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**RESPONSE TO AN AMBIGUOUS STIMULUS AND ITS
CULTURAL ASPECTS**

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Abstract

Art therapy has been used in the Czech Republic since the 1950s, and the only thing that has changed over the course of time has been the target group in which art therapy is applied. Art therapy is currently used in three key areas: psychology, social work, and education, or, more precisely, special education. The purpose of the present study is to demonstrate the specific cultural differences during the use of art therapy procedures in the field of education, specifically during work with creativity. The target group for the research consisted of university students from Poland, the Czech Republic, Catalonia, and the Chinese People's Republic. The students were all presented with the same ambiguous impulse, to which they had to respond artistically. The individual artistic responses were then classified into specific categories, and cultural differences were subsequently evaluated and described. The results highlight cultural differences in concepts and processing of non-specific stimulus in groups of future special pedagogues. The strategies for solving of the presented task were different in selected groups, indicating a different level of creativity tendencies.

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Keywords: Ambiguous stimulus, educational process, cultural aspects, cognitive penetrability, artphiletic.



1. Introduction

The use of art therapy as a way of working with clients dates back to the 1950s (Case & Dalley, 2014; Rubin, 2008; Malchiodi, 2012), and the spectrum of target groups has gradually broadened over time. In the Czech Republic, as in the rest of the world, art therapy was formerly used with individuals with a psychiatric diagnosis. The clientele in the field of special education became a target group for art therapy in the second half of the twentieth century. The use of art therapy in education has a fairly long tradition in the Czech Republic (since the 1970s) and can be considered quite specific. The ground-breaking publication “Artefiletika - od výrazu k dialogu ve výchově” (*Artphiletics* from the expression to dialogue in upbringing) by Slavík J (2001) was published at the end of the 1990s. Art therapy and artphiletics began to be distinguished from each other in the Czech Republic. Both disciplines use means that relate to art during work with individuals, but artphiletics plays a role in the educational field, art therapy in the fields of psychology, psychiatry, and social work.

Artphiletics is a discipline that is equivalent to art therapy in one aspect, but differs from it in another. Like art therapy, artphiletics applies the methodological principle of a combination of creative expression (through what are known as expressive games) and investigative reflection and dialogue (what is termed reflective dialogue; see below). However, in contrast to art therapy, artphiletics uses this principle not for therapeutic purposes, but for educational or salutogenic purposes Slavík (1997). Its goal is therefore not to treat, but to contribute to self-awareness and to the development of personality and positive characteristics in the field of education. It can also be used as part of the prevention of social and other pathologies.

The purpose of artphiletics is to provide a person with the opportunity to discover his/her own mental potential and limits and to find his/her place and role in human society, equip him/her with sensitivity to the pain felt by other beings, and prepare him/her for spiritual growth and finding a purpose in life with support from human cultural artefacts, particularly art Slavík (1997). In the field of goals, artphiletics focuses on learning about art in relation to learning about oneself within a culture and on the development of the social competence of a student by means of artistic expression. In the field of methods, artphiletics is based on a combination of artistic expressive games and what is termed a reflective dialogue. This means that artphiletics considers the artistic work of a student to be the first cognitive step, which should be followed by additional steps: reflection and dialogue between students as a source of new knowledge. In this regard, artphiletics is directed towards the development of social and emotional intelligence and towards the cultivation of ethical values of students, as well as having educational goals in the field of art and culture. The above-mentioned approach means that artphiletics is a pedagogic constructivist and didactic style, directing education towards the development of critical thinking or what is known as higher-level thinking (learning to understand one's own spiritual processes and motives).

It is this combination of expression and reflection that distinguishes artphiletics from art education and makes it more like art therapy. However, artphiletics does not have the goal of treating or clarifying the problems of clients and this distinguishes it from art therapy and makes it more like art education. As a result, artphiletics lies somewhere between psychotherapy, art therapy, and education, or even art education. Artphiletics therefore also focuses on the development of creativity.

Carter and Russell (1997) define creativity as a mental process that leads to new solutions, ideas, or products. Dacey and Lennon (1998) mention that Wertheimer, as a founder of Gestalt psychology,

emphasised creativity as a way to a new viewpoint on a whole issue rather than a new arrangement of its parts.

Dacey and Lennon (1998) mention different views of creativity that have changed considerably over time. From the earliest times till about the Renaissance the level of creativity of an individual was considered a result of God's presence in the widest possible sense. Later heredity was emphasised. A fundamental dispute related to the dominant force in creativity emerged in the early 20th century: is it driven by personal traits or education? The current majority opinion is that the level of individual creativity is a cumulative result of biological and psychological factors, and is also influenced by social factors.

Guilford (1967) distinguished between two types of thinking: convergent and divergent. Divergent thinking, which is closely related to creativity, has the following components according to Guilford (1967): fluency (of ideas), flexibility (of thinking), originality, sensitivity (to problems), redefining, or the ability to use previous knowledge in a new way, elaboration, i.e. the creation of functional details during the problem-solving process.

To establish the level of fantasy, we most often use Torrance's figural test of creative thinking (Jurčová, 1984). This test is used for the evaluation of imagination, creativeness, and original ways of solving art tasks. The test is based on Gestalt psychology. The basic piece of knowledge from Gestalt psychology that is closely related to the topic can be defined as follows: incomplete drawings create tension that results in an effort to complete the drawing in the simplest possible way. To create an original response it is necessary to handle the tension that leads towards the simplest solution, and opt for a variant that prolongs the search. Within the Torrance figural test an individual is given an art project in which the most common and seemingly clear solution is "suggested". The tasks require thinking of an original solution to the task, i.e. to overcome the tension leading to the simplest solution. The individual is free to accept the "suggested" solution and make the task unambiguous. Or he/she can put the offered solution aside and seek another, hidden meaning, i.e. may accept the fact that the task processing may be multivalent. In relation to the present research it is useful to define the term 'ambiguous stimulus'. This term became the theoretical basis for the issues researched here.

An ambiguous stimulus is an element of expression that calls for completion into a content whole, which is called a good shape (Slavík, Chrz, & Štech, 2013; Tuck, 2010). For an ambiguous stimulus to be completed, it has to be interpreted according to its content or concept as a part of a certain semantic area. Thus the quality of the response to an ambiguous stimulus is conditioned upon the size of the semantic area, freedom of choice from the area, and the level of one's handling of means of expression (Slavík et al., 2013; Todorovic, 2011).

With the unambiguous response a concept will emerge in the respondent's mind that is supposed to capture the stimulus. However, non-verbal operations are at work at the same time. The stimulus is perceived as an index – part of the whole, leading to a "good shape" (Carlson, 2010). During this completion process simultaneous infralogical and logical operations are taking place (Slavík et al., 2013; Currie & Ravenscroft, 2002)

The tendency to unambiguousness when interpreting expressive artefacts is due to the metaphoric nature of expression. When encountering a metaphor, an individual is led to use and mix the contents of differing past experience. This specific process is called blending (Slavík et al., 2013). Metaphor is not

burdened by a stabilised language convention, and provides space for ambiguous capture, allowing the application of the unique experience of the subject, i.e. also for inter-subjective differences in interpretation (which is known as the interpretation spread) (Slavík et al., 2013).

In connection with the perception of an ambiguous stimulus it is necessary to mention Pylyshyn's term 'cognitive penetrability' (Pylyshyn, 1999) also cited in Currie & Ravenscroft (2002) or Slavík et al. (2013). Pylyshyn (1999) defines it as a level of dependence of the psychological process on conceptual and rational-logical dealing with the content. The possibility of cognitive penetrability is thus due to conscious intention, conceptual rational-logical operations, and expressions with the same content as the vision. The client's product also helps to gain a deeper understanding of the meanings of visual metaphors (Kaplan, 2000). Cognitive penetrability is a precondition for the inter-subjective mediation of ideas in words, or non-verbal expressions (understanding), because it is a precondition for the *intentional expression of ideas*. Art provides one of the possible forms of human interaction. The interaction is based on understanding what the author is telling the audience and the understanding is influenced by a number of factors. One of the factors which have an effect on the level of understanding of an art stimulus is the cultural environment in which the individual lives. Considering the ever more frequent encounters between different cultures, this aspect can be seen as an important one for further research (McNiff, 2009; Robb, 2015).

2. Problem Statement

The goal of this study is to find pathways and demonstrate the potential for the use of an ambiguous impulse during the description of the creativity of an individual.

3. Research Questions

Are there specific cultural differences during the use of art therapy procedures in the field of education, specifically during work with creativity?

4. Purpose of the Study

The aim of the research study was to provide information on trends in creativity in students of special pedagogy and to compare the obtained results. Creativity is seen in special pedagogy as a very important prerequisite for performing this demanding profession. For the research selected groups of students from Poland, the Czech Republic, Catalonia and the People's Republic of China were used. The study also succeeded in testing the above-mentioned technique in several countries. The first phase of the work was a pilot phase that established the potential for working with the technique of an ambiguous impulse in various cultural environments. The different numbers of respondents during this phase of the work are not detrimental, because the purpose of the pilot phase was not to provide generally valid differences for individual cultural environments, but to demonstrate the established differences and provide an opportunity for scientific questions for the purpose of continuing the research. The research on "creativity in the artphiletic process" presented here was based on the principles of the Torrance figural test. The respondents were given the task of utilising an ambiguous impulse as the basis for an artistic response.

5. Research Methods

5.1. Research tool

A creative task was chosen as the research tool, developed in accordance with the principles of Artphiletics (Slavík, 2001), and also according to the principles of the Torrance test of creative thinking (Jurčová, 1984). The task has been used by authors in the Czech Republic for more than nine years. More than 600 responses have been collected. Individual responses have been recorded, and processed using the grounded theory method. The method was used to create content categories into which the responses could be divided, and subsequently other categories were developed (number of details, overall composition, location of the ambiguous stimulus, use of colours...) that can be evaluated, allowing a description of the situation. Using the opportunity presented by the authors' professional activities, the task was given not only to respondents from the Czech Republic, but additionally to respondents in the People's Republic of China (Potmesilova, Sobkova, & Roubalova, 2014), Catalonia and Poland. A qualitative and quantitative methodology was chosen for the implementation of the research. On the basis of practical experience and the above-mentioned theory, the following research question was formulated: Are there culture-based differences in the perception of an ambiguous stimulus? If so, what are they?

5.2. Data Collection Methods

The principal data collection method chosen was the analysis of the results of activity. This method was supported by two more approaches: visible and non-aligned observation, semi-structured interviews. Every respondent received 'the part of the picture shown on the left below, representing a section or a quarter of a larger picture:



Figure 01. Pictures used for research

In addition to this picture, referred to below as the original motif or ambiguous stimulus, every respondent received a blank sheet of white paper (A4), crayons in 24 different colours, and glue.

After the art materials had been handed out, the following instructions were given:

"You have received part of a picture. First of all look at it carefully; you can also turn it. As soon as you think the picture reminds you of anything, try to complete it. Glue the part of the picture to the white paper you have received. You can work with the picture in any way you like. You can use any of the art materials you have been given.

In the Czech Republic the instructions were given in the Czech language. In China, Catalonia, and in Poland the instructions were given in English and translated into the national language.

The respondents were observed as they worked in terms of their handling of the picture and the speed of their solution. The time for the work was adapted to the characteristics of the group of respondents and ranged from 10 minutes to half an hour. The work on the picture was followed by a semi-structured interview, in the context of which the following questions were asked: Is your work the result of an instant idea? Did you know immediately what you would do? Was this idea the only one or did you have more ideas about what to do? If you had more ideas, why did you choose this particular solution? Further questions were asked on the basis of each particular case and situation, developing from the previous conversation. At the end of the session the respondents were shown the whole picture from which the section had been cut out for them to work with. After they had been shown the whole picture, a short discussion usually developed from which further valuable information could be derived.

5.3. Respondents

As already mentioned above, the survey respondents were from four different countries. They were university students aged 20-25 years: Czech Republic (n=600); China (n=120); Catalonia (n=56) and Poland (n=65). Because of the differences in the number of respondents, the other data is always given in percentages. The sample size of the Czech Republic is due to the need for the orientation of the problem. In all four cases, three-quarters of the sample were women.

5.4. Processing Methods and Data Analysis

The data processing was based on the method of systematic storage and fixation of qualitative data. The pictures created by the respondents were stored by date and collection point for further analysis. Notes were taken from the observations and interviews, dated, provided with information about the place of the data collection, and attached to the individual pictures. The analysis of the data obtained from the first, second, and third research sessions was performed first by the method of pattern identification and then by simple listing. Qualitative methods were complemented with descriptive statistics, which is a quantitative method. The method of pattern identification was used to find repeated themes categories which, if found, were recorded. Further pictures were then included under these defined categories. This method was followed by a simple listing method, by means of which we tried to find how often each category occurred and what its proportion in comparison to the other categories was. For the sake of increased transparency, the qualitative methods were complemented with descriptive statistics which organised numbers and percentages relating to the individual categories into tables and diagrams. The simple listing and descriptive statistical methods thus became a significant aid in the interpretation of the qualitative data.

6. Findings

The content categories which were constructed on the basis of the reactions of the respondents from the Czech Republic were gradually upgraded during the research period.

Table 01. Occurrence of categories

	POL %	CAT %	CZ %	PRC%
Nature (a tree, a log, wood, a willow tree by a lake)	37	45	25	45
Underwater world	1	12	15	35
Christmas	9	5	50	0
A figure	9	11	6	0
An original solution	25	16	3	4
An inadequate solution	5	11	1	1
Ship	3	0	0	15
Animal	11	0	0	0
TOTAL	100	100	100	100

(POL – Poland, CAT – Catalonia, CZ – Czech Republic, PRC – People's Republic of *China*)

Table 1 shows that apart from the Czech Republic the most frequently chosen solution was a natural motif. Images from nature did not differ in individual countries. The case was similar with the “Underwater world” motif, although it was almost non-existent in the responses from Poland.

The results of the Christmas category might be somehow surprising. The reason why it was missing from the Chinese responses is quite obvious – because of cultural differences. This category occurs in the Czech Republic in about 50% of cases, and as Advent approaches sometimes in up to 80% of cases, and therefore it is interesting that this category occurred only minimally in Poland and Catalonia.

None of the Chinese respondents used the Figure category. Among the other respondents this choice was similar. It was either part of a face or a complete figure.

Comparing the Original and Inadequate solutions, apart from Poland the occurrence of both limit categories corresponds to the poles of the Gaussian normal distribution curve. A Original response to the ambiguous stimulus was quite common in Poland.

Following the results from the People's Republic of China a Ship category was added, which occurred among several Polish respondents as well.

An Animals category was added because of the responses in Poland, even though it was not recorded in other groups.

Other categories that were evaluated: colour pattern, text (story), picture (story), erger of part of the picture with the art solution, details, overall concept.

The first category was equally present in all four groups, in about 25% of cases. The second category was minimally present in all four groups, in about 1% of cases. The third category was typical only for respondents in the People's Republic of China – in almost 85% of cases. All the respondents justified the response, and added a story as an explanation. Other respondents elsewhere simply commented on what they did and how, and why they responded. They felt no need to justify their solution and incorporate it

into a story. The fourth category was recorded in all groups in about 5% of cases. The need for details was remarkable among the respondents from the People's Republic of China and Poland (80%), and from Catalonia (50%). About 10% of the Czech respondents expressed this need. The overall concept was again remarkable among the respondents from the People's Republic of China and Poland (70-80%). About 40-50% of the Spanish and Czech respondents expressed this need.

7. Conclusion

As stated above, we have worked with ambiguous impulses in the Czech Republic since 2005. The quantity (over 600) of artistic responses enabled the creation of categories of responses which are now stable. In the case of the responses from the People's Republic of China, Catalonia, and Poland, they were initially classified into the "Czech categories". However, it gradually became clear that this was not suitable and that new categories should be established for each country. This became especially clear in the "unique solution" categories – what is unique in one country is a perfectly normal solution in other countries. We were able to commence analysing and subsequently forming conclusions on the basis of this finding.

Several conclusions can be derived from these results. Fundamental differences in the responses to the ambiguous stimulus were recorded in the approach to the activity and in the frequencies of selected categories. As the results are only partial, this claim cannot be generalised. The conclusions will provide a starting point for the next phase of the research, which will take place in Spain and Poland.

7.1. Responses to Ambiguous Stimulus

Major differences were recorded in the approach to the work and presentation of one's solution among the Chinese respondents. Most of the respondents approached the activity very responsibly, as a task entrusted to them. After completing the task the respondents requested information on the correct solution and response. During the presentation they told the story of what they created, how it was made, and why they used such a solution. In contrast, the Polish and Spanish respondents talked about how they rested during the work, considering the job a relaxation technique allowing them to use their imagination. These differences can be attributed to different cultural approaches to education: in the People's Republic of China performance is emphasised, while in Spain more attention is paid to distinctions between individuals.

7.2. Frequencies in selected categories

The number of respondents does not permit generalisation of the results, but following the descriptive statistics two categories show interesting results: Christmas and Original solution. As mentioned earlier, the zero frequency of the Christmas category was only to be expected in the People's Republic of China. As the culture is not based upon Christian traditions, and it is not typical to celebrate Christmas in China, it is logical that the ambiguous stimulus will not lead to such a solution. What was more interesting was the finding that in all three countries built on Christian traditions the frequency differed considerably (Catalunia - 5%, Poland - 9%, and Czechia - 50%). So we can observe and expect major cultural differences within Europe. Večerková E and Frolcová V (2010) mention that the occurrence of a Christmas tree as a

symbol differed to a large extent around Europe. Authors state that Christmas in Spain is mostly associated with a Nativity scene. Both the house and the crib are decorated with green boughs of holly and laurel. It has taken the Christmas tree some time to prevail. It was recorded in Poland at the beginning of the 19th century, but mainly in German households, more specifically among Evangelists. In some areas of Poland a non-deciduous oak twig was used instead for a long time (Večerková and Frolcová, 2010). Christmas trees came to the Czech Republic in the 1820s, but as those authors explain, the tradition became fully developed only a hundred years later. On the basis of this explanation we can clarify the major differences in the Christmas category.

Another major category is the Original solutions. Among the respondents from the Czech Republic and the People's Republic of China the share of Original solutions is between 3 and 4%, which corresponds to one edge of the normal distribution of a given phenomenon in the society. The percentage is higher among the Spanish respondents, and at the same time the occurrence of inadequate solutions is higher. This phenomenon corresponds to the above-mentioned respect for individual differences. Individuals are provided with enough space to experiment and implement their own ideas, which results on the one hand in originality and on the other in inadequate responses. The Polish respondents displayed considerably higher numbers of Original solutions not only in comparison to the number of inadequate responses, but also in relation to the respondents from other countries. There are two explanations: a truly higher inclination towards a more original approach to an ambiguous stimulus, or – considering the specific responses perhaps a more likely explanation – a new content category that is typical of Polish culture. Individual Original solutions largely presented various fairy tales or supernatural or dream beings. Particular uses were markedly different (parts of items of clothing, the face, the body...). Following the markedly different uses, the resulting pictures were included in the Original solutions category. However, it will be this very fact that will become the object of further research.

7.3. Executive Summary

The results presented here are part of a research study that has been in progress since 2012. The objective is to look for connections between the perception of an ambiguous art impulse and possible cultural influences. Because of the authors' professional and research activities, the responses of individuals from the Czech Republic and the People's Republic of China were compared first. The main result of the research was a definition of the influence of cultural differences on how an ambiguous art stimulus was dealt with. As mentioned above, apart from different frequencies in the Christmas category, which were to be expected, considering the Christian roots of European culture, there were no major differences in the responses. But there was one fundamental difference: the approach taken to the work. Following the results and other activities of the authors two other countries were selected: Spain and Poland. The above-described pilot project was implemented in these two countries, with the objective being to re-evaluate the content categories if need be, and to become familiar with possible cultural differences prior to the actual research. For this reason there is a disproportion in the numbers of respondents, and we are aware of it.

The results of this pilot hint that there are cultural differences in responses to an ambiguous stimulus, not just between Asian and European environments, but also within the European area. On the basis of the discussions with the respondents it can be stated that the major differences are related to the cultural

approach to the educational process. In both Catalonia and Poland a clearly more pronounced tendency towards fantasy and play was recorded, with a less timid approach to an ambiguous stimulus. Striving to "perform the task correctly" was apparent in China, where the students asked for an evaluation of whether their response had been correct or not.

The next steps of the research will be aimed at a more detailed and accurate analysis of the responses in Catalonia and Poland. In Poland we will focus on the re-evaluation of the content categories, because the responses that seem Original when compared to other countries are not necessarily original in the Polish environment (see the higher frequency of Original solutions).

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