Golden Brain Theory (GBT) for Language Learning

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***Abstract*—Centuries ago, we came to know about "Golden Ratio" also known as Golden Angle. The idea of this research is based on this theme. Researcher perceives 'The Golden Ratio' in terms of harmony, meaning that every single item in the universe follows a harmonic behavior. In case of human being, brain responses easily and quickly to this harmony to help memorization. In this theory harmony means a link. This study has been carried out on a segment of school students and a segment of common people for a period of three years from 2003 to 2006. The research in this respect intended to determine the impact of harmony in the brain of these people. It has been found that students and common people can increase their memorization capacity as much as 70 times more by applying this method. This method works faster and better between age of 8 and 30 years. This result was achieved through tests to assess memorizing capacity by using tools like words, rhymes, texts, math and drawings. The research concludes that this harmonic method can be applied for improving the capacity of learning languages, for the better quality of lifestyle, or any other terms of life as well as in professional activity.**

***Index Terms*—language, education, golden brain, learning, teaching**

I. Introduction

Long years ago in history, discovered that everything in this universe follow a ratio, what he termed as the theory of 'Golden Ratio'. It mentioned that every single thing in this universe revolves around its centre in the following ratio,

0+1= 1
1+1= 2
2+1= 3
2+3= 5
3+5= 8

It was written by Euclid in "Elements" around 300 B.C., by Luca Pacioli, a contemporary of Leonardo Da Vinci, in "De Divina Proporiotne" in 1509, by Johannes Kepler around 1600 and by Dan Brown in 2003 in his best selling novel, "The Da Vinci Code."

Human brain is not out of this phenomenon. Human brain functions in rhythms and can accept more information in a rhythmic manner. At the same time, the brain can preserve such information at the soonest time. The research explains the process by which the brain uses to search rhythm. Brain can store more information if a systematic process is adopted. It is difficult and time consuming for the brain to receive information in discrete and unsystematic manners. At the same time, storing of information in such cases is also strenuous.

The research took note that children can preserve rhymes in their brain 70 times faster than other subjects or topics. Golden Brain Theory acts as an inherent force to improve capacity of the brain. The strength of storing information by the brain will depend on the strength of the rhythm or the link recognized by the brain.

This Golden Brain Theory can be applied in various spheres of life in order to improve the quality of lifestyle.

II. Method

In carrying out this study, the following methods were used,

1. Observation
2. Group discussion
3. Interview
4. Media (Newspaper & Television)
5. Booklets

A sample group constituted of 70 people has been observed directly on a regular basis during the timeframe of this research. The people in this sample group were selected from urban, semi-urban and rural areas. These samples were considered as focus group for the research. The peoples of this sample group were interviewed during the research period.

Distribution of the sample groups is represented in the Table I,

TABLE I. Showing the Distribution of Sample Groups

Area	Age		Total
	8 to 16 years	17 to 30 years	
Dhaka	10	10	20
Khulna	5	5	10
Jhalkati	5	5	10
Munshiganj	5	5	10
Sharupkati	5	5	10
Chatmohor	5	5	10
Grand Total			70

For the purpose of the research, milllions of people has been indirectly contacted through media (Television and Newspaper) in which approximately 1 million of them sent their feedback on the questionnaires used in the research. In the television program some rhythmic words,

Manuscript received April 3, 2018; revised November 5, 2018.

doi: 10.18178/ijlt.5.2.106-111

some pictures and animations was shown on the screen. The viewers will respond through email, Mobile sms, phone call, letter and social media. In the newspaper some rhythmic words has been published. People sent their feedback through mobile SMS, postal letters and Emails. Two millions of printed booklets were distributed among the people in order to receive information data from a representative segment of the population through tests conducted during implementation of the research.

The above methods were judiciously used to obtain primary data from the sample group of population which were reviewed and analyzed to draw conclusions. Simple statistical techniques were used for doing analysis of the data information. Some secondary data were also used from various documents for interpretation and comparison of information data.

III. Findings

Three distinct tests were designed and carried out in the research. The tests and the results from the tests are explained here as below,

Test 1

Some text lines of a particular story (asymmetrical) and rhyme (rhythmic, symmetrical) was selected and the text lines were read (5 times) by a promotor in the presence of the sample group members. The purpose was to see how the individual members of the group can store this information in their brain and how long they are able to preserve the information smoothly.

In the first day of the test, six text lines were read to selected members of the sample group. After 4 days and 4 hours (100 hours) the samples were asked to tell the text lines from their memory. In this case, 18% of the sample group members were able to respond correctly.

While a similar test was carried among the same members using eight text lines of a rhyme, it was noticed that 63% of the group members were able to respond successfully.

Test 2

In this test, 10 asymmetrical and symmetrical English words were selected randomly. These words were read (5 times) in front of the group members. The purpose was to see how, and for how long the group members can store this information in their memory.

On the first day, 10 randomly selected asymmetrical English words were read to the group members. After 4 days and 4 hours (100 hours) the members were asked to read the words from memory. 23% of the group members read the words correctly.

Then, a similar test was conducted with the same group members using eight text lines of a rhyme and it was seen that 73% of the group members responded successfully.

Test 3

In this test two pictures were shown (5 minute each picture) to the group members. The intention was to see how and for how long the members of the group can preserve this information in memory.

In this way, an asymmetrical picture was shown to the group members. After 4 days and 4 hours the same group members were asked to draw the picture from their memory. 25% of the group managed to draw the picture correctly.

The similar test was repeated using a symmetrical drawing, and in this case, 75% of the group members were able to draw the picture.

In the analysis of the test results, the scores of 3 tests using asymmetrical and symmetrical (rhythmic) objects were added and the average was calculated. In this way, it was seen that the average performance of the sample group members with irregular, uneven objects was 22% whereas the performance of same group members using rhythmic objects was 70.33%. The performance of the group members using rhythmic or even objects is attributed as the Golden Brain Theory (GBT) in this research.

This performance is presented in the following Table II and illustration,

TABLE II. Showing Response of the Group Members

Test	Success on the asymmetrical objects	Success on symmetrical objects
Test 1	18%	82%
Test 2	23%	77%
Test 3	25%	75%
Average	**22%**	**70.33%**

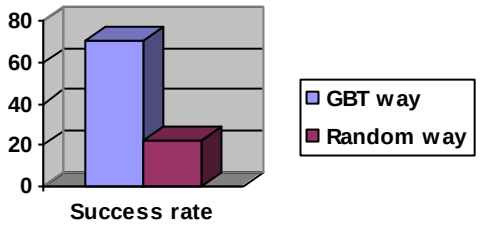

Figure 1. The difference between GBT way and Random way

The tests were carried among the group members with age ranging between 8 and 30 years. The time span for reflection by each group member was determined to be 4 days and 4 hours or 100 hours.

The reults of the tests suggest that human brain can process and preseve ryhthmic nature information more easily and quickly than the uneven, unbalanced ones. The Harmonic/Rythamic test rate is 70% and Random way test result is 22%. See Fig. 1

IV. Discussion

Based on the theme of the Golden Ratio, the solar system, plant, animal, bird, flower, fish and insects were observed deeply to help understand how this rhythmic process works in nature. The presence of this process in nature can be understood and made clear from instances as follows,

In observing this tree the figure on the left side, it can be recognized that every branches of the tree are grown with similar size and lengths. Even, in each of the leaves, the inner linings are arranged in a natural rhythmic order. The presence of this rhythm was noticed by observing many trees also. All the trees have many type of harmony in their body part. Leaves of the trees have another

harmony. All the trees bears these harmony from his birth. See Fig. 2.

Figure 2. Leaf of the trees are organized in a harmonic way.

Looking at the flower, it can be seen that all petals of this flower are arranged in a rhythmic manner where all petals are of similar size and have similar lengths. Meaning that, there is a rhythm in it. In this research this rhythm is followed in many many flowers. See Fig. 3

Figure 3. Patels of the flower are organized in a harmonic way.

The body of this insect the presence of rhythm on it as the composition of the colour of the body is uniform, and the body parts of the insect are arranged in uniform structure. All insects have this harmony/rhythm on their body colour. See Fig. 4

Figure 4. The colour of the insect has the harmony.

In the slice of a beet, it can be seen that the layers are arranged inside in circular form and are placed in a harmonized manner. This suggests that the formation of the body follow some natural order of uniformity. This phenomenon appears in vegetables like beans, green peas and other vegetables also

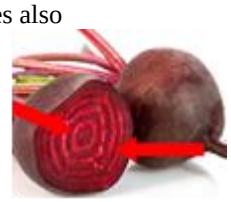

Figure 5. The circles have a harmony

Figure 6. Fiber have the harmony.

The skin of fish is covered with scales. These scales are arranged in same direction and at a same distances following a natural rhythmical order. In the research followed rhythmic topic in many fishes. See Fig. 5 and Fig. 6

The GBT research found the white and black marks on the body of a Giraffe mention that such rhythms are also found in many animals. Giraffe's white marks have a rhythm. Many animas have this rhythm which is observed. The marks on the finger are shaped with symmetrical order. Fig. 7

Figure 7. Finger marks also have the harmony.

Similar observations were made upon human body and it appeared that this rhythmic behavior also takes place in human body. Internal organs like ribs of chest, heart-beats also follow this rhythmic process.

In the GBT research it is observed that many rhythms were found in more than 500 terms like galaxy system, trees, flowers, fruits, leaves, birds, fishes, insects, animals, human body.

In the analysis of the observations above, this can be said that there is some inherent process of harmonization and regularity exits in every aspects of the universe. In this research this perception is termed as 'rhythm'. This research, to its best efforts, has envisaged explaining how this rhythm impact on human brain.

The process described above was thoroughly observed and analysed to understand how human brain can recognize a rhythm and how a rhythm can impact on human brain. What type of information human brain can receive, process and preserve easily. Details of the tests carried out in the research and mentioned in section 5 are presented below.

Test 1

As mentioned earlier, a rhythmic process works in human brain to help storing of information data. In order to understand this process, this test was carried out among sample group members. Group members were asked to listen the following texts. Later, after 100 hours interval, they were asked to tell the sentences from memory.

One fine evening a young princess
put on her bonnet and clogs,
and went out to take a walk
by herself in a wood; and
when she came to a cool spring
of water with a rose in the middle of it.

Result:

Only 18% of the group members answer correctly.

Test 2

In the same way, this test was executed in which the following verse was used.

Baa baa black sheep,
have you any wool?

Yes sir, yes sir,
three bags full!
One for the master,
one for the dame,
And one for the little boy
who lives down the lane.

Result:

63% of the group members were able to answer correctly.

Test 2

In this test, the following asymmetrical words were used. Group members were advised to listen the words.

Mend
Bitter
Castle
Recreate
Creepy
Entrap
Assist
Frail
Enormous
Athlete

Result:

23% of the group was able to answer correctly.

Test 2.1

The same sample group members were advised to listen the following 10 English words which are more of rhythmic system to listen.

Boyhood
Girlhood
Fatherhood
Motherhood
Brotherhood
Sisterhood
Childhood
Babyhood
Manhood
Wifehood

Result:

73% of the group members were able to answer correctly.

Test 3

In this test, an irregular, asymmetrical drawing was presented. 100 hours later, the members of the group were asked to draw the picture from their memory. Fig. 8

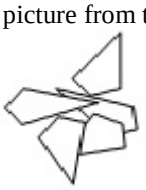

Figure 8. The drawings have NO harmony.

Result:

25% of the group members were able to draw the picture from their memory.

Test 3.1 investigation spectator

In this test the following drawing was presented to group members. This picture contains some parts which are put together in a symmetrical way to form rhythm-like object. 100 hours later, the group members were asked to draw the picture from their memory. Fig. 9

Figure 9. The figures have the harmony

Result:

75% of the group members were able to draw the picture correctly.

Moreover, similar surveys were carried out with newspaper readers, television viewers and audiences of a youth conference.

In newspaper, 10 rhythmical words was published four days a week. The readers were asked to respond on the fifth day writing those words in text messages from their mobile phone.

In television, 10 rhythmical words was shown on screen and the spectators were asked to respond by means of telephone calls, text messaging and emails.

In a youth gathering, the promotor read the words and the audiences who were mostly school children went to the stage and repeated the words from their memory. This survey was also carried out among students in 10 secondary schools in Dhaka city.

A booklet printed with words was distributed among 20,000 people. The people sent their responses via mobile phones, text messages and also by postal letters. Table III & Table IV.

TABLE III. SHOWING NUMBER OF PEOPLE REACHED THROUGH NEWSPAPER AND TELEVISION

Sample No.	Area	Through	Place
Probably 1Lac	Bangladesh	Daily Newspaper (Ittefaq)	Education page
Probably 1 Lac	Bangladesh	Television Channel (Desh TV)	'Durpath' program
Probably 10 Thousand	Dhaka	Outright field interview	Schools
Probably 2 Hundred	Mohammadpur, Dhaka	Outright interview	Indoor Program
Probably 50,000	Bangladesh	By booklet	Many places

TABLE IV. SHOWING TYPES OF MEDIA BY WHICH MASS PEOPLE WERE CONTACTED

Through	Place	Duration	Date
Daily Newspaper (Ittefaq)	Education page	8 Months	May 2015 to December 2015
Quick Talent work School program	20 schools	6 Months	June 2015 to November 2015
Indoor school program	Auditorium	1 day	June 3, 2016
Television (Desh TV)	'Durpath' program	3 Weeks	August 7 to August 24 2016
Booklet	Bangladesh	9 years	2007 to 2016

In these surveys 70% people abled to answer correctly the harmonic words and shapes. 20% people answer partial correctly the random words and shapes. 10% people didn't response correctly the words and shapes. Table III & Table IV.

V. Meaning of Rhythm

'Rhythm' in this respect are considered to be a mechanism in which objects are arranged at equal intervals of time, at equal distances, sizes and shapes. This can take place, for example, in the spelling of words, in articulation, in structure, sound, light, color, touch, taste, in nature, even in imagination. Items of similar size can constitute a complete object. With similar articulation a rhyme can be constructed. What is important here is the sameness or uniqueness. Consider the following:

1, 2, 3, 4, 5, 6
2, 4, 6, 8, 10, 12
1, 3, 5, 7, 9, 11

1, 2, 4, 8, 16, 32, this series follow some rhythmic order

But, in case of 1, 2, 5, 9, 11, 17, this series has no rhythm or sameness.

Similarity in words:

White, black, red, blue
White, violet, red, black
Hot, sweet, sour, bitter

These words follow a rhythmic fashion.

It is necessary to combine to one or more similar items to construct rhythm. Then of course, sameness does not mean that the items are to be hundred percent simillar mathematically, geometrically or in words. But items should be at least 95% identical in order to become similar.

In the illustration 4 below, the object  is arranged in a order that gives the item harmonic shape but the same object when presented in an irregular/chaotic order the shape as shown in illustration 5, it becomes difficult for the brain to store and recollect as same.

Illustration 4

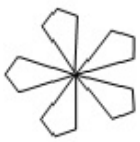

Illustration 5

Normally, the brain can sense an object after it is sighted by eyes. Then the brain prepares to sense other object which is similar to previous object. In this way, when brain can sense a sound it becomes prepared to sense a similar sound. In terms of time, subject, and situation and especially with the priority of the objects conceived by brain, the levels of perceiving capacity of the brain might be different.

When a person listens to a sound, his brain prepares to receive another sound of same nature. After receiving the second sound, the brain determines the timespan between two sounds, and then the brain again prepares to receive the third sound. In this way, brain use to detect, determine and decides on rhythms through various sensory organs of body.

VI. Conclusion

The tests conducted in this research demonstrated the fact that human brain can store more of the objects which are arranged with a harmonical way than objects which are metrically irregular.

Acknowledgment

This research was supported by Fatima Foundation, Dhaka, Bangladesh. First of all I want to thank my field partner Fatima Jahan Chowdhury, without her assistance it would not be possible to carry out this research. I thank all our colleagues from Fatima Foundation who provided insight and expertise that greatly supported the research.

I thank Mr. Moinul Islam for assistance in the preparation of this report. Also I thank Mr. Reyajul Islam for his assistance.

Finally, I thank all of my colleagues and all of the people who were engaged with this research. I enjoyed working with them. I am very much happy to receive support and assistance from Mr. Sadiqur Rahman Chowdhury, Mr. Rabiul Karim and Walid Hussen of Desh Television, Mrs. Tasmima Hossain and Mr. Ashish Soikat of Daily Ittefaq, Mrs. Krishna Rani Karmaker of PDBF, Mr. Hafizul Islam, of Motijheel Govt School, Mr. Mofiz Uddin Chowdhury, Businessman, Mrs. Asma binte malek of Fatima Foundation, Mr. Rezaur Rahman Rizvi of Daily Manab Kantho, Shipli Mahalanabish, Ekattor Television and Ms. Annesa Mahjabeen. I would like to extend my thanks to all of them.

References

[1] Arthur C. Guyton, John, E. Hall, Textbook of medical physiology, 11th ed., Elsevier Inc. USA, pp-97

[2] *'Humans started talking in a unique and complex form at some point between 50,000 and 100,000' Longman Basic English Dictionary*, Dorling Kindersley (India) Pvt. New Delhi, India, 2008.

[3] Atalay, Bulent, Math and the Mona Lisa: *The Art and Science of Leonardo Da Vinci*, New York, Smithsonian Books, 2006.

[4] Language, Consciousness, Culture: Essays on Mental Structure, Ray Jackendoff, Language, Consciousness, Culture: Essays on Mental Structure, MIT Press, 2007.

[5] History of the alphabet. [Online]. Available: https://en.wikipedia.org/wiki/History_of_the_alphabet#/media/File:Ph%C3%B6nizisch-5Sprachen.svg

[6] J C Wells, Longman Pronunciation Dictionary, 3rd ed, Pearson Education Limited, England, 2009.

[7] There are many examples of circadian rhythms, such as the sleep-wake cycle, the body-temperature cycle, and the cycles in which a number of hormones are secreted. [Online]. Available: http://thebrain.mcgill.ca/flash/d/d_11/d_11_p/d_11_p_hor/d_11_p_hor.html

[8] The popular image of memory is as a kind of tiny filing cabinet full of individual memory folders in which information is stored away, or perhaps as a neural super-computer of huge capacity and speed. [Online]. Avilable: http://www.human-memory.net/types_short.html

[9] Daily Ittefaq, Bangladesh, May 14 to October 30, 2016. [Online]. Avilable: http://epaper.ittefaq.com.bd/

[10] Desh Television, Bangladesh, May 9 to May 26, 2017, Program: Durpath, Time: 5:00 pm

[11] Larson, Richard, Viviane Deprez & Hiroko Yamakido, (February 2010). The Evolution of Human Language: Biolinguistic Perspectives. [Online]. pp. 5-9 Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2815939

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