

# Comparative Study for Cognitive development between Grade 4 Students who are Learning According to Story Method and who are Learning According to a Lecturing Method

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**Abstract-** This paper studies the effect of telling a story while teaching the lesson “Photosynthesis” for students in grade 4 at Safir High School. The study shows how stories increase cognitive development, and that the positive words give you what you expect. Two groups of grade 4 (sections A and B) were taught in two different ways and examined after being learned. The resulting cases ensure the effect of the story while explaining the lesson. The students who had the story strategy 59% took above average (4.5) while the other group 19 % took above average.

**Index Terms-** Cognitive Development: it is related to remembering, thinking and problem solving., Lecturing Method: pedagogy in teaching, were the students are the center of the class., Story Method: teaching students by telling stories.

## I. INTRODUCTION

Doctors realized that any bad word has a very strong power and it may lead the listener to illness, psychological and neurological diseases, gloominess, and disturbances that may lead to death.

Brown (2013) says: “Words. So powerful. They can crush a heart, or heal it. They can shame a soul, or liberate it. They can shatter dreams, or energize them. They can obstruct connection, or invite it. They can create defenses, or melt them. We have to use words wisely”.

In this research, we will show the power of the word on human being specifically, the effect of applying the “story” strategy to longer the information in the memory.

The vast majority of people put expectations for what will happen when they are speaking with someone. Let us propose that a teacher in the rest is going to ask a student to eat his sandwich, where the student seems obviously that he has a sandwich and he didn’t eat it.

The expectations would be: The student will eat his sandwich. What if .....

- He doesn’t like what his mother prepared for him
- He remembered a video he watched about a poor boy and don’t have money to eat.
- He saw his friend not having food.

- He already knew that he took a low grade on a subject in an exam.
- He feels shy eating in front of people.
- He isn’t hungry.
- He wants to get in shape.
- He doesn’t love you.
- He is fasting.
- He is challenging with his friend who can endure for a specific time without eating.

But what if the teacher asked him by saying: “ Here you are, little amazing student. Do you know that eating breakfast every morning make us powerful?”

## Sociology and the neuroscience divide

Neuroscience is based on evolutionary thinking which, to them, is just another arbitrary narrative. Much of brain science, however, confirms the importance of narrative to the coherence of self and its tendency to create events as meaningful (LeDoux et al. 2003). We can hardly discard narratives because they tell a story. The knowledge one could learn about the brain without evolutionary thinking is so limited that it would be of little use to anyone. Evolution informs our thinking of the brain.

## Some generalizations about the emotional brain:

Carter (1999) brain cells that are not used die. “Use it or lose it” is as true in childhood as it is in older age; the brain has immense flexibility.

## Neuroscience and unconscious emotion

1. More than 95% of what the brain does is below consciousness and shapes conscious thought. (Lakoff and Johnson 1999)
2. Emotions are objective and public; they occur in the face, posture, voice, and specific behaviors. (Damasio, 2003)
3. Emotions engage heart rates, blood pressure, skin conductance, and endocrine response. Damasio(2003)
4. Unconscious system causes the feelings (like fear) before we even know that we are in danger. (LeDoux, 1996)
5. Evolution came up with emotions first and feelings later (Damasio 2003).

## II. HYPOTHESIS

- Telling stories increase students' memories.
- Positive words give you what you expect and enhance cognitive development.

## III. METHODS

Two groups of grade 4 students in Safir High School are applied for two different ways in teaching.

Group A made up of 21 students and group B made up of 22 students.

### Group A:

In 18-1-2018 at 11:30 a.m, the teacher explained a lesson using ppt presentation about "Photosynthesis and contribution of trees in decreasing pollution in atmosphere" using pictures and lecturing method (Appendix 1).

### Group B:

In 18-1-2018 at 11:30 a.m, the teacher explained a lesson using ppt presentation about "Photosynthesis and contribution of trees in decreasing pollution in atmosphere" using pictures and the story strategy (Appendix 1).

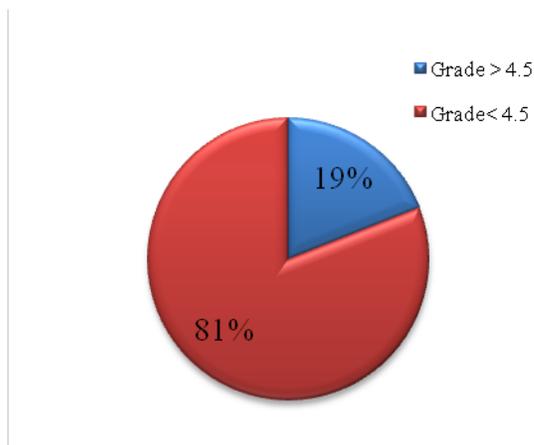
### Measurements

In 18-1-2018 at 1:00 p.m, students were asked different questions about the lesson (Appendix 2).

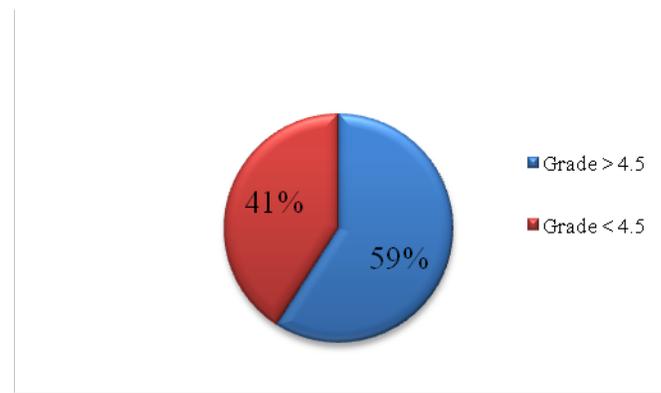
### Results

19 % of students of group A have taken above average in the quiz; their grades were greater than 4.5 over 9 (> 4.5) while 59% of students of group B have taken above average; their grades were greater than 4.5 over 9 (> 4.5).

### Group A:



### Group B:



## IV. CONCLUSION

Words do matter. This world deserves to become a place where words can both lift us from the precipice and send us on an adventure. Words are more than simply tools for us to change our emotional state or express how we feel. The way that people refer to themselves and others is highly diagnostic of their mental state.

Certain words reflect the behavioral characteristics of the person who spoke or wrote them.

Words are the vehicle for change and inspiration; they allow the brightest minds on Earth to free themselves of the chains in their minds. Words turn dreams and visions into reality, they give life to all that remains hidden and kept away.

Words have given us a chance.

## APPENDIX 1

### Case 1: Story

- One day a mother and her son went to the garden, while the mother was watering the plants, the son asked her: I have never seen a green plant working, who cooks for her?
- S: Who cooks for you?
- M: You mom
- M: If I want to make a cake for you, what do I need?
- S: Milk, flour, and eggs.
- M: Great. And so the green plants, they cook for themselves. They need carbon dioxide, sunlight, and water.
- S: Complete mama!
- M: When the plants take these, they give oxygen and glucose (sugar), and the sugar feeds the plants.
- S: Okay mama, but why this process is called photosynthesis?
- M: Son, photosynthesis is "photo" which means light and "synthesis" which means mixing. And it's a process where the plants make their own food.

**Case 2: Lecturing**

- Photosynthesis is a process where the plants make their own food.
- The plants take carbon dioxide, water, and light in order to make photosynthesis.
- The plants mix them in order to give oxygen gas and glucose (sugar).
- The sugar feeds the plant.

APPENDIX 2

Circle the correct answer in each of the following

	1	2	3	4	5
'photosynthesis' What does 'photo' mean?	picture	Light	mixing	post	water
'photosynthesis' What does 'synthesis' mean?	giving	Taking	adding	deleting	mixing
What is the meaning of photosynthesis?	Process where plants make their own food	Process where food make their own plants	Process where mothers cook their cakes	Process where light takes air	Process where oxygen is absorbed
What does the plant need to make its own food?	-water -sunlight -oxygen	-water -carbon dioxide	-water -sunlight -carbon dioxide	-water -oxygen	-sunlight -soil -oxygen
What do the roots absorb?	oxygen	Carbon dioxide	Sunlight	water	Carbon dioxide and water
CO <sub>2</sub> is taken by...	leaves	stem	Roots	fruits	soil
What does the plant produce?	Carbon dioxide and glucose	Oxygen and glucose	Water and glucose	Only glucose	Only oxygen
Trees give oxygen so oxygen will...	stay constant	increase	Decrease	Not be found	disappear
Trees give oxygen so carbon dioxide will...	Stay constant	Increase	decrease	Not be found	disappear

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#### REFERENCES

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