Povezanost med ravnijo izvirnosti likovnega izraza učencev pri pouku likovne umetnosti in ravnijo njihove strpnosti do raznolikosti

MIROSLAV HUZJAK & MARTINA KRAJNC

Povzetek Cilj raziskave je bil proučiti povezanost med ravnijo izvirnosti likovnega izraza učencev pri pouku likovne umetnosti in ravnijo njihove strpnosti do razlik. Udeleženci so bili učenci prvega, drugega in tretjega razreda osnovne šole, skupaj 110 učencev. Potrjeno je, da je med učenci, ki so imeli uvod v učno uro z uporabo na poučevanju likovnega problema zasnovanega didaktičnega modela, in tistimi, ki ga niso imeli, statistično pomembna razlika. Rezultat učenja in umestitve umetnostnega izrazja, analize motivov in razlage, pa tudi prikaza likovnih tehnik je bil višja raven ustvarjalnosti v likovni izvedbi in višja raven strpnosti. Ugotovljamo, da se z ustreznim izbiro didaktičnega modela pri poučevanju likovne umetnosti močno izboljša širok nabor stališč in prepričanj učencev.

Ključne besede: • didaktika likovne umetnosti • strpnost • izvirnost • stereotip • otroško risanje •
Connection between the originality level of pupils' visual expression in visual arts lessons and their level of tolerance for diversity

MIROSLAV HUZJAK & MARTINA KRAJNC

Abstract The aim of this research was to examine the connection between the originality level in children's expression during visual art lessons and their level of tolerance for difference. The participants comprised primary school pupils from grades one, two and three, a total of 110. It was confirmed that there was a statistically significant difference between the pupils who had an introduction to the lesson using the didactic model of visual problem-based teaching and those who had not. Learning and setting art terminology, the analysis of motifs and explanation, as well as demonstration of art techniques resulted in a higher level of creativity in visual performance, as well as a higher level of tolerance. It can be concluded that, with the proper choice of didactic models in teaching the visual arts, a wide range of pupil attitudes and beliefs can be improved.

Keywords: • visual art didactics • tolerance • originality • stereotype • children's drawing •
Introduction

The visual expression of children is their innate ability to express themselves, in other words, it is their conscientious capacity to communicate (Belamarić, 1987). Children use artistic expression to render content that strengthens their ability to visualize, perceive and comprehend, as well as their ability to create and form. The quality of forming visually is a result of individual artistic work, which implies individual vision, ideas, comprehension, creativity and discovery of one's own forms of expression. At the beginning of their education, a child leans towards creative thinking (Čandrić, 1988). It seems, however, that the level of creativity in boys and girls is not the same: “When analyzing the results of gender differences, we found that the factors of visual flexibility and sensitivity for girls' visual problems were better than boys at the level of statistically significant difference. This means that they were more successful in discovering artistic problems and better sensitized the visual expression in their test pieces.” (Herzog, 2009, p. 28) “Nowadays, studying creativity is dominant in the service of education because school is considered to be, as an institution of systematic development, one of the primary predispositions for developing creativity from the individual's creative potential” (Somolanji, Bognar, 2008, p. 90). Furlan states that creative learning is the hierarchically uppermost and most complex type of learning (Furlan, 1990). “Development of creativity is attained under proper educational impulses which, if inadequate, can slow down or completely suppress creativity” (Karlawaris, 1991, p. 79). The educator also takes part in the creative process by avoiding routine and conventional reactions, while making decisions based on considering all the factors in a given situation (Miel, 1968, in Čandrić, 1988). “Art education is permanently focused on developing creativity. Practice, however, shows that this does not work for all teachers in educational practice” Herzog (2008, p. 90). Moreover, teachers often seem to lack adequate abilities to recognize talented and creative students in the field of visual art. It seems that they evaluate student work in an insufficiently critical manner that does not recognize artistic originality (Duh and Lep, 2008). “In the school environment, the fettering of creativity can often be seen in the insistence on only one correct answer, way or method, in intolerance of the student/teacher mistakes, disregard of student/teacher ideas or new solutions, and in the authoritarian attitude of the teacher/principal/associates” (Somolanji & Bognar, 2008, p. 92). Karlavaris (1991) states that some of the aims of visual art are to develop visual ability at the level of creativity and perception, followed with strengthening of moral values, criticism and tolerance (Karlawaris, 1991). The didactic model of visual problem-based teaching means that, in the introductory part of the lesson, pupils learn art terminology (for example: primary and secondary colors, warm and cold colors, or sculptural relations of volume and space), and the task is given so as to apply the new terms in the pupils’ own work. Moreover, the motifs on the photographs are analyzed and described with the pupils, while talking about the potential for making their own change of motif in the representation. Finally, the practical applications of the technique are presented and demonstrated to the pupils (watercolor paint, pastels or aquarelle).

Today, there are around a hundred definitions of creativity, which tells us that this term is largely insufficiently explained. In the mid-20th century a psychologist named Joy Paul Guilford began to study the concept of creativity. Stevanović (1999) says that Guilford
was the first to draw the distinction between originality and creativity. Creativity contains originality. Therefore, originality is an ability to produce rare, unusual, humorous and outlying ideas, while Karlavaris (1991, p. 45) says that “originality constitutes a solution which is statistically rare, unusual, special.” Brajković (2003) considers originality as one of the most important notions in creative thinking. It can be defined as finding and discovering something new which is unusual, rare, unrepeatable and special. Furlan (1990, p. 116) states that creativity means “originality, versatility and flexibility in the usage of knowledge rather than menial imitation of others.” Stevanović (1986, p. 25) describes creativity as “intellectual inventiveness, a capacity to find new and original solutions” (Stevanović, 1986, 25). Lastly, Kadum (2011, p. 167) says that “[c]reativity appears as resistance towards everything that is traditional, usual and unoriginal.”

Creativity is the opposite of schematic work (Čandrlić, 1988). Belamarić (1987) states that distortion of the child's artistic creation or representation appears as a result of the child's surroundings, which seek to teach a child how to draw something; it can also result from not knowing or not understanding the role and function of the child's capacity for visual expression during their development. By accepting such instruction, the child gives up its own forms and figures and shifts to imitating schematic templates. If a child does not get enough (visual) information, it develops fixations which are characterized as schemes, a negative term in the artistic sense, because they inhibit the child's creative act by letting it repeat forms (Mühle, 1971). The most frequent schemes are suns depicted like a quarter-circle placed in the corner of the drawing paper; a house depicted as a square with square windows and a triangular roof; a pine tree represented as a number of triangles placed on top of another; a flower with a round central stigma and petals of the same size and shape; and a face presented as a “smiley” face. “To get to original solutions, it is necessary to gather a lot of data and fully study a considerable amount of material” (Stevanović, 1999, p. 343). Belamarić (1987) warns that schemes Impose automatism and futility upon children. Karlavaris (1991) indicates that one of the educational principles of visual art is the principle of free artistic expression. This principle discards the imposition of schemes, templates and ready-made solutions, leaving it up to the children to find their own way and their own visual result.

One of the important questions about creativity and originality is how to measure these qualities. There are a great number of tests for testing creativity: TTCT (Torrence's Test of Creative Thinking), McKim's creativity test called the “Circle test”. Klaus Urban and Hans Jellen (2004, 2014) developed a test called TCT-DP (Test for Creative Thinking – Drawing Production). Fanselow (2004) states that Karl-Josef Schoppe developed the V-K-T (Verbaler Kreativitäts Test), and that Günter Krampen developed the KVS (Kreativitätstest für Vorschul- und Schulkinder) test. Hocevar and Bachelor (1989) divided creativity measuring procedures into eight methods: cognitive ability tests, attitude and interests questionnaires, personality inventories, biographical inventories, teacher, peer and superior assessment, eminency, self-assessment of creative activity and achievement, and assessment of work samples.

Creativity is opposed to conformity, which is taking over other people's attitudes. Sternberg (2005, p. 393) states: “it is a generally accepted opinion that very creative
individuals have a creative life-style, which is characterized with flexibility, non-
stereotypical behavior and non-conformist attitudes.” Koren (1989) cites some creativity
components like independence of thought, wit, imagination, openness towards new
experiences, frequent improvisations, avoidance of conformity etc. Brajković (2003)
concludes that original people’s traits include solving problems independently,
nonconformist thinking, curiosity and the ability to restructure and find new solutions.
An additional question can be asked: does the creativity level of an individual affect their
tolerance towards difference and their level of prejudice? Zenasni and Besancon (2008)
have studied the extent to which a tolerance for ambiguity is connected to creativity. The
results showed that there was a statistically significant correlation between tolerance,
ambiguity and creativity--in other words, that creativity affects tolerance for ambiguity.
Moreover, Stevanović (1999) claims that tolerance towards vagueness or tolerance
towards ambiguity form a component of creative thinking. “It is thought that those who
are not capable of tolerating vagueness, controversy and obscurity are less intelligent and
less creative than those who have the capacity to struggle with unclear situations. Persons
who are intolerant towards obscurity are relatively “closed” towards new input that would
enlarge the complexity of the cognitive system. Stevanović (1999) says that tolerance of
ambiguity enables, among other things, deviation from the usual way of working and wit,
as well as flexibility in solving creative tasks.

It is possible to correlate inconsiderate stereotyping in one’s drawing with inconsiderate
stereotyping in one’s attitudes. Petz et al. (1992, p. 429) say that stereotypes are “rigid
and biased opinions, attitudes or beliefs about certain situations, persons, groups, groups
of people and ideas” and “unvaried and invariable types of behavior.” They also argue
that prejudices are “attitudes and opinions about certain ideas, people or groups of people,
which are more often than not negative, and they are created before or in spite of
possession of objective information on the subject matter” (ibid., p. 331). Sternberg
(2005, p. 536) defines stereotyping as “a mental set which includes belief that all the
members of a social group will have certain characteristics observed in one of more
members of that group.” Greenwald, Banaji and Nosek (1998) developed “Project
Implicit” in 1998. The scope of their research aimed to capture subconscious social
prejudices, for measuring which they developed a test called IAT (Implicit Association
Test). Their workshops concentrate, among other things, on diversity, inclusion and
prejudices about decision making, and their tests cover race, religion, gender differences
etc. Ganter (1997) mentions the Katz/Braly method, which is one of the oldest and most
often used methods for measuring stereotyping. The aim of this method is to measure
individual attributions to social groups. The results enable the compilation of a specific
epitome of ethnic stereotypes and the establishment of a consensus within a population
or a group of people about the matter of the stereotype.
Aim, research questions and hypotheses

Aim

The aim of this study is to examine the correlation between the use of visual problem-based teaching to influence the originality level in pupils' visual arts lessons, and its influence on pupils' degree of conformity and tolerance level for difference.

Research questions

Q1: Is there a difference between pupils' originality level before and after applying the didactic model of visual problem-based teaching?
Q2: Is there a difference between pupils' conformity level and tolerance of difference level before and after applying the didactic model of visual problem-based teaching?
Q3: Will the pupils, after applying the didactic model of visual problem-based teaching, achieve higher originality levels in their visual expression?
Q4: Will the pupils, after experiencing the didactic model of visual problem-based teaching, show a higher level of tolerance for difference, meaning a lower level of conformity?

Hypotheses

H1: There is a difference between the originality of pupils' artwork before and after applying the didactic model of visual problem-based teaching.
H2: There is a difference between pupils' conformity level and level of tolerance for difference before and after applying the didactic model of visual problem-based teaching.
H3: Pupils will, after experiencing the didactic model of visual problem-based teaching, achieve a higher originality level in artistic expression.
H4: Pupils will, after experiencing the didactic model of visual problem-based teaching, show a higher level of tolerance for difference, meaning a lower level of conformity.

Research methodology

Participants

The research was carried out at two primary schools in Zagreb. The overall sample of participants is N=110 pupils, of which n=59 is male, and n=51 is female. The research was carried out with two classes of grade 1 pupils (n=48), two classes of grade 2 pupils (n=29) and two classes of grade 3 pupils (n=33). The participants were six to nine years old. The sample is not random.

Research type, method, technique and instruments

The research is transversal; the research method is causal-experimental. The method used for collecting research data was analyzing content (pupil's artwork) in order to assess originality, and testing in order to assess conformity and tolerance levels.
**Research variables**

The independent variable is applying or not applying visual problem-based teaching in the introductory part of the lesson, before pupils are asked for visual artistic expression. The dependent variable is the level of originality in pupils' artwork and the levels of conformity and tolerance scored on the test.

**Procedure**

The research was carried out during visual art lessons in two different classes of grades 1, 2 and 3, meaning six classes in total. The pupils were first presented with methodically “incorrect” lessons, without applying visual problem-based teaching. Other methods were used, including ones that are often used in teaching practice, but useless in visual art didactics: a story or poem was read, a short animated movie was played, the content of other school subjects was discussed (thematic correlation), and songs connected to the motif were sung. Motifs were chosen which often result in stereotypical visual presentation: bird, fish, butterfly, flower, tree and house. At the end of the lesson, the pupils were tested using a test to measures levels of conformity and tolerance.

A week later, the didactic model of visual problem-based teaching was applied with the same students. The visual art terms were explained: names of colors, primary and secondary colors, color shades, color mixing, contrast of warm and cold colors, contrast of color quality, complementary contrast and line types. The visual art terms and materials were demonstrated on works of art. The motif was presented and analyzed using photographs. During the lesson, the pupils were monitored and encouraged to use the technique correctly, and to avoid schematic presentation. Therefore, the same pupils experienced both methodological approaches, with and without explanation of the visual art problem and sufficient task assignment. At the end of all lessons, the pupils completed the test of conformity and tolerance, which was changed with regard to the previous one. The tests were developed by the authors of this research.

**Data analysis**

Pupils' work is evaluated in terms of its originality or deviation from schematic representation. Criteria for evaluating the originality level were designed. The works were assigned points by a committee and classified into three categories; 1- Stereotypical representation, 2- Partially original work, and 3- Original work. The conformity and tolerance test was also scored and divided into three levels: 1- Intolerant, 2- Moderately tolerant, and 3- Tolerant. These categories were used as dependent variables and made into a contingency table. The data was processed using the Chi-square test ($\chi^2$) for testing variable independence, in other words, the significance of group differences in data distribution. An online chi-square calculator was used to determine the existence of possible statistical significance. After that, the arithmetic means were calculated, to determine when success was greater, and when it was smaller.
Results and discussion

After scoring the pupils' work, the measured values for originality were put into a contingency table. Table 1:

<table>
<thead>
<tr>
<th></th>
<th>1 point</th>
<th>2 points</th>
<th>3 points</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No application of didactic model</td>
<td>66</td>
<td>33</td>
<td>11</td>
<td>110</td>
</tr>
<tr>
<td>Application of didactic model</td>
<td>16</td>
<td>40</td>
<td>54</td>
<td>110</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>73</td>
<td>65</td>
<td>220</td>
</tr>
</tbody>
</table>

Table 1: Contingency table for originality level

With Yates correction, the value of originality level (Table 1) $\chi^2$ is 56,912. The number of degrees of freedom is $df = 2$, and probability is $P = 0.000$. The line for determining statistical significance is 5.991, which means that a statistically significant difference was measured between the work of pupils taught without applying the didactic model of visual problem-based teaching and the application of this model, with a probability of $p < 0.05$.

<table>
<thead>
<tr>
<th></th>
<th>1 point</th>
<th>2 points</th>
<th>3 points</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No application of didactic model</td>
<td>6</td>
<td>56</td>
<td>48</td>
<td>110</td>
</tr>
<tr>
<td>Application of didactic model</td>
<td>3</td>
<td>31</td>
<td>76</td>
<td>110</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>87</td>
<td>124</td>
<td>220</td>
</tr>
</tbody>
</table>

Table 2: Contingency table for conformity and tolerance levels

With Yates correction, the value of conformity and tolerance levels (Table 2) $\chi^2$ is 12,994. The number of degrees of freedom is $df = 2$, and probability is $P = 0.001$. The line for determining statistical significance is 5.991, which means that a statistically significant difference was measured between the work of pupils taught without applying the didactic model of visual problem-based teaching and the application of this model, with a probability of $p < 0.05$.

Based on the chi-square test calculations, a conclusion can be made:

Hypothesis H1: “There is a difference between the originality level of pupils' artwork before and after applying the didactic model of visual problem-based teaching.” is accepted by calculating $\chi^2 = 56,912$, $df = 2$, $P = 0.000$.

Hypothesis H2: “There is a difference between pupils' conformity level and level of tolerance for difference before and after applying the didactic model of visual problem-based teaching.” is accepted by calculating $\chi^2 = 12,944$, $df = 2$, $P < 0.01$.

A statistically significant difference was determined. In order to verify whether the pupils achieved a higher level of originality before or after experiencing the didactic model of visual problem-based teaching, arithmetic means ($\bar{x}$) of scored points were calculated to determine when success was greater, and when it was smaller, without testing statistically significant difference between means. The results are presented in Table 3:
In order to verify whether the pupils had scored a lower level of conformity and a higher level of tolerance before or after applying the didactic model of visual problem-based teaching, the arithmetic means ($\bar{x}$) of scored points were calculated. The results are presented in Table 4:

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>score 1</th>
<th>score 2</th>
<th>score 3</th>
<th>$\bar{x}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>No application of didactic model</td>
<td>110</td>
<td>6</td>
<td>112</td>
<td>144</td>
<td>2,38</td>
</tr>
<tr>
<td>Application of didactic model</td>
<td>110</td>
<td>3</td>
<td>62</td>
<td>228</td>
<td>2,69</td>
</tr>
</tbody>
</table>

Table 4: Arithmetic means of tolerance test scores

Considering these values, it is evident that the arithmetic mean ($\bar{x}$) of the points achieved for the originality of the artwork after the application of the didactic model of visual problem-based teaching is higher than the arithmetic mean of the points scored without the application of the model. Moreover, the arithmetic mean of the points scored on the tolerance test is higher after applying the didactic model in comparison to the arithmetic mean without applying the model.

It can therefore be concluded that

Hypothesis H3: “Pupils will, after experiencing the didactic model of visual problem-based teaching, achieve a higher originality level in artistic expression” is accepted.
Hypothesis H4: “Pupils will, after experiencing the didactic model of visual problem-based teaching, show a higher level of tolerance for difference, meaning a lower level of conformity“ is also accepted.

*Qualitative and comparative analysis of originality in pupils' artwork*
M. Huzjak & M. Krajnc: Connection between the originality level of pupils' visual expression in visual arts lessons and their level of tolerance for diversity

<table>
<thead>
<tr>
<th>Without didactic method</th>
<th>With didactic method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1, Birds</td>
<td>Grade 1, Birds</td>
</tr>
<tr>
<td>Grade 1, Fish</td>
<td>Grade 1, Fish</td>
</tr>
<tr>
<td>Grade 2, Flower</td>
<td>Grade 2, Flower</td>
</tr>
</tbody>
</table>
M. Huzjak & M. Krajnc: Povezovanost med ravnijo izvirnosti likovnega izraza učencev pri pouku likovne umetnosti in ravnijo njihove strpnosti do raznolikosti

Grade 2, Butterfly
Grade 3, Tree
Grade 3., House

Grade 2, Butterfly
Grade 3, Tree
Grade 3, House
By comparing the pupils' artwork, it is evident that those works created during lessons with no didactic model of visual problem-based teaching are composed using general, stereotypical figures, with a minimal number of details and minimal effort; they are unimaginative, without mixed colors and with poor use of materials. In contrast, the artwork created during lessons with the visual problem-based introduction looks as if it were made by different pupils: the figures are imaginative, inventive and enriched with detail, great effort was invested, colors were mixed and art techniques were correctly used.

**Conclusion**

It can be concluded that creativity is in correlation with tolerance, and stereotypical thinking is correlated with conformity and intolerance. The didactic model of visual problem-based teaching, which is used to encourage applying to one’s own work art terms that have been learned during the lesson, showing inventiveness and giving up stereotypical ideas, does have a positive influence on the development of creativity and originality, and indirectly influences the development of tolerance and nonconformity. A good choice of didactic model in visual arts pedagogy could thus improve the broader attitudes and beliefs of students.

**References:**

M. Huzjak & M. Krajnc: Povezanost med ravnijo izvirnosti likovnega izraza učencev pri pouku likovne umetnosti in ravnijo njihove strpnosti do raznolikosti


Appendix a:

Criteria for estimating the originality level of pupils' artwork

<table>
<thead>
<tr>
<th>Original representation</th>
<th>Presentation of the figure: puts in a lot of effort, many details, large image size, original elements of the body:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- fish: fins, eyes, mouth, gills, tail, scales;</td>
</tr>
<tr>
<td></td>
<td>- flock of birds: every bird is different in shape and direction, original representation of body parts: beak, wings, legs, feathers</td>
</tr>
<tr>
<td></td>
<td>- flower: imaginative figures, detailed colors</td>
</tr>
<tr>
<td></td>
<td>- butterfly: peculiarity in depicting the wings, symmetry, a plethora of patterns and color tones</td>
</tr>
<tr>
<td></td>
<td>- house: unusual and imaginative figures, unusual roofs, balconies, windows, fences etc.</td>
</tr>
<tr>
<td></td>
<td>- tree: richness of forms and tree types, presentation of tree bark, diversity in branch thickness</td>
</tr>
<tr>
<td></td>
<td>Usage of art material: strong pressure on the paper, uniformity while coloring, mixing a large number of color tones, a great amount of the paper piece is filled, seeking for own brushwork, optimal density of color</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average representation</th>
<th>Presentation of the figure: puts in mediocre effort, average number of details, occasional occurrence of stereotypical elements, medium image size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- art material: changeable pressure on the paper, occasional color mixing, paper surface partially filled, partly individual brushwork, occasionally optimal color density</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stereotypical representation</th>
<th>Presentation of the figure: minimal effort, minimal number of details, small image size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stereotypical elements:</td>
</tr>
<tr>
<td></td>
<td>- fish: smiling face, “Disney” eyes, outline made in one line, scales omitted or represented by monotonous repetition, stereotypical filling of space around the motif: sea weed, bubbles, animals, etc.</td>
</tr>
<tr>
<td></td>
<td>- flock of birds: copying the “m” shape, all the birds are the same shape and have the same direction, stereotypical filling of space around the motif: quarter of the sun and clouds</td>
</tr>
</tbody>
</table>
- flower: stereotypical daisy shape, stereotypical filling of space around the motif: quarter of the sun in the sky, a line that divides the sky and the ground, etc.
- butterfly: representation of the symmetric “B” shape for the wings, human eyes and mouth, no details
- house: stereotypically square shaped with a triangle roof and square windows
- tree: triangle “pine tree” shape, a smiling face on the trunk
- art material: weak pressure on the paper, uneven scribbling, no color mixing, minimal paper surface filled, originality in brushwork omitted, paint too dry or dripping

Appendix b:

**Questionnaire for estimating conformity and tolerance levels**

1. I feel sad when I wear clothes that are not like the clothes my friends wear.
   - YES
   - NO

2. I am bothered when my friend has a new toy.
   - YES
   - NO

3. I like to wear clothes that are like the clothes my friends wear.
   - YES
   - NO

4. I like when my parents buy me the same toy my classmates have.
   - YES
   - NO

5. I want to have something because my friends have it.
   - YES
   - NO

6. I think that “cool” things are those which most people like.
   - YES
   - NO

7. I felt rejected when I did not possess something that everyone else possessed.
   - YES
   - NO

8. I feel sad when my friends get new clothes, and I am still wearing the clothes from last year.
   - YES
   - NO

9. When I watch a new cartoon, I want to have an item with the character from that cartoon on it.
   - YES
   - NO