's handles and a bull. Trstenjak (1981) defines four aspects, according to which the structure and factors of creativity should be identified: the press (environment), personality, process and product. The first starting point of the study of creativity is the pressure exerted on the creator and creative work by the environment. He defines personality as the second starting point of creativity, which includes the personality characteristics of creative people (Pečjak, 1987). As a third starting point, he analyses the creative process, where the focus is on the gradual preparatory phases from incubation, illumination and verification to creative ideas. The fourth starting point is the product in which the creator is recognized as important: this is the creative result, the achievement of the creative process (Ibid.)

According to Muhovič (1990), creation is conditioned by personality characteristics and theoretical knowledge, while a child's artistic expression is most often a cognitive necessity and a play through which the child plays with artistic theoretical concepts and elements. Tegelj (2008) has a similar opinion, saying that we can talk about creativity when we notice wealth, thoughts or associations, concepts, openness, mental flexibility, freedom and originality. He further explains that creativity is associated with a high level of motivation and certain personality characteristics (unconventionality, nonconformity, persistence, strong will, sensibility, emotionality, sense of aesthetics). However,

these personality characteristics, which are necessary for creativity, can be explored and later developed in children (Hozjan, 2014).

## Artistic creativity

In elementary school, students in fine arts classes are focused on developing creativity or creating conditions that enable creativity (Duh, 2004). Creativity is one of the essential aspects of life, however, the question remains whether we know how to detect, support and allow it to progress (Erženičnik Pačnik, 1994). Žagar (1992) believes that a teacher can recognize creative students by their many ideas, problem-solving in various ways and mental criticism. Usually, their ideas are original and different from their classmates'. In drawings, this is seen in the many details and various elements they use (Ibid).

Herzog (2017) says that creative abilities are not only the privilege of gifted children, but are present in all children, that is why the role of the teacher is important. Štemberger (2014) conducted research with preschool teachers, and she found that most agree that all children are creative. However, they do not have a unified answer to the question of whether all people are creative. In practice, such a belief may mean that teachers will not seek to encourage the creativity of all, but only those whom they consider being creative (Ibid.). Einon (2002) argues that children are creative by nature, as the ability to plan activities and avoid external disturbances develops later. In elementary school, students should be allowed to be spontaneous in their artistic expression and gradual transition from a spontaneous to a conscious approach to solving art tasks, taking into account their natural dispositions and abilities, says Herzog (2009). She further explains that, from the point of view of the pedagogical process, children need to develop creative joy (Herzog, 2009). A child does some things because they are necessary for its development, while others attract its attention (Einon, 2002).

Psychologists have long thought that the level of creativity depends only on intelligence. Guilford proved the opposite with his theory of creativity, dividing thinking into convergent and divergent (Jaušovec, 1987). Factors stemming from divergent thinking are fluency, flexibility, originality, and elaboration (Glogovec and Žagar, 1992). A sensibility for artistic problems and redefinition

stem from cognition (Herzog, 2009). Among the subjective factors that enable creativity, we place precise perception, a set of perceptions (visual memory or artistic experience), imagination and motor (technical) skills. Sensitive perception, creative thinking, emotions and motor sensibility are placed among the subjective artistic factors that stimulate creativity (Duh, 2004). Authenticity or originality is the most important factor of divergent thinking (Jurman, 2004). Žagar (1992) established that originality is the ability to discover new, unusual and rare answers. In fine arts, artistic originality is manifested in the ability to discover new and unusual, imaginative ideas, the creation of something new, the ability to observe original details in motifs and finding original connections between details in works of art (Zupančič, 2001). Artistic flexibility is seen in the discovery of new ways of finding an artistic solution, the ability to present several correct solutions, and flexible thinking (Herzog, 2008). Flexibility in artistic activity is manifested in the search for and discovery of new paths, work procedures, the use of means of expression, techniques and different approaches to the depiction of motifs (Zupančič, 2001). Sensibility for artistic problems is expressed in the artistic interpretation of an artistic motif with a sensibility for harmony between artistic components (Herzog, 2008). This factor is encouraged among students by developing sensitive observation, observing the essential visual properties of the observed and by offering evident, illustrative examples, explains Zupančič (2001). Artistic redefinition is the ability to interpret familiar things in a new way (Karlavaris, 1991). We examine the success of artistic transposition among students, which manifests as a conscious redefinition of ideas, material or visual impression in the art structure among students (Herzog, 2009). Fluency is expressed in motor skills in the realization of an idea, according to Herzog (2008). Jurman (2004) adds that fluency, in the individual, is manifested in his unusual connection of ideas. Various fine operations, richer artistic procedures and versions of abilities consistent with the idea are made possible by the factor of artistic fluency, where we monitor the successful mastery of artistic technique (Herzog, 2009). Artistic elaboration is the ability to create a work plan, develop ideas, and structure results (Karlavaris and Berce-Golob, 1991). Zupančič (2001) claims that in artistic activity, elaboration manifests in the rational use of artistic techniques and procedures,

age-appropriate choice of motifs and tools, and the preparation of everything necessary for the artwork.

All factors are of paramount importance for the pedagogical process, as they encourage creativity in students (Duh and Zupančič, 2003). By promoting one factor, we also strengthen all other factors of artistic creativity (Herzog, 2009). Herzog (2008) conducted research where she examined the connection between the factors of artistic creativity and their interaction. She found that artistic creativity is immanent to all, and similarly dispersed among students as other abilities. Artistic creativity is in a strong correlation with general creativity. That is why fine arts class is equivalent to other subjects in the learning process. Matrić and Duh (2015) conducted research using the LV1 test to investigate the average levels of artistic creativity of students and found that girls achieved higher grades than boys. These differences were not detected in the existing studies, which at most they showed that boys were more successful. Gender differences were also examined in our research, and the findings are presented below.

## Artistic creativity in the third cycle of elementary school

Children are not filled with prejudice at an early stage and, for this reason, they spontaneously and uncontrollably fill the format with art design elements, even though they have no prior knowledge (Duh and Korošec, 2009). In the third cycle of elementary school, there is less and less spontaneous artistic expression, and students move on to solving artistic problems (Slatinšek-Mlakar, 2009). Under the influence of experience, knowledge and skills, increasing individual differences, which manifest differently in children, begin to appear. They begin to develop their own methods of art design (Duh and Zupančič, 2003). During this period, it is important to bring contemporary art closer to children, explains Berce-Golob (1993). Modern trends tend to promote independence, the formation of a holistic personality and creativity (Herzog, 2017). Kač-Nemanič (2017) also agrees with the use of modern teaching methods. With them, we adapt the process of teaching and learning to the needs and developmental possibilities of an individual student, and at the same time, we encourage their curiosity.

Lowenfeld states that the decline in ability occurs around the age of 11 because children become consciously critical of their artistic expression, their imagination is limited, and they begin to imitate the styles of others (Glogovec and Žagar, 1992). Although imagination, motivation, and emotions decline with age, the ability to concentrate and maintain attention increases with a child's growth. In the higher grades, the ability of accurate and focused observation develops, together with motor skills and memory skills. We can start introducing new techniques, procedures and ways of work to motivate children (Duh and Zupančič, 2003). The right approach to present new material, art tasks and problems can arouse interest in the student and consequently provide good results. We need to keep in mind that students have different interests (Herzog, 2008). Tacol and Šupšáková (2019) believe that a child's abilities of artistic expression develop gradually and in parallel with the development of psychophysical abilities. A child's motor skills, sense of perspective and worldview are different from ours, therefore, it is important not to criticize its works (Keong, 2008). Art-oriented educational work is designed in such a way that children create artistically through imagination, memory and direct observation (Duh and Zupančič, 2009). Pogačnik-Toličič, Vipotnik and Jernejec (1986) emphasize that if we do not impose various forms on children and warn them of the shortcomings in their drawings, they will remain creative in their artistic expression. Sensible artwork is that which allows and develops children's creativity, emphasizes Zupančič (2001), therefore, special attention should be paid to the level of emergence of creative ideas. This level manifests as a consequence of creative thinking and the intertwining of other subjective artistic factors (Herzog, 2008).

## Research problem definition and methodology

The main purpose of the research is to analyse the actual situation of artistic creativity of students in the third cycle of elementary school. We are interested in the differences in individual factors of artistic creativity of eighth-grade students from the point of view of gender. The research project includes four elementary schools in Maribor.

It is based on the following questions:

RQ1: Are there differences between the genders in the overall level of artistic creativity?

RQ2: Are there differences between the genders in the factor of flexibility?

RQ3: Are there differences between the genders in the factor of fluency?

RQ4: Are there differences between the genders in the factor of originality?

RQ5: Are there differences between the genders in the factor of sensibility for artistic problems?

RQ6: Are there differences between the genders in the factor of elaboration?

RQ7: Are there differences between the genders in the factor of redefinition?

The results provide an answer to the following research hypothesis:

H1: We assume that, in the overall achievement of the level of artistic creativity, there will be no statistically significant differences between the genders.

A causal non-experimental method of pedagogical research was used in this research. The research sample consisted of a non-random sample of 101 participants of the eighth grade, 52 boys and 49 girls. The research pattern from a gender perspective is therefore fairly balanced. In testing creativity, we used the LV2 test. The tested student made four drawings on different topics over a limited period of time (20 minutes), showing his/her artistic expression and creative abilities. The LV2 test has already proved to be reliable, valid and objective in some previous research (Duh, 2004; Herzog, 2008; Herzog, 2009) and it has also shown to be successful, which is why we also used it in our research to test artistic and creative abilities. Students' artworks were evaluated based on criteria, taking into account their age. We developed a six-level scale with a range of 0 to 5 points in the LV2 test to assess individual factors of artistic creativity. For each factor of creativity, the student could receive a maximum of 5 points. The maximum total number is 30 points.

The students performed the test in suitable testing conditions. The complete students' artworks were, in the end, encoded and evaluated by a panel of judges, which consisted of four evaluators.

The obtained data was processed using the SPSS software and a t-test, which includes the arithmetic mean ($\bar{x}$), standard deviation (s), the test of homogeneity of variances and the test of differences between the arithmetic means. With these results, we analysed gender differences among students.

## Results and discussion

The gender differences in each factor of artistic creativity are presented below in a tabular form (Table 1).

**Table 1:** Results of t-test and Levene's F-test of homogeneity of variances of results according to gender in each factor of artistic creativity.

| Factor | Gender | n | $\bar{x}$ | s | Levene's F-test | | t-test | |
|---|---|---|---|---|---|---|---|---|
| | | | | | F | P | F | P |
| Sensibility | Boys | 52 | 2.9712 | 1.15008 | 1.596 | 0.209 | – 1.592 | 0.115 |
| | Girls | 49 | 3.3571 | 1.28594 | | | | |
| Elaboration | Boys | 52 | 1.7644 | 0.77240 | 7.934 | 0.006 | – 1.797 approximation | 0.079 |
| | Girls | 49 | 2.0969 | 1.07143 | | | | |
| **Flexibility** | Boys | 52 | 2.9375 | 1.19217 | 2.739 | 0.101 | – 1.727 | 0.087 |
| | Girls | 49 | 3.3929 | 1.45147 | | | | |
| Fluency | Boys | 52 | 1.6202 | 0.80057 | 0.010 | 0.920 | – 2.038 | 0.044 |
| | Girls | 49 | 1.9541 | 0.84575 | | | | |
| Originality | Boys | 52 | 3.1490 | 1.41876 | 0.209 | 0.648 | – 1.163 | 0.248 |
| | Girls | 49 | 3.4949 | 1.56997 | | | | |
| Redefinition | Boys | 52 | 1.6106 | 0.81562 | 0.580 | 0.448 | – 0.873 | 0.385 |
| | Girls | 49 | 1.7602 | 0.90709 | | | | |

The results of the F-test (Table 1) indicate that the assumption of homogeneity of variance is justified in all factors except elaboration. In the latter, we used approximation. With the analysis of the t-test, we detected the existence of a

statistically significant difference in only one factor, fluency (P=0.044), which is in favour of girls. In this case, the girls achieved a better result than the boys at a statistically significant level. In terms of artistic solutions, the girls were more skilled in motor skills and the realization of the idea.

No statistically significant differences were detected in other factors. The tendency of difference was indicated for two factors, elaboration (P=0.079) and flexibility (P=0.087). In both cases, the tendency of the difference results in slightly better results in favour of girls. These results show that the girls were slightly better in the monitored planning of aesthetic expression, which is a harmony of the idea and the art material with the art-design principles. The suggestiveness of artistic expression is made possible precisely by the creative use of artistic principles and the coherence between the various components of design. The girls were also slightly better at discovering new paths, finding artistic solutions and a divergent approach to the motif and artistic structure. In these results, we covered the research questions RQ2, RQ3, RQ4, RQ5, RQ6, RQ7, in which we were interested in whether there were differences in each factor of artistic creativity according to gender.

According to previous research (Herzog, 2008; Herzog, 2009; Herzog, 2017), the achievements varied differently, with boys being more successful in some factors and girls in others.

The previous research (Herzog, 2009) conducted among sixth-grade students shows that girls were more successful in most artistic factors, only there were no significant differences in redefinition and fluency. In our research, we have also detected small differences between the genders in redefinition. This means that there are no great differences between the two in redefinition because students perceive art phenomena suitable for art redefinition in a similarly sensitive way and successfully transpose them into artwork.

Compared to research (Herzog, 2017) conducted in 2017, girls mostly achieved better results, except for fluency and redefinition, in which boys were more successful. There were no significant gender differences in flexibility. However, compared to our research, the biggest deviation between genders is in flexibility, meaning that boys had greater difficulties in creative thinking than girls.

In the following table (Table 2), we can see differences between genders in the overall level of artistic creativity.

**Table 2:** Results of t-test and Levene's F-test of homogeneity of variances of results of measured differences according to the gender in the total level of artistic creativity.

| Factor | Gender | n | $\bar{x}$ | s | Levene's F-test | | t-test | |
|---|---|---|---|---|---|---|---|---|
| | | | | | F | P | F | P |
| Overall level of artistic creativity | Boys | 52 | 14.0529 | 4.59708 | 0.979 | 0.325 | – 2.071 | 0.041 |
| | Girls | 49 | 16.0561 | 5.12227 | | | | |

The assumption of homogeneity of variance is justified (F=0.979, P=0.325). There is a statistically significant difference (P=0.041) in the overall level of artistic creativity between the genders. Throughout the test of artistic creativity, the girls performed slightly better than the boys.

The average values of the achievements of sixth-grade students from research (Herzog 2009) show that they are higher among girls than boys. The results from research (Herzog, 2017) conducted in 2017 demonstrate the same – girls predominate in the overall level of artistic creativity. These results coincide with ours, meaning that girls are more creative, both in lower and higher grades.

With the help of these results, we answered the research question RQ1. We were interested in finding out whether there are differences in the overall level of artistic creativity based on gender. Thus, we can refute the hypothesis (H1), which presumes that there will be no statistically significant forms in the overall achievements of the level of artistic creativity between the genders. Research has shown that girls perform better in tests measuring creativity, but whether they are indeed more creative or not cannot be said with certainty. The factors we measured in the test (elaboration, fluency and flexibility) indicate greater manageability of the girls, the desire to please and follow the instructions. Most girls at this age are also more inclined to pay attention in class, which makes them more internally motivated. The majority of girls also more often engaged in creative work outside of class, which consequently means their motor skills are better.

## Conclusion

We can conclude that statistically significant differences were detected only in fluency favouring girls, which means that they were more skilled in motor skills and the realization of ideas. There were no statistically significant differences in other factors, however, the tendency is evident in elaboration and flexibility. It indicated that the girls performed better in the creative process, the search for new paths and flexible use of means of expression. Girls were slightly better than boys in the overall level of artistic creativity. It indicated that the girls performed better in the creative process, the search for new paths and flexible use of means of expression. Girls were slightly better than boys in the overall level of artistic creativity. Interestingly, research results (Herzog, 2008; Herzog, 2009; Herzog, 2017) also showed slightly better results for girls in most artistic factors. These results coincide with ours, which means that girls are more creative - both among the students of lower grades and students finishing elementary school. All children are inclined to create art because this is the way they explore themselves and the environment in which they live, while looking for solutions to given problems. What matters is how we encourage and motivate them to be creative all the way into adulthood.

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