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**EFFECTS OF TEACHER EXPECTATIONS ON THE DEVELOPMENT  
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## EFFECTS OF TEACHER EXPECTATIONS ON THE DEVELOPMENT OF VERBAL CREATIVITY IN CHILDHOOD EDUCATION

### EFFECTOS DE LAS EXPECTATIVAS DOCENTES SOBRE EL DESARROLLO DE LA CREATIVIDAD VERBAL EN LA EDUCACIÓN INFANTIL

Clemente Franco Justo<sup>1</sup>

**Abstract:** *In this study, we have assessed the effect that teachers' positive expectations may have on their student's verbal creativity. To this end, we have worked with an experimental teacher who holds high expectations of the creativity of students, and a control teacher, where this was not the case and whose positive, favourable expectations of pupils were not high. The statistical analyses carried out have showed a significant increase in the verbal creativity variables evaluated (fluency, flexibility and originality) in the experimental group in comparison to the scores of the control group.*

**Key words:** VERBAL CREATIVITY, CHILDHOOD EDUCATION, PYGMALION EFFECT

**Resumen:** *En este estudio se evaluó el efecto que una expectativa positiva y favorable por parte del docente podía tener sobre los niveles de creatividad verbal de sus estudiantes. Para ello se contó con la participación de un grupo experimental en el cual se trató de implantar una alta expectativa sobre los niveles de creatividad de sus alumnos, y un grupo control donde no se creó dicha expectativa positiva. Los análisis estadísticos realizados mostraron un incremento significativo en el grupo experimental en las diferentes variables de creatividad verbal evaluadas (fluidez, flexibilidad y originalidad), al comparar sus puntuaciones con las del grupo control.*

**Palabras clave:** CREATIVIDAD VERBAL, EDUCACIÓN INFANTIL, EFECTO PIGMALION.

## 1. Introduction

In 1968 Rosenthal and Jacobson published the results of a study called "Pygmalion in the Classroom", in which a group of primary school teachers were told that their pupils had been assessed using an intelligence test. The authors selected 20% of the pupils in each class at random, explaining to their teachers that they were the most intelligent pupils in the group. It was therefore expected that the pupils attain higher academic results than their classmates, whose scores were noticeably lower. At the end of the academic year, Rosenthal and Jacobson assessed all the pupils once again using the same intelligence test, only to find that those who had been randomly catalogued as being more intelligent had in fact improved both their score in this test as well as in their general academic results with respect to other

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pupils. Since then, this process is known either as the Pygmalion Effect, Self-realisation Prophecy or Self-fulfilled Prophecy. This is due to the fact that the beliefs and expectations held of an individual, affect his behaviour to such an extent that these expectations are actually fulfilled. Focusing on the educational aspect, this means that a teacher's expectations determine to a great extent, their pupils' behaviour in the classroom.

The results obtained from this study, have highlighted the importance of teachers' expectations with regard to the development of their pupils' capacities and potential, arriving at the conclusion that a teacher's attitude to the behaviour of pupils could significantly influence the pupils' learning. The relevance of this study in fact, lies in demonstrating that the development of cognitive capacity is not sufficient, but that it is also necessary to consider the emotional and affective factors of pupils in order to develop their full potential.

The school system has a great influence on a child's creative expression, as it may either stimulate or inhibit, depending on the attitudes and expectations that teachers place on the creative behaviour of their pupils.

Thus, the working hypothesis that guides this research is:

Those students, whose teachers have positive expectations regarding their creative capacity, will exhibit a greater development in verbal creativity, compared with children whose teachers lack positive expectations of their creative capacity.

### **1.1. Review of Literature**

Other studies have been carried out to compare the effect that a teacher's expectations have on their pupils' achievement (Brophy, 1983; Rosenthal & Rubin, 1978). Teachers who acknowledge even the smallest achievements and successes, and who help pupils turn their errors into opportunities, provoke better results by motivating pupils at all times to discover their own potential. Teachers who highlight errors, flaws and deficiencies, transmit a lack of confidence in pupils' ability, by undermining self-esteem with words and gestures of disapproval.

According to Rogers (1993), people allow themselves to be guided by their expectations, considering these to be a highly reliable source from which one can attribute meaning to one's experiences. Rogers also ascertained how a teachers' interest in their work increases and in subsequence, how interest in their students improves, bettering the preparation of their lessons, when dealing with pupils who have a greater capacity to learn.

The relevance of teachers' expectations with respect to the behaviour of their pupils is particularly significant when referring to Childhood stages in Education, as this is when the child can be most easily influenced and is excessively dependent on the attitude and approval of their teachers. In this respect, Rogers (1993) found that the younger the pupil is, the more susceptible they are to the influence of a teacher's behaviour towards them.

Experts (Baer, 1996; Prieto, Ferrando, Ferrándiz, Bermejo & Sánchez. 2006; Strom & Strom 2002) have considered childhood education as the most important stage in the life of an individual to stimulate and bring out his/her creative capacity. For this reason, it is of utmost importance for teachers to create a positive learning environment. This environment should encourage and motivate the child to learn and to make sense of what he/she is learning as well as to overcome obstacles and to develop his/her full potential and capabilities.

Evidence shows that, when a child feels accepted and respected, they progressively develop the ability to express feelings, emotions and thoughts, and feel confident to create and develop a free, flexible and open line of thought that leads to knowledge, experimentation and discovery (Collins & Amabile, 1999; Cropley, 1992; Hennesey, Amabile and Martinage, 1989).

Rogers (1993) states that there are two basic conditions which are necessary to promote the development of creativity:

1. Psychological safety: which refers to three aspects:
  - a. Unconditional acceptance of pupils
  - b. Authenticity
  - c. Empathetic understanding
2. Psychological freedom: this refers to the liberty of the pupils to express themselves, feel and think; a freedom which involves responsibility and encourages the development of a focus of internal evaluation.

Likewise for Menchen (1999), the creative dimension is one of the most relevant vectors in Childhood Education, as he considers that it synthesizes all dimensions and expresses the aspiration to develop well-rounded individuals.

Similarly Madrid (2003) has stated that the brain, thanks to its plasticity, has the faculty to adapt flexibly to environmental circumstances and to respond to the demands of our surroundings. For this reason it is fundamental to develop this capacity in order to be able to

respond to change. It is necessary to develop the critical qualities of the human mind, and this capacity therefore needs to be worked on, mainly during the Childhood stage in Education, when cerebral plasticity is at its highest (Castaño, 2002; Monville, 2001; Retana, Acevedo, Lef, Arias and Salazar, 2004). For Madrid, the Childhood stage in Education shows great potential in prolonging creative spontaneity of the child to the full, so that a rich source of creative knowledge is acquired, which will be the basis of creative capacity.

Santrock (2003) has established that it is necessary for teachers to rely on a child's natural curiosity to prevent the deterioration of creative capacity. To do this, teachers should provide pupils with exercises and activities that will motivate them to find perceptive solutions to problems, allowing the children to choose their own areas of interest, which will in turn support their decisions.

Seltzer and Bertley (1999) establish the following fundamental characteristics, which are inherent in education centres that encourage creativity among pupils:

- Trust: relationships based on safety and trust are essential in an environment where people feel prepared to confront risks and to learn from failure.
- Freedom of action: only when pupils are allowed to make their own decisions with regard to what they wish to do and how they intend to do it, will a creative application of knowledge and ability become possible.

## **2. Methodology**

### **2.1 Subjects**

A total of 40 boys and girls attending two state schools in the Almería (Spain) took part in our research. Twenty-one (21) were part of the experimental group (43% boys and 57% girls), and the remaining 19 made up the control group (37% boys and 63% girls). At the start of this study, the children's ages ranged from 4 years, 10 months old to 5 years, 10 months old, with no significant differences regarding this variable between the groups ( $F=2.204$ ;  $p=0.12$ ).

### **2.2. Design**

To analyse the effects of teachers' expectations (independent variable) on the levels of verbal creativity (dependent variable), a quasi-experimental design was used with pre-test

and post-test measurements, administered to one experimental and one control group. The inclusion of schools in one group or the other was carried out randomly.

Likewise a triple blind technique was applied: the children had not been told previously about the treatment, none of the teachers knew the objective of the study (being unaware of the existence of another study group) and the evaluators assigned to correct the questionnaires were not informed whether the subjects belonged to the experimental group or to the control group.

### **2.3. Instruments**

In order to assess verbal creativity, the Verbal Battery of the Creative Thought Test by Torrance (1974) was used, which employs six exercises based on words to evaluate individuals in three main categories related to creativity: fluency (the capacity of the subject to express a great number of ideas through words), flexibility (the capacity to move from one approach to another, from one line of thought to another), and originality (the capacity to contribute ideas or solutions that are not immediately apparent, common or established). As Torrance suggests, Form A (see annex) for the pre-test phase and Form B for the post-test phase were used.

### **2.4. Procedure**

Firstly the pre-test assessment was carried out. This consisted of an initial measuring of the levels of verbal creativity of the individuals from both groups at the start, the Creative Thinking Test (Form A) being given individually to the children during school hours.

To control the possible effect that the assessor variable might have on the results obtained two weeks previous to this first assessment, the assessors (who had already been trained to administer these tests) joined the classes they were about to evaluate. They were introduced as trainee teachers, who would only come into contact with the children during this period. An atmosphere of trust, affection and acceptance is needed to assess creativity, since an atmosphere of evaluation would inhibit creative responses (Antonietti, 2000; Marin, 1980).

When the pre-test was concluded, the researchers went on to create high expectations in the teacher of the experimental group regarding levels of verbal creativity of her pupils. For this purpose, the teacher was told that of all the groups in which assessment had taken place, pupils in her group had produced the highest scores in the three verbal creativity variable categories evaluated. The teacher then attended a brief six-hour seminar in which they were

led to believe that the researchers were providing her with a series of methodological tools needed to stimulate and encourage the creative potential of her pupils. In this seminar the researchers worked only on general aspects of creativity, since the objective was to reaffirm the expectations previously created in the teacher with regard to the high level of creativity that her pupils had shown. The seminar was divided into four 90-minute sessions in which the following aspects were examined:

Session 1. General aspects of creativity

- Conceptual framework of creativity
- Conditions leading to creativity
- Focus on the concept of creativity

Session 2. Infancy and creativity

- Characteristics of creativity in Childhood Education

Session 3. Creativity in an educational context

- Creativity and education
- Psychological climate for the development of creativity in the classroom
- The stimulation of creativity within the educational institution
- Factors that encourage creativity
- Factors that inhibit creativity

Session 4. The stimulation of creativity

- Methods to develop creative potential

Conversely, the teacher of the control group was not informed of the scores in the different levels of verbal creativity attained by her pupils, so that no expectations were created in her with regard to their creative levels.

One month before the end of the academic year, those in charge of administering the evaluation tests, proceeded in carrying out the post-test measurement, consisting of the individual application of the Creative Thinking Test Form B within school hours.



The teachers participating in this study were informed of the objective and procedure of the research after its completion, and gave their consent to its publication.

### **3. Results**

In order to analyse the effects that teacher expectations might have on levels of verbal creativity in pupils, a comparison of averages was carried out using a Covariance Analysis.

This Covariance Analysis was selected as a technique to analyse the data obtained, as it is recommended for small groups of individuals or when natural groups are under examination (García Jiménez, 1992).

A Covariance Analysis of each variable in the post-test stage was carried out, taking as co varied its equivalent in the pre-test stage, as this would show the previous levels of each variable before the treatment was applied. In this way, we sought to eliminate the influence that previous creativity levels may have on post-test results.

A Variance Analysis of each variable in the pre-test was also carried out, in order to rule out the presence of significant initial differences between the control group and the experimental group.

**Table I**  
**Average scores and typical deviations of the verbal flexibility variable**

Group	Pre-test Average	Pre-test typical deviation	Post-test average	Post-test typical deviation
Control	13.62	2.56	14.87	3.09
Experimental	14.11	3.16	20.73	4.56

The results of The Variance Analysis pre-test scores carried out for verbal flexibility do not show any previous significant differences from the start between the control group and the experimental group ( $F=1.654$ ;  $p=0.242$ ). However, the Covariance Analysis results of the post-test differences, using the pre-test scores as co varied, were in fact significant ( $F=6.452$ ;  $p=0.09$ ) in favour of the experimental group. When analysing the data of this group at two points in the measurement stage, significant differences were found between the pre-test and

post-test scores for this variable. ( $t=-9.32$ ;  $p<0.001$ ), whilst these differences do not appear in the control group between the pre-test and post-test measurements ( $t=-1.46$ ;  $p>0.05$ ).

**Table II**  
**Average scores and typical deviations of variable verbal fluency**

Group	Pre-test average	Pre-test typical deviation	Post-test average	Post-test typical deviation
Control	19.36	4.12	20.54	4.52
Experimental	20.12	4.93	33.84	5.12

With regard to the verbal fluency variable, the Variance Analysis of the pre-test scores shows that there are no differences between the control group and the experimental group ( $F=0.846$ ;  $p=0.436$ ). The Covariance Analysis does however show significant differences for this variable in favour of the experimental group ( $F=7.45$ ;  $p=0.001$ ). When analysing the data at two points from the experimental group during the measurement stage, significant differences were found between the pre-test and the post-test scores for this variable ( $t=-5.93$ ;  $p<0.001$ ). Such differences are not present in the control group between the pre-test and post-test measurements ( $t=-1.36$ ;  $p>0.05$ ).

**Table III**  
**Average scores and typical deviations of the verbal originality variable**

Group	Pre-test average	Pre-test typical deviation	Post-test average	Post-test typical deviation
Control	19.53	3.31	20.75	4.03
Experimental	21.32	4.27	38.43	5.28

Finally, the Variance Analysis of the pre-test scores of the verbal originality variable did not show significant differences either between the control group and the experimental group ( $F=1.89$ ;  $p=0.215$ ). However, significant differences did appear in this variable when a Covariance Analysis of post-test differences was carried out ( $F=9.362$ ;  $p<0.05$ ) in favour of the experimental group. When analysing the data of this group at two points of the

measurement stage, significant differences were found between the pre-test and post-test scores for this variable. ( $t=-12.72$ ;  $p<0.001$ ), whilst these differences did not appear in the control group between the pre-test and post-test measurements ( $t=-2.09$ ;  $p>0.01$ ).

### **3. Discussion**

In the light of the results obtained from our investigation, we can conclude that the development of high teaching expectations with referring to the levels of creativity in pupils, achieved a significant increase in the expression of verbal creativity of children, thus confirming the hypothesis of the research carried out.

The data obtained following the statistical analyses carried out on the variables evaluated, demonstrates that the children from the experimental group showed a significantly higher increase compared to the control group, in verbal fluency, flexibility and originality variables.

At a glance, we can observe much higher average scores in the experimental group than in the control group with regard to the three variables assessed in the post-test evaluation.

An improvement in the pre-test post-test scores of the three variables studied can be observed, both in the control group and in the experimental group. However, whilst this improvement is not significant in the control group, the higher post-test scores in comparison with the pre-test results are indeed significant within the experimental group in the three verbal creativity variables studied. Therefore, whilst the small improvement attained by the control group may be attributed to the mere passing of time and to an increase in the maturity of the pupils during this period, the improvement observed in the experimental group cannot be due solely to maturity, but instead, a product of the teacher's modified expectations regarding the pupils' creativity.

Although the sample examined in the present study is very small, thus limiting the generalisation of the results obtained, making it is difficult to establish a comparison with other studies, due to different intervention procedures utilised and the diversity of the individuals participating. We can observe, with due caution as required by this type of analysis, that these results are verified by other studies on the influence of teachers' expectations regarding the capability and performance of pupils (Brophy, 1983; Rosenthal & Rubin, 1978).

#### **4. Conclusions and Recommendations**

Teachers should design activities that will allow children to come up with new and original contributions and that will stimulate creative, divergent thinking, since the essence of creative teaching resides in permitting each pupil to contribute something personal, valuable and innovative to the learning process.

As Csikszentmihalyi (1996) has stated, teachers should value the free personal expression of each and everyone of their pupils, providing them with unlimited opportunities to express themselves, so that they may become accustomed to facing future events and situations with a favourable disposition to innovation. At the same time, a teacher should stimulate mental flexibility and agility and help pupils become accustomed to facing challenging situations with a variety of possible solutions.

Nowadays, it is vital for human beings to possess a series of skills and resources that will allow them to move forward in a changing and continually demanding world confronting them with a number of new situations, each different from the another. It is obvious that without creative and innovative individuals, societies will not be able to move forward or progress. It is therefore, vital to develop and encourage as early as possible, capacities and skills, such as fluidity of ideas, mental flexibility, analysis capacity and open-mindedness, in an aim to educate children who will be capable of adapting rapidly to a highly demanding, changing world and society. Moreover, various longitudinal studies, like those of Nickerson (1999) and Plucker and Renzulli (1999), have highlighted the fact that, implanting creativity in the period of childhood education, has a great influence on creativity levels that will be come apparent at levels of higher educational.

Likewise, it is convenient to start creative education as soon as possible. Accordingly, it should be encouraged from early school years, as at this stage attempts at being creative are innumerable.

In today's society, it is vital to motivate and train teachers so that they regard teaching as a creative process, not only for their pupils, but also for themselves. It is vital to make a firm commitment and to have a firm resolution to encourage and cultivate creative potential of each and every pupil, as developing the creativity of pupils should be one of the main objectives of education.

It has been demonstrated that the environment generated in the teaching-learning process greatly influences the creativity of the pupils. A free and open environment is usually

considered necessary to facilitate creativity in the classroom. This atmosphere is defined as one that encourages children to express their own ideas and emotions and to feel secure.

The environment should not be authoritarian, although not totally permissive. A certain structure and framework are required to put boundaries on the learning situation and to allow the learning process to progress adequately. However, it is important that children be permitted to act freely, without fear of making mistakes, as it has been seen that their behaviour changes remarkably if they are put under pressure to behave according to a strict way of conduct. Thus, for example, differences have been observed when carrying out creativity tests, depending on the openness and freedom of the school environment, the results being directly related to the openness of the environment at school (Pagano, 1979).

Various authors and studies insist that the defining characteristic of creative children lies in their self-confidence, imagination and perseverance in the face of obstacles. Amongst these authors, Maslow (2001) and Araya (2005) can be singled out. For the first, a creative attitude requires strength and self-confidence, whilst the second, considers that fear and weakness can drive creativity away or make it more difficult to find.

On one hand, it has been verified that the type of interaction established by the teacher, strongly determines what occurs as a response on the part of the pupils. It has been observed that when the teacher tends to be domineering, irritable, dour, impersonal and formal, the atmosphere in the classroom tends to be tense, competitive, with little communication and the pupils behave passively, responding only when required of them. On the other hand, when the teacher is dynamic, cheerful, flexible and relaxed, and when interaction with pupils is more personal, the affective atmosphere in class is cheerful and stimulating, and there is great teacher-pupil communication. Likewise it has been observed that pupils in these circumstances show initiative, flexibility, self-confidence, creativity and enthusiasm for learning (Arancibia, 1986).

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## **Annex**

### **Torrance test of creativity thinking. Verbal tests, forms A and B**

Activities 1, 2 & 3. Asking and guessing: the first three activities are based on a picture (different in Form A and B), giving children the opportunity to ask questions about what they can see, to find out more about the picture: activity 1 – asking, (guessing possible reasons); activity 2 – (guessing possible causes); and activity 3 – guessing the consequences. There is a five-minute time limit for each activity.

Activity 4 – Improving a toy: in this activity the subject is asked ideas for bettering a toy (an elephant in Form A, and a monkey in Form B), eliciting possible changes that could be made in order to make the toy more attractive and fun to play with. The time limit is five minutes for each activity.

Activity 5 – Unusual uses: the proposition of this activity is to see whether the subject is able to imagine different uses for cardboard boxes (Form A) or empty tin cans (Form B) than usual. There is a ten-minute time limit.

Activity 6 – Let's just suppose: this activity presents an improbable situation (strings in an A-shape hanging from the clouds, in Form A, and thick cloud which leaves only a pair of feet visible, en Form B). The subject should imagine possible conclusions might be drawn from this. The subject has a maximum of five minutes to carry out this test.