# A BOOK'S PICTURE AS A VISUAL STIMULUS FOR INTERPRETATION IN THE FRAMEWORK OF DEVELOPING CREATIVE AND CRITICAL THINKING

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Abstract: The paper deals with the problem of visual literacy of university students the future teachers of Fine arts in relation to their critical thinking systematically developing during their pregradual preparation within the disciplines focused on theory and history of fine arts at the Department of Fine arts and Faculty of Education at Constantine the Philosopher University in Nitra. The paper looks into students qualifications of given area via questionnaire focusing on interpretation of book's quantications of given area via questioninate focusing on interpretation of book's picture as a visual stimulus to identify formal content and semiotic meaning. The author explores the problem in relation to project goals supported by Slovak Research and Development Agency, according to Act No. APVV-15 - 0368 in context of present requirements of teacher training program in the area of critical thinking and

Keywords: visual stimulus, fine arts education, interpretation, critical thinking

#### 1 Introduction

Adriana Récka the author of this paper thematically and contentually follows up the article published in the previous issue of the journal Ad Alta (Récka, 2018). The paper in 2018 announced the analysis and interpretation of our research results which were not dealt with in the article at that time. The research was carried out during the winter semester of academic year 2018/2019 concentrating on competencies of our students future teachers of Fine arts, in area of visual literacy in relation to presumed skills gathered during their pregradual preparation in bachelor's and master's level of study, orientated on their knowledge and skills gathered within theoretical disciplines focused on theory and history of fine arts. Our aim was to find out whether students are ready and competent to apply their knowledge, wisdom and skills obtained during their studies in relation to identification analogy (icon), factual coherence (index) and convention (symbol) according to Pierce's theory based on triadic semiotics known as an icon (Likeness, etc.) index (Sign) - symbol (General sign, In Bergman, Paavola, 2014) in the form of interpretation of non artistic visual impulses photos presenting: 1. one apple, 2. two apples, 3. a closed book, 4. an open book, 5. an empty plastic box, 6. plastic box containing a small object, 7. compilation of photos containing photos 1- 6. Implementation of non artistic visual impulses within our research was intentional. Our aim was to secure perception, reception and interpretation of universal "picture", clear of any visual, artistic or historical experiences of students thus test the effectiveness of our tuition performed within disciplines focused on theory and history of fine arts. Except the third and the fourth item - picture of closed and open book, we presented in our paper partial results of our research in quantitative and qualitative level in relation to chosen items of our questionnaire and evaluation of hypotheses. This paper primarily deals with the items carrying visual stimulus in the form of a closed and open book and apart from the evaluation of our hypotheses, we try to interpret the results of our findings in broader context concerning issues in developing creative and critical thinking.

# 1.1 Theoretical background

Theory in relation to researched issue was mentioned in our previous paper (Récka, 2018) referring to famous authors in the worldwide context dealing with visual literacy from different aspects (Bristor and Drake, 1994, Sinatra, 1986, Stokes, 2002, Zanin -Yost et Donaldson, 2005, etc.) We also mentioned the author paying attention to this topic in Slovak environment (Šupšáková, 2015). We also described interpretative approaches of works of art applying comparative and semiotic analysis,

which we consider as relevant in the process of developing visual literacy, with the focus on critical thinking in pregradual preparation of future teachers of Fine arts (Zemanek, Nebrig, 2012, Van Tieghem, 1931, Wellek, 1969, Jauss, 1982, Wölfflin, 1915, Panofsky, 2013). We also stated, that the structure of study programme for future teachers of Fine arts in Bachelor's and Master's level of study in the context of practical and theoretical disciplines at the workplace of the author of this article, creates adequate conditions for development of visual literacy in future teachers of Fine arts within the range of their pregradual preparation. We also mentioned, that enforcement of basic thought operations (such as analysis, synthesis, comparison, abstraction, concretization, generalization, induction, deduction and analogy), representing the essence of critical thinking, being defined from the point of view of general psychology (Daniel and coll., 2003), students have the opportunity to perceive in the widest spectrum and in synthetic form within the disciplines focused on theory and history of fine arts guaranteed by the author of this article. Theories and approaches of aforementioned authors within art education we consider as relevant theoretical starting points for differentiation between formal, contentual and semantic level of visual culture and understanding of these differences from students' point of view altogether with realization of these approaches within education, we consider as an adequate tool for development of critical thinking and creativity of students. Referring to the theory of semiotician Charles Sanders Peirce we perceive a work of art as a specific complex of signs and their meanings in terms of a triadic relation icon (Likeness, etc.) - based on analogy, outer similarity, or objective conformity, index (Sign) - based on factual (causal or physical) coherence and a symbol (General sign) - based on an agreement, tradition or convention (In Bergman, Paavola, 2014).

The above mentioned approaches in Fine arts education we consider as relevant theoretical resources for differentiation among formal, contentual and semantical level in visual culture and understanding of these differences from the students' point of view altogether with implementation of these approaches within the education, we perceive as adequate tool for critical thinking and development of students' creativity.

# 2 A Book's picture as a Visual Stimulus for Interpretation in the Framework of Developing Creative and Critical Thinking

# 2.1 Research objectives

The aim of our research was to find out what are the competencies of our students - future teachers of Fine arts in area of visual literacy in relation to presumed skills gathered during their pregradual preparation in bachelor's and master's level of study, orientated on their knowledge and skills gathered within theoretical disciplines focused on theory and history of fine arts. Our aim was to find out whether students are ready and competent to apply their knowledge, wisdom and skills obtained during their studies in relation to identification analogy (icon), factual coherence (index) and convention (symbol) according to Pierce's theory of signs, in the form of interpretation of non artistic visual impulses - photos presenting:

- 1. One apple
- 2. Two apples
- 3. A closed book
- 4. An open book
- 5. An empty plastic box
- 6. Plastic box containing a small object
- 7. Compilation of photos containing photos 1-6

As mentioned before, this paper analyses and interprets partial results of our research in relation to chosen items of anonymous questionnaire as a tool or rather a method of data gathering. In relation to chosen items number 3 and 4 – a closed and an open book our aim was, except for researching above mentioned competencies determined by pregradual preparation in bachelor's and master's level of study, evaluate acquired data according to the context and review the results of cognitive and emotional psychological processes of our respondents gained in a non educational environment in a long-term perspective.

## 2.2 Research hypotheses

We assumed that:

- According to the pictures showing a closed book and an open book more respondents will point out in connection with the material pictures not only common associations regarding the book as a tool for reading, textbook, and source of knowledge, but also a wide spectrum of qualitative personal links than those who will only restrict themselves to a confined spectrum of associations.
- Master's degree students future teachers of Fine arts in connection with the book (either closed or open) will associate iconographical and iconological connections of this object as an attribute to religious and sacred images or Holy Saints and will outnumber Bachelor's degree students
- Among all of the respondents there will be more of those who in connection with the book will associate their childhood and a book as a source of storytelling than those, not associating the context as such.

#### 2.3 Research plan and research file

Our research sample consisted of 143 respondents altogether, 98 studying full time - Fine Arts Education in academic year of 2018/2019. Particularly: Bachelor's degree - 38 students in the first year, Bachelor's degree - 16 students in the second year, Bachelor's degree - 16 students in the third year, Master's degree - 8 students in the first year, Master's degree - 20 students in the second year and 45 attenders of further education within University of the Third Age, CPU in Nitra studying: History of Fine Arts and Creative Art, under the patronage of Department of Creative Arts and Art Education at the Faculty of Education, Constantine the Philosopher University in Nitra. The questionnaire was filled in by attenders studying at University of the Third Age in above mentioned program in a two year study second and third year of the first grade (winter semester of the first year covering general subjects is taught at other departments) and in all three years of study of the second grade. The main purpose of integrating the students of Third Age University into our research was to obtain opinions from the group of respondents much older (45 plus), therefore we can assume that they have more visual skills than the respondents studying full time, specifically studying Teaching of Fine Arts (19-25). On the contrary in comparison with full time students of master's degree, students of the University of the Third Age, based on the nature and concept of interest-based learning within this form of further education, did not take the subject specialized in analysis and interpretation of fine arts aimed at theoretical and practical aspects of perception, reception and interpretation of art works and visual culture.

# 2.4 Research methods

The main method of data gathering was an anonymous questionnaire consisting of preliminary basic questions and 7 articles. By asking the basic questions we were trying to ascertain the affiliation of respondents according to their applicable study or educational programme, year of study, previous education i.e. secondary or university education and sex.

The first six articles included visual inputs - photographs and three open questions:

- 1. What is the picture describing (representing)?
- 2. What associations (images, connections) come to your mind with the object shown in the picture?

3. What does the object in the picture symbolize (semantically)?

Article No.7 was containing all of the above mentioned pictures as a complex of visual inputs. This article contained only one assignment in the text: If you look at pictures 1 - 6 altogether, what associations (images, stories) do you reflect on in connection with these pictures?

The questionnaire deliberately omits any formulations, definitions of above mentioned authors or our theoretical conclusions which our students came across during their studies. We were trying to monitor interest and ability of our students to apply acquired knowledge and skills in practice.

In our previous paper (Récka, 2018) we published a complete set of photographs of visual inputs that were part of our questionnaire: picture No.1 - one apple, picture No.2 - two apples, picture No.3 - a closed book, picture No.4 - an open book, picture No.5 - an empty plastic box, picture No.6 - plastic box containing a small object. In the paper published in 2018, we analyzed in detail the results associated with the interpretation of picture No.1 - one apple, picture No.2 - two apples, picture No.5 - an empty plastic box, picture No.6 - plastic box containing a small object. Here we publish only those images that are subject to analysis and interpretation of research results in this article: picture No.3 - a closed book, picture No.4 - an open book from our questionnaire (see picture No. 1 a 2).



Pict. 1



Pict. 2 (Photo: Adriana Récka, 2018)

The research was carried out during the winter semester of academic year 2018/2019. Method of data processing was quantitative and qualitative analyses of answers from the questionnaire reflected in verbal interpretation as well as verification and evaluation of hypothesis.

According to the nature of our questionnaire, including articles, open questions and our ambition to make reference to our respondents' formulations, each filled in questionnaire was marked according to the following key: numeric index of the year of study (1, 2, or 3), abbreviation of study programme (Bc - Bachelor degree, MA - Master degree, U3A - University of the Third Age, 1. Level, U3Ad - University of the third age, 2nd level), serial number (1 - number of respondents in certain group). Our respondents are marked as 1Bc1 - 38, 2Bc1 -16, 3Bc1 - 16, 1MA1 - 8, 2MA1 -20, 2U3A1 - 10, 3U3A1 - 11, 1U3Ad1 - 7, 2U3Ad1 - 9, 3U3Ad1 - 8.

#### 3 Research results

As mentioned above, partial research results are presented in both quantitative and qualitative terms in relation to the selected items of the questionnaire used and the evaluation of the hypotheses we have formulated. All relevant information regarding number of respondents in particular year and form of education are presented in our tables. University of the third age students (altogether 45) were put into the same group, as their affiliation to a particular year of study did not play an important role in regard to our preferred indices. For clarity of preferences in individual groups of associations and symbols, numerical data are given together with the percentage of results in relation to the total number of respondents (see table no. 1 and 2).

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Table 1: Frequently used terms associated with the book

Frequently	1.	2.	3.	1.	2.	U	Alto-
used terms	ye- ar	ye- ar	ye- ar	ye- ar	ye -ar	A A	ge -ther
associated with	Bc.	Bc.	Bc.	MA	MA	A	-tilei
the book	38	16	16	8	20	45	143
reading	19	9	13	3	10	31	85/ 59%
story	14	7	9	4	9	6	49/ 34%
study/learning	8	6	1	2	12	14	43/
scholarship							30%
/education/ schooling	10	2	4	3	5	10	34/ 24%
time (for ourselves, free time, time passing by)	9	3	6	0	6	7	31/ 22%
wisdom	5	5	3	2	7	8	30/ 21%
blue (color of the book cover)	7	6	1	0	0	12	26/ 18%
font, text	3	4	1	6	7	5	26/ 18%
knowledge	5	2	5	1	4	8	25/ 17,5%
book cover	9	2	5	2	1	5	24/ 17%
rest/relaxation	0	0	5	0	7	10	22/ 15%
notebook, diary, journal	2	2	2	0	4	8	18/ 13%
text	1	4	1	3	5	4	18/ 13%
library	7	2	3	0	3	2	17/ 12%
plot	5	5	1	0	1	4	16/ 11%
man	10	0	2	0	1	2	15/
calmness	2	1	0	1	1	8	10,5% 13/9%
literature, belles-lettres	3	1	1	0	3	4	12/ 8,5%
secrecy	1	1	2	2	2	4	12/ 8,5%
paper	1	3	0	1	5	1	11/8%
words	6	1	1	1	2	0	11/8%
curiosity	1	1	0	1	1	6	10/7%
tension	2	2	1	0	1	3	9/6%
school	2	1	1	0	4	1	9/6%
cognition	0	0	0	0	4	5	9/6%
smell of an old/new book	2	2	2	1	2	0	9/6%
ease	0	0	0	0	2	7	9/6%
war	1	2	2	2	1	1	9/6%
font	2	0	0	2	3	1	8/ 5,6%
fun	0	0	2	0	1	5	8/ 5,6%
saying "Don't judge the book by its cover"	7	0	1	0	0	0	8/ 5,6%
pleasure	1	2	0	1	0	4	8/ 5,6%
sorrow	2	2	0	1	0	2	7/5%
desire for knowledge	2	1	0	1	0	3	7/5%
thickness of the book	2	0	0	0	0	4	6/4%
fairy tale	1	0	0	1	3	0	5/ 3,5%
illustration	0	4	0	0	0	1	5/ 3,5%
exam	1	0	0	0	2	2	5/ 3,5%

silence         2         0         0         0         0         3         5/3,5%           childhood         1         0         0         1         1         1         4/3%           adventure         2         0         1         0         0         1         1/3%           bornedom         1         0         0         0         2         1         4/3%           cloud/clouds         2         2         0         0         0         0         0         4/3%           bomb/ bombardment         2         1         0         0         0         0         0         3/2%           death         0         2         1         0         0         0         0         3/2%           death         0         2         1         0         0         0         0         1         2/2           gift         1         0         0         0         0         0         2         2/2           findings         1         0         0         1         0         0         1         2/2           findings         1         0         0								
adventure   2   0   1   0   0   1   4/3%	silence	2	0	0	0	0	3	5/ 3,5%
boredom	childhood	1	0	0	1	1	1	
cloud/clouds bomb/ bombardment         2         2         0         0         0         4/3% bomb/ bombardment           bomb/ bombardment         2         1         0         0         0         0         3/2% bomb/ bombardment           death         0         2         1         0         0         0         0         3/2% bomb/ bombardment           gift         1         0         0         0         0         0         1         2/2 lumb           gift         1         0         0         0         0         2         2/1,4%           helper         0         0         0         1         0         0         1         2/2 lubb           findings         1         0         0         1         0         0         1         2/2 lubb           findings         1         0         0         0         0         1         2/2 lubb           findings         1         0         0         0         0         0         2/2 lubb           graphics         1         0         0         1         0         0         2/2 lubb         1,4%           stress         0	adventure	2	0	1	0	0	1	4/3%
cloud/clouds bomb/ bombardment         2         2         0         0         0         4/3% bomb/ bombardment           bomb/ bombardment         2         1         0         0         0         0         3/2% bomb/ bombardment           death         0         2         1         0         0         0         0         3/2% bomb/ bombardment           gift         1         0         0         0         0         0         1         2/2 lumb           gift         1         0         0         0         0         2         2/1,4%           helper         0         0         0         1         0         0         1         2/2 lubb           findings         1         0         0         1         0         0         1         2/2 lubb           findings         1         0         0         0         0         1         2/2 lubb           findings         1         0         0         0         0         0         2/2 lubb           graphics         1         0         0         1         0         0         2/2 lubb         1,4%           stress         0			0	0	0	2	1	
Domb/   Dombardment   Dombar	cloud/clouds	2	2	0	0		0	4/3%
gift         1         0         0         0         0         1         1/4%           helper         0         0         0         0         0         2         2/1,4%           findings         1         0         0         1         0         0         2/2         1,4%           friend         0         1         0         0         0         0         1         2/2         1,4%           rain         1         1         0         0         0         0         0         1/2         1,4%         2/2         1,4%	bombardment	2		0	0	0	0	
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helper         0         0         0         0         0         2         1.4%           findings         1         0         0         1         0         0         2         1.4%           friend         0         1         0         0         0         1         1.4%           rain         1         1         0         0         0         0         2/1.4%           depressive graphics         1         0         0         1         0         0         2/1.4%           stress         0         0         0         0         1         0         0/7%           smell of coffee         0         0         0         0         1         0         0/7%           smell of coffee         0         0         0         1         0         0         1/7           wood         0         0         0         1         0         0         1/7           March         1         0         0         0         0         0         1         1/7           textbook         0         0         0         0         0         0         1         1/7 <td>gift</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1,4%</td>	gift	1	0	0	0	0	1	1,4%
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smell of coffee         0         0         0         0         1         0,7%           page rustling         0         0         0         1         0         0         1/0,7%           wood         0         0         0         1         0         0         1/0,7%           March         1         0         0         0         0         0         0/7%           textbook         0         0         0         0         0         1         1/0,7%           advisor         0         0         0         0         0         1         1/0,7%           Christmas         0         0         0         0         0         1         1/0,7%           letterpress         0         0         0         0         0         0         1/0,7%           classificate         0         0         0         0         0         0         0         0         0,7%	stress	0	0	0	0	1	0	0,7%
page rustling	smell of coffee	0	0	0	0	0	1	0,7%
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March         1         0         0         0         0         0         0,7%           textbook         0         0         0         0         0         1         1/0,7%           advisor         0         0         0         0         0         1         1/0,7%           Christmas         0         0         0         0         0         1         1/0,7%           letterpress         0         0         0         0         0         1         0,7%           invention         0         1         0         0         0         0         0         1/0,7%	wood	0	0	0	1	0	0	0,7%
textbook 0 0 0 0 0 1 0,7%  advisor 0 0 0 0 0 0 1 1/0,7%  Christmas 0 0 0 0 0 1 1/0,7%  letterpress 0 0 0 0 0 0 1 1/0,7%  invention 0 1 0 0 0 0 0 1/0,7%	March	1	0	0	0	0	0	0,7%
advisor   0   0   0   0   0   1   0,7%     Christmas   0   0   0   0   0   1   1/0,7%     letterpress   0   0   0   0   0   1   1/0,7%     invention   0   1   0   0   0   0   1/0,7%     classificate   0   1   0   0   0   0   0   1/0,7%     classificate   0   1   0   0   0   0   0   1/0,7%	textbook	0	0	0	0	0	1	
Christmas	advisor	0	0	0	0	0	1	0,7%
letterpress	Christmas	0	0	0	0	0	1	0,7%
invention 0 1 0 0 0 0 0 0,7%	letterpress	0	0	0	0	0	1	0,7%
	invention	0	1	0	0	0	0	0,7%
	gloominess	0	1	0	0	0	0	

Source: Own arrangements

The first hypothesis explored respondents' competencies in the area of critical (evaluative) thinking focused on identification of common, general (standard, universal, objective) as well as personal (subjective, individual) associations with the given visual stimulus - open and closed book. Slovak version of the book Catch-22 by Joseph Heller, published by Slovart, 2015, Bratislava, book cover designed by Jozef Dobrík was used as visual stimulus. Content of this satirical novel set during World War II, the author of the book cover depicted adequately. Considering that our aim was to use the book as such without any contextual connotations, the book cover informing about the author and the title was removed before photographing. Visual of hardcover is identical with the book cover, omitting the reference about the author and the title, and represents a wide range of associations and denotations. Despite the fact that Catch-22 is one of the most successful books of the present, stated publication was neither recognized nor named among any respondents.

Our first hypothesis was not confirmed by the research, on the contrary, the results have brought a few interesting findings. Although the respondents stated a wide spectrum of qualitative subjective associations which can be classified partly as terms related to cognitive process and partly as terms related to emotional or rather affective component of our perception and experience, frequency of some terms - associations in relation to the total number of respondents was extremely low. The most frequently occurring terms associated with the book were: reading, story, study/learning, scholarship/education/schooling. It is important to mention that not even the last group of these associations did not reach the 25% percent of respondents' share of the total number of respondents. All the other associations regarding the total number of respondents reached even much lower level. Terms related to cognitive component were: wisdom, blue color (color of the book cover), knowledge, book notebook/diary/journal, library, plot, paper, school, literature/fiction. cognition. bomb/bombardment, phrase :"Don't judge the book by its cover", fairy tale, exam, childhood, present, helper, findings, friend, rain, wood, March, textbook, adviser, Christmas,

letterpress, invention. The most surprising was the quantitative result of associations such as: library, school, textbook, childhood and fairy tale. Out of 143 respondents the term library associated with the book only 17 students (12%), school 9 (6%), fairy tale 5 (3, 5%), childhood 4 (3%) and the textbook only 1student (0,7%). We were also surprised by the fact, that the only association with the textbook was in the group of University of the third age students altogether with the other terms related to education such as - study/learning, scholarship/education/schooling, cognition, reading, knowledge and exam, compared to respondents of younger generation currently studying. Senior students saw the book particularly as a practical helper, advisor, source of useful information, they commented on its thickness and potential content. In several cases the respondents identified the book's picture as a notebook, diary, journal (18 respondents altogether). We can say, that University of the third age students associated the book's picture more or less with general connections, whereas the students at Bachelor's degree of study prioritized analytical approach to the given visual stimulus and tried to identify/decipher and interpret visual perception of the book from the formal, contentual and semiotic point of view. These respondents, whose number compared to the whole was quite low, mentioned the blue color of the book cover, operated with terms such as: illustration, war, man, bomb/bombardment, free fall, clouds and correspondingly associated the negative feelings such as: sorrow, gloominess, depression even death. On the contrary, University of the third age students evaluated the book cover as something pleasant and calming, inducing peaceful atmosphere and ease. Bachelor's and Master's degree students also looked for the meanings connected with an open and closed book in relation to personality typologies. Closed book was interpreted as a symbol of introversion and unsociability of a man, whereas in an open book they "recognized" openness to new impulses, open mind, trust, relaxedness, abolition of prejudices, possibility to learn something new, find out more, open possibilities, uncovered secrets and development.

Also the saying "Don't judge the book by its cover" in connection with the closed book and connotations to human qualities, associated only 8 students out of 143. Seven of them were the students in the first year and one was the student in the third year of Bachelor's degree. Personalization or rather transmission of meaning between closed and open book into personality sphere is totally absent within the University of the third age students. Another surprising finding for us was that the cognitive associations with the book, for which we expected more frequent occurrence, appeared only sporadically. Terms such as wood, letterpress, invention, March were mentioned only once (!) by the sole respondent. Only two respondents associated the book with the gift.

We also state the terms associated by our respondents related to subjective experience - emotional elements of our psyche: time (for ourselves, free time, time passing by), rest/relaxation, calmness, secret, curiosity, contentment, fun, happiness, sorrow, desire for knowledge, silence, smell of an old/new book, smell of coffee, page rustling, adventure, boredom, stress. We have to stress yet again, the predominance of seniors connecting the book with rest, relaxation, calmness, contentment, silence, but also with curiosity, fun and desire for knowledge. Low number of respondents associating the book with emotional aspect or sensory perception took us by surprise. Only 9 respondents associated tension and contentment (7 seniors associating contentment), feeling of joy 8 respondents (4 seniors), sorrow 7 respondents. Associations such as: silence, boredom, stress, smell of coffee, page rustling was mentioned only in 5 cases.

Interesting was also the fact, that explicit numbers regarding the pages of an open book 158 -159 were mentioned only by one respondent while they were quite obvious and easy to read. Respondent coded 2Bc3 - male, Bachelor's degree student in the second year of study - Teaching of Fine Arts and Aesthetic education, graduate of non artistic secondary school, mentioned a wide spectrum of associations and meanings in connection

with given stimuli (apart from the book, also with an apple/apples and a plastic box). In relation to apple/apples he associated various experiences, childhood memories and family relations. Qualitative correlations in relation to color and size of presented fruit he symbolized as: the first sin, fertility, gift and Christmas. Out of 143 respondents he was among the six, who connected the picture of a non labeled plastic box with a package of chocolate and hazelnut pralines produced by a famous Italian chocolatier. He was also one of 11 respondents, who with the presented plastic box clearly named much discussed negative phenomenon of plastic waste. According to his own words we are "smothered by it, overuse it, it is stupid how we destroy our planet. An empty plastic box he associated with us being emptyheaded/brainless, enclosed space", and stated symbols: the emptiness of the soul, closeness, uselessness, transparency. Closed book and its cover he associated with war, describing: "bombs falling through the white clouds, no more white clouds on the ground, death, paradox of war lying in a soft bed" (note: photography of closed and open book was actually taken on a bed with white bedding). As a symbol he stated: "mind, wisdom, closed - secrecy, people falling as bombs out of the sky - hard fall, blue color - cold (war)". Open book excluding page numbers he also associated with "dreaming, being draw into the plot, I cannot stop reading, pleasure, creating new thoughts, wide-spread fantasy". As a symbol he stated: open book is like an open mind, being in the middle of the plot - story of life, relaxation". In the last entry of our questionnaire his reaction to the complete set of visual stimuli did not meet our expectations as he did not associate the fairy tale about the Snow White and the Seven Dwarfs, but he wrote an original story reflecting phenomenon of natural and artificial materials with elements of causal inference. Complexity of his answers prompted us to explore and evaluate answers within item correlations of our questionnaire, also with other chosen respondents from this (altogether 11), critically reflecting negative environmental context regarding the plastic box. We wondered whether their critical approach in relation to environmental problem will have equivalent formulation towards the other items. Unfortunately quality and complexity of 2Bc3 reflections in sense of critical thinking and creativity we did not observe in other respondents.

In the group of students attending the first year of Master's degree, only one respondent stated the environmental problem. 1MA4 - female, graduate of Secondary art school, field of study: Teaching of Fine arts in combination with Teaching Technology. In relation with an apple she associated terms such as: autumn, pie, crunchy, having lunch in the canteen and the garden, in relation to the apples she stated: relationship, sunset, small and big, racial diversity, still life. Apple itself represented to her home, two apples random pair. In relation to the plastic box except environmental issue she associated: the container for package free shop, box for trinkets, emptiness, desire or fulfillment. As a symbol she stated: isolation from outer environment. In relation to a closed book she associated: the fall, mystery, puzzle, curiosity, desire to open and read. As a symbol she stated escape from reality. In relation to an open book she associated: sleepless nights, reading at school, childhood, story, smell and rustling of pages. Typical of this respondent was that her statements in relation to associations were exactly adjusted to our assignments - give at least 5 associations. Although she completed the task stating 5 associations, but nothing more nothing less. Also in connection with the display of all pictures, in her answers predominates cognitive aspect stressing identification and a brief remark of progress and change in each picture: one becomes two, multiplicity, growth, organic, society, with no creativity.

In senior group - University of the third age students, the negative effect of plastic waste on our planet was mentioned by respondent coded 3U3V11 - female, graduate of University of agriculture. At the same time she also appreciated practical usage of transparent box and its convenient size. In connection with apple/apples she mentioned relations to variety, color, size, taste and she stated the symbol of forbidden fruit given to Eve in Eden. Picture of a closed book she described as a *notebook*,

associating with: importance to write down tasks, useful for recording recipes and various entries, used as a diary, for her the blue color is calming. The picture of a closed book she sees as a symbol of: useful helper. Open book she associated with: the source of knowledge, novel for pleasure, printed text is nicer than digital text, book as a Bible (she was the only one out of 43 respondents of U3A) source of entertainment. Open book she sees as a symbol of concentrated thoughts. In the last entry of our questionnaire she assessed the plastic dose, its size and usage from the practical point of view. Our second hypotheses expected that Master's degree students - future teachers of Fine arts in connection with the book (either closed or open) will associate iconographical and iconological connections of this object as an attribute to religious and sacred images (i.e. The Bible, The Book of Books, Holy Scripture, The Annunciation, Saint Anne Teaching Virgin Mary etc.) or rather Holy Saints (Evangelists, Saint Paul etc.) and will outnumber Bachelor's degree students.

### Our second hypotheses was not confirmed by the research.

And not only was it not confirmed, but has also brought a few unexpected findings. Sacral context of the book seen as the Bible, out of 143 respondents mentioned only 4, 1 of them at Master's degree. Other terms focusing on symbols and significance of the book only replicate the notions mentioned in relation to associations: scholarship/education/schooling, wisdom, knowledge, cognition rest/relaxation, study/learning, education, secrecy (closed book), curiosity, findings, The Bible (closed book), fun, blue/cold color/cold war, smell of the book/paper, open mind (open book), national book month (open book). Stated symbols in connection with the book and its religious context were appropriate however the numeric data were very surprising. The most common symbol of the book mentioned in different variations scholarship/education/schooling reached only number of 34 (24%) out of 143. Wisdom as a symbol of the book stated 33 respondents (23% out of 143). National book month was remembered only in 1 case in University of the third age students. 6 out of 143 respondents did not mention the symbol related to the book's picture at all (see the table no. 2).

Table 2: Frequented terms – symbol/meaning in connection with the book  $\,$ 

Frequented terms - symbol /meaning in connection with the book	1. ye- ar Bc. 38	2. ye- ar Bc. 16	3. ye- ar Bc. 16	1. ye- ar MA 8	2. ye- ar MA 20	U 3 A 45	Alto- ge- ther
scholarship/ education/ schooling	9	2	1	1	4	17	34/ 24%
wisdom	2	8	3	3	8	9	33/ 23%
knowledge	2	2	6	0	3	5	18/ 13%
cognition	2	0	3	0	3	3	11/8%
rest/relaxation	1	3	3	1	2	1	11/8%
study/learning /education	2	2	1	0	2	4	11/8%
secrecy	1	2	1	0	2	2	8/ 5,6%
curiosity	0	3	0	0	0	2	5/ 3,5%
findings	1	0	1	0	0	2	4/3%
the Bible	0	2	0	0	1	1	4/3%
fun	0	2	0	0	0	1	3/2%
blue/cold color/cold war	0	2	0	0	0	1	3/2%
smell of the book/paper	0	1	0	0	0	1	2/ 1,4%
open mind	1	1	0	0	0	0	2/ 1,4%
national book month	0	0	0	0	0	1	1/ 0,7%
did not state anything	0	1	1	0	0	4	6/4%

Source: Own arrangements

Our third hypotheses expected that among all of the respondents there will be more of those, who in connection with the book will associate their childhood and a book as a source of storytelling than those not associating the context as such. We assumed that the age category of our respondents (98 out of 143) ranges between 19 to 24 and psychological contents such as perceptions, images, memories, knowledge, thoughts and emotions connected with the childhood and fairy tales will be still alive. University of the third age students were expected to have more or less regular contact with the book in relation to their grandchildren - reading fairy tales.

Our third hypotheses did not support our research. Our research file recorded a very low number of preferences associated with the period of childhood and fairy tales. Only 5 respondents associated the book with the fairy tale and only 4 with the childhood. We do not classify this result in any way - in the sense of *good* or *bad*. We realize that the results of our research have influenced many circumstances - both objective and subjective determinants. The open questions in the individual items of our questionnaire naturally generated a situation where our respondents could decide what to mention and what they would not mention. Is it possible that in the case of a direct formulation: do you link the picture of the book to the memory of your childhood and fairy tales? there would be many consistent answers. We emphasize again that our goal was to indirectly detect the use of competences to associate analogies with visual inputs and link them with symbols. Since we will have part of our research sample available in the next academic year, we will create a questionnaire with targeted and direct questions in this regard. We strongly believe that the results will bring further interesting findings.

## 4 Conclusion

Our paper dealt with analyses and interpretation of partial results of our research exploring students competencies - future teachers of Fine arts in area of visual literacy in relation to presumed skills gathered during their pregradual preparation in bachelor's and master's level of study, orientated on their knowledge and skills gathered within theoretical disciplines focused on theory and history of fine arts. Chosen items of anonymous questionnaire as a method and our research tool, took into consideration the fact, that students come from different types of secondary schools, master different skills and knowledge, as well as life experience. Except for full-time students - future teachers of Fine arts, University of the third age students studying: History of Fine arts and Creative art, were also part of our research group. Their statements in relation to the researched issue proved for us to be a relevant comparative material. The results of our research show, that regarding competencies monitored in relation to reaction on a visual stimulus in the picture form of a closed and open book, affiliation to a particular year of study did not play an important role. Age of our respondents, in context of competence reflecting formal, contentual and semantic level of visual impulse based on our assignment accordingly, also proved as a determinant without any greater significance. We found out that our respondents as a whole group operate with a wide spectrum of terms in area of interpretation of aforesaid three aspects of visual phenomenon, but range or rather number of associations and assigned terms regarding respondents as individuals was extremely low. Results of our research are a great impulse for us to create future educational activities even in junior years and implement forms of education focusing on development of interpretational skills in relation to formal contentual and semiotic aspect of visual culture.

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