Research of Nonverbal Creativity of Pedagogical Workers in Czech Republic

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Abstract

Creativity is one of the most important aspects at elementary schools. Partial results of a transversal research of creative abilities at the Czech schools are listed below. 1,500 respondents participated in this research – pupils as well as teachers and future teachers, students of the Faculty of Education. This research was conducted within project Nonverbal Creativity in Technical Education. This project takes place owing to a grant from GAČR 406/07/0109. The principal objective a transversal research of the level of creative abilities in pupils and pedagogical workers, formulating the principles of creative teaching including a historical view. Other objectives include evaluation of the current education schemes and the General Education Programme in terms of creative work and development of a scheme for creative technical works for primary schools.

Introduction

Present process of education can be considered to be a very complex one which is being implemented under conditions of mutual co-ordination and conditionality of objective as well as subjective factors. Approach to the educational process as well as relations between subjects and objects of the educational process are being influenced by development of human society. Personal characteristics of the pupil and teacher are changing. This potential is adapting to conditions of the present as well as the future human society. Non-verbal creativity forms one of the most important aspects of approach to this educational process.

Every teacher and every pupil can be creative, however, in different intensity and extent. The pedagogues should be aware of the fact that creativity cannot be observed only in relation to intellectual abilities. High intelligence does not always imply extensive creative skills. Creativity is a complex phenomenon clarification of which is hidden behind many unanswered questions. Research of creativity has been in focus of many pedagogues all around the world (Torrance, E.P.; Jurčová, M; Kožuchová, M.; Urban, K.K.; Awamleh, H.; Al Farah, Y.; El-Zraigat, I.; Novotny, J; and others).

The teachers are frequently asking if one can be learned how to be creative. It is possible to formulate on the basis of the contemporary state of knowledge that teaching can influence creativity of the pupils mainly by being more relaxed and providing conditions for stimulation of the creative abilities. However, only a creative teacher can develop creativity in his/her pupils.
Such teacher knows that creativity is a process by means of which the children express their ideas, emotions and views in order to reach some level of satisfaction.

In terms of the project Non-verbal creativity in Technical Education (GAČR 406/07/0109) a transversal research of creative abilities in children and pedagogues at the elementary schools. Aim of this research was to chart level of technical imagination (creativity) by means of the Pattern assembly test measuring so called practical intelligence. Extent of creative thinking was analyzed by Torrance test of creative thinking.

Research Of Non-Verbal Creative Abilities

Organization of research and properties of the analyzed sample

The research was conducted at the elementary schools in three regions of the Czech Republic. 603 pupils of the first grade of five elementary schools, pupils of the second grades of the elementary schools, students of pedagogy, teachers of the first grade and pedagogues of leisure time participated in the research. In general, approximately 1,500 subjects were analyzed.

Schedule of implementation

Field research lasted for two years. During that time period, subjects were being given test of creativity, course of the research was monitored and obtained data was kept. The obtained data was evaluated and statistically processed.

Research tools

Standardized test were used for research of creative abilities - Torrance test of creative thinking and Pattern assembly test to evaluate level of technical imagination (Honzíková, J.; 2008). The research was documented, tests were evaluated according to the manual and results were statistically processed. Analysis of the school environment was carried out as well.

Questions and hypothesis of the research

For the whole research several questions were stated. There was a question whether there are creative teachers at our schools and what is the level of creative skills in students of pedagogics. We wanted to know if there is a higher level of creative thinking or technical imagination in students and teachers of faculties of pedagogy or whether creative thinking and technical imagination is higher in school teachers or students of the faculties of education. One of the main questions of the research was formulated on the basis of the statements mentioned above:
Are there any significant differences in results achieved through both of the tests Pattern assembly test (TST) and Torrance test of creative thinking – in the elementary schools´ teachers?

Following hypotheses were stated:
Hₐ: There is a difference between the university groups in results achieved through the test of technical imagination (TST).
H₋: There is a difference between the university groups in results achieved through the Torrance test of creative thinking.
H₃: There is a difference between the university groups in results achieved through both tests.

Implementation of research

All teachers were assessed with both types of tests. Results were statistically evaluated. Spearman´s correlation coefficient was used for verification of hypotheses Hₐ₋₃. Significances p shown in Table 1 were computed in Statistica 7.1. Significance level p=0.05 was used for further testing.

Conclusion: there is a significant difference in results reached through both tests among the university groups. Since none of the computed correlations was significant, neither relation nor similarities in results were observed.

Table 1 – Significance levels p in Test of technical imagination (TST) and Torrance tests (ped.)

<table>
<thead>
<tr>
<th>Proměnná</th>
<th>Torr. test</th>
<th>TST</th>
<th>Torr. test</th>
<th>TST</th>
<th>Torr. test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TST</td>
<td>0.11679</td>
<td>-0.008381</td>
<td>0.22337</td>
<td>-0.17348</td>
<td>0.04202</td>
</tr>
<tr>
<td>Torr. test</td>
<td>1.00000</td>
<td>-0.127424</td>
<td>-0.33947</td>
<td>0.01772</td>
<td>0.03014</td>
</tr>
<tr>
<td>TST</td>
<td>-0.12742</td>
<td>1.00000</td>
<td>-0.18962</td>
<td>-0.31893</td>
<td>-0.46943</td>
</tr>
<tr>
<td>Torr. test</td>
<td>-0.33947</td>
<td>-0.18962</td>
<td>1.00000</td>
<td>-0.04000</td>
<td>0.24262</td>
</tr>
<tr>
<td>TST</td>
<td>0.01772</td>
<td>-0.31893</td>
<td>-0.04000</td>
<td>1.00000</td>
<td>0.03861</td>
</tr>
<tr>
<td>Torr. test</td>
<td>0.03014</td>
<td>-0.46943</td>
<td>0.24262</td>
<td>0.03861</td>
<td>1.00000</td>
</tr>
</tbody>
</table>
Interpretation Of Results

Teachers of the first grade of primary schools reached 50 % of average values in Test of technical imagination which is the highest count of all the respondents. Further, they reached above-average score in Torrance test of creative thinking in 61.4 % and they reached the lowest count in below the average results of both tests (13.6 % and 18.1 %). If we were to characterize this group, it would be appropriate to state that level of technical creativity surprisingly reaches the worst twelfth position according to the mean value, but the teachers also reach average values which are frequently represented in the group. The same respondents reach better results in the Torrance test (above the average + average = 81 %, the third position according to the reached mean value) than Test of technical imagination and only ¼ of persons from this group reached below the average results.

Group of pedagogues of free time reached the most balanced results in the balanced average and above the average results in both of the test. This group placed on the first position in the Torrance test according to the mean value and they also reached the most significant of above the average results in this test (67.7 %). It is intriguing that results are of average or below the average values in Test of technical imagination (the tenth position according to the mean value) whereas they are significantly above average in the Torrance test. Below the average values
were reached by similar number of respondents in both tests (21 % and 25 %). Group of students of pedagogy of free time is in its results similar to the group of teachers from the first grade of primary schools.

Group of students of pedagogy with qualification in technical education is not similar to any of the previous groups. Members of this group reached high count of above the average results in Test of technical imagination (62.5 %), although they placed on the sixth position according to the mean value. The also reached the highest count of below the average results in the Torrance test (56.3 %) and they placed on the second place accord to the mean value.

Discussion And Recommendation

Pedagogical creativity is displayed in creative work with educational potential. If the pupils leaving schools have to be not only educated but also creative, it is the teacher who must be creative in the first place. Many authors have published various requirements on work of a creative teacher. Enough space for creative work of pupils, support, appreciation of their ideas and thoughts, enough time for thinking, producing ideas and development of fantasy, positive approach to the pupils are the most important aspects. Furthermore, the teacher must be flexible enough to see things in a different light, to be able to react to changes, to get to know new things and not to miss sense of humor and playfulness since games and toys are important means of education.

Methodology of development of children´s creativity in the process of education was designed according to the research mentioned above

The methodology of creativity development in the teaching process forms a system which should be supplemented continuously. In practice it means to learn not only the theory of creative teaching but also as many methods and techniques as possible for creativity development and, at the same time, be able to apply these techniques and methods systematically, thoughtfully and professionally in teaching. The creative teaching methods concern the various areas of creativity development, develop different abilities, and make use of different means and techniques. There are many views as how to classify the creativity development methods and different authors classify them from different points of view.

The project also results in recommendations to teachers as to how release creative abilities in children. But teacher should not only use different methods in creativity development but also foster such qualities in children that are required for adaptation in new conditions or situations and that are mostly formed of divergent thinking. And how should teachers foster qualities so necessary for creative ability development in their pupils? Pupils’ creativity development in the education process requires that teachers apply the following approaches as formulated in a well-arranged manner by Lokšová, Lokša (2001), in their classes:

- Motivate pupils so that they are pleased and happy to have understood the taught matter;
- Develop knowledge in pupils within meaningful structures;
• Support the development of independence, self-reflection and responsibility in pupils;
• Support the development of self-assurance and self-confidence in pupils;
• Support willingness in pupils to risk in solving tasks;
• Support the development of individual talents in pupils;
• Encourage pupils to produce ideas, inspiration, and ask questions;
• Generate a creative climate in classrooms where humour and laughter apply and the teacher is a helper as well as a superior to pupils.

In essence, when implementing the theoretical conception of creative teaching in school’s practice, it is possible to follow from transforming retroactive education to proactive, while the term retroactive education is understood to be such education approach in which the teacher defines a particular activity for pupils aiming to make children busy in an unspecified manner. Thus focused education is deemed to be rather against creativity development. Proactive education, on the other hand, represents the contrary of the previous education approach – the teacher never tires of inventing new games and assignments, and chooses such methods and procedures so as to continuously develop the pupils optimally in compliance with the education objectives. If the education of an individual should develop his/her creative abilities, he/she must be continuously put into new situations unknown to him/her before (Lokšová, Lokša, 2001).

Conclusion

Our research demonstrated that the pedagogical community in the Czech Republic displays certain satisfactory level of creative skills. Pedagogical creativity is expressed most of all in creative work with educational potential. It is not an easy task for teachers to be continuously introducing new and new creative activities for their pupils. They must be creative because only creative teachers are able to lead their pupils to creativity and teach them how to work in this manner. Therefore, they should never stop developing their own creativity, work with alternative approaches in classes which would be interesting not only for the pupils but for them as well.

References

1. AWAMLEH, H.; AL FARAH, Y.; EL-ZRAIGAT, I. (2012). The Level of Creative Abilities Dimensions According to Torrance Formal Test (B) and Their Relationship with Some Variables (Sex, Age, GPA). International Education Studies; Vol.5, No.6. Published by Canadien Center of Science and Education.

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