

# Graduate Research in Engineering and Technology (GRET)

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Volume 1  
Issue 8 *Pedagogies for Higher Education*.

Article 11

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September 2022

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### Recommended Citation

Joshi, Bharatbhushan; Bhople, Chandra; and Shastri, Sanjivani (2022) "Enhancement of Concentration in studies through simple games - an innovative pedagogy methodology," *Graduate Research in Engineering and Technology (GRET)*: Vol. 1: Iss. 8, Article 11.

DOI: 10.47893/GRET.2022.1151

Available at: <https://www.interscience.in/gret/vol1/iss8/11>

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# Enhancement of Concentration in studies through simple games – an innovative pedagogy methodology

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**Abstract**— It is often observed that the students of new generation have large number of distractions. This leads to lesser concentration on what they are studying and its effects into lesser assimilation of subject matter, lesser confidence and lesser overall performance. It is a well-known fact that assimilation increases with increase in concentration. In order to improve the performance of students in whatever they do, we planned to use some innovative methods for improving their concentration. We experimented this on the fresh batch of students that was admitted in 2018-19 to increase their concentration and built-up their confidence through a new method pedagogy involving Gaming, Micro-projects, Meditation (*Omkar Recitation*) and recitation of multiplication-tables etc. These activities were daily conducted in the specially allotted student's hour. In order to measure the outcome of our experiment, we conducted an aptitude test at the beginning and once again after doing this experimentation over a period of full semester. The outcome of this experimentation is found to be very encouraging. This paper presents the innovative methodology adopted over a group of student's improvement of for concentration and discusses the visible outcome in the better performance of the batch.

**Keywords**— Innovative pedagogy, Concentration Games, Yoga-in-education

## INTRODUCTION

It is observed that students of current generation have large number distraction and therefore cannot concentrate for more than 20-25 minutes in a class. After that they lose their focus on the subject. Studies of Gonzalez et al [1] have shown that students can work for 11 and half minute in the same project and then switch to another. Concentration means focus of thoughts and deeds on a certain object keeping aside things, which is not related to that. Most of the students have weak ability to concentrate on the subject matter while studying. This may happen for the lessons of high

difficulty level. Concentration is nothing but the state of mind, which is activated from inside the brain. If the student loses concentration, he/she cannot pay attention and cannot assimilate or learn.

Keeping this in mind, we planned some innovative activities to pedagogical methods engineering classroom.

Our innovative pedagogy methodology helped the batch of students to stay focused and improved their ability to absorb, assimilate and understand the information to convert it into the knowledge.

We have introduced a concept of student hour in our college since last 5 years. The purpose of student hour is to promote nonacademic activities. The Student hour is for 40 minutes after first two lectures. So the students get a break in between. Activity other than academics like group discussion, reading newspaper article, Toast Master, any skill development activity or talk on buzz words like AI, IOT, latest technology in the remaining time. The student hour is utilized for promoting activities related Innovative Pedagogy as discussed in this paper and elaborated in following paragraphs.

**THE METHOD:** A fresh batch of students from first year of AY 2018-19 is selected. Total seventy students are selected for conducting this activity. All the activities are carried out on seventy students. The pre and posttest is conducted on all the students but 80% students could give both the tests. All the seventy students did Omkar recitation during student hour in the class. Micro project is done by all the seventy in a group of three in their second semester. Total five activities are carried out.

- (A) Ball into Bucket (BIB) game
- (B) Hand over a ball (HOB) game
- (C) Meditation through *Omkar* recitation
- (D) Recitation of multiplication tables
- (E) Micro projects in the first year

(A) **Ball into a Bucket (BIB) game:** This is a simple game of throwing a small tennis ball into a bucket from a distance. Although, it appears to be very simple but it is an effective way of improving concentration. At the start, the student stands at a 6 feet distance from the bucket. The following instructions are given to the students

- (1) Stand with balance on both legs
- (2) Take a deep breath and relax
- (3) Look intensely at the edge of the bucket
- (4) Throw a ball into the bucket.

At a time, student is given total six chances to throw a ball perfectly inside a bucket. When perfection is achieved i.e. all six throws perfectly into the bucket, the game can be repeated after a gap by increasing the distance to 8 feet, 10 feet away from the bucket and try

to achieve the same perfection. The observations are noted. This activity was carried out for one month. The daily playing of this game is observed to increase not only power of concentration of the students but also focus and gain in confidence that I can do it.

**(B) Hand Over a Ball (HOB) game:** This is a team event. A group of 12+12 students is made forming a pair. They were asked to stand facing each other at a distance of 6 feet. The following instructions are given to the students

- (1) Stand with balance on both legs
- (2) Take deep breath and relax
- (3) Look intently at the hands of your partner.  
Nothing else exists for you except those hands.
- (4) Throw the ball into the hands of your partner.
- (5) Do a Synchronized throw by all 12 together

Balls were given to 12 students and other 12 students were asked to catch a ball. Six times exchange of throw in a synchronized way is done and the score of perfect catch without falling of ball is noted. This activity is carried out for one month. This game helps in not only improving concentration but also team building.

**(C) Meditation through Omkar:** Yoga is an ancient technique. Sheela Joice PP et al reported the role of Yoga in attention built-up. [2]. Chanting Omkar has many benefits. Vibrations created in the brain due to Omkar helps the nerves to activate the brain cells and as a result increase the efficiency of the brain. Every day in the first lecture 10 minute are dedicated to practice meditation. For first 2 minutes students sit with their eyes closed and relax. Next 3 minute were dedicated to breathing exercise or pranayama. In the last five minutes long *Omkar* chanting in combination with deep breathing is done 12 times. This activity was carried out for the whole semester that is for three months. This kind of 10 minutes of meditation really prepares the students for the class, puts them into ready for learning mode. It helps in improving their grasping power.

**(D) Recitation of tables:** In this activity students learn and recite multiplication tables from 2 to 30. The idea behind this is improving mental computational ability of students. This will help them in quick solving of quanta, percentage related aptitude questions. This activity was carried out for three months in first semester and two months in second semester.

**(E) Micro projects in 2<sup>nd</sup> Semester:** We have introduced a unique practice of doing a micro project by the first year students in their second semester. A small concept proving project related to their branch is constructed by students. This is a group activity. Groups are made according to the specific branch. A faculty mentor from their branch is allotted to them for getting guidance for execution/ building the project. A time of just 1 month is given to complete the project. The

students give a presentation on the project. This micro project helps them understand a small concept of allied science by using engineering knowledge.

### **Result and discussion:**

During the activity of 'Ball in a Bucket' game, physical balance is very important. Students have to relax their body to perform this activity. Students become stress free by performing this activity. Rebeca Hyatt et al [3] have shown that outdoor games help students to increase concentration. The daily practice of this game is observed to increase not only power of concentration of the students but also the focus and gain in their confidence that 'I can do it'.

During 'Hand over a Ball' game activity, students have to give equal pressure on both legs, and have to look intently at the hands of the partner. This activity makes students to focus and thereby increasing their concentration level. Gaming helps everyone to keep themselves physically fit activating motor skills. Physical activity is beneficial to improve cognitive function and concentration as shown by Heidi Buchele et al.2018 [4]. This game helps in not only improving concentration but also team building because of synchronization action.

The sound of Omkar represents primal vibration as shown by Kumar S et al 2010 [5] and it is a good exhalation exercise which generates frequencies and influence nervous system. As a result of 10 minutes of meditation, students in the class started paying attention and felt fresh throughout the day. The students started taking more interest in the daily activities.

The Learning and recitation of Multiplication tables helped the students to work out various mathematical calculations easily and quickly. They got the base of arithmetic foundation, which helps them in quantitative analysis. Moreover, their cognitive ability has increased and now they can easily apply basic concepts to solve numerical problems.

Micro projects help students to get first-hand experience of converting concept into a model. In the traditional teaching method the student remain passive characters. They find difficult to apply the concepts in real world problems as discussed by J Fernandez et al [6]. To develop interest in the subjects and to promote collaborative learning, team management, communication skills and time management skills among student such micro projects help the students to boost up their confidence level.

Cognitive test was conducted before the activity and the same test was conducted after the activity. It is observed that nearly 39% of students have scored double marks in posttest than in pretest. This is because of the increase in cognitive level due to improved concentration.

The activity is carried out in first semester .This new pedagogy helped the students to score higher grades in second semester with two students scoring 10 pointers in second semester university exam.

As a combination of all the above activities carried out on the batch of 2018-19 we got very good and visible outcome. . Figure 1 shows the placement graph for last three years. It is seen that the percentage of students being placed has doubled for the batch of 2018-19. Moreover, the average package of the final year batch of 2019-20 was 4.38 lakh and that for 2020-21 batch was 4.52 lakh. This year’s batch that is 2021-22 has average package of 8 lakh which is quite high as compared to earlier two batches. Recitation of tables every day has benefited the students to clear aptitude test. Many students of earlier batches were not able to clear the aptitude test for placement. Total number of opportunities is also increased as compared to earlier two years as number of students clearing aptitude test has increased. Hence students get more opportunities and hence improvement in placements is seen.

In addition, the students whose score has increased remarkably in the cognitive test have the placement with high package of 12 lakhs per annum.

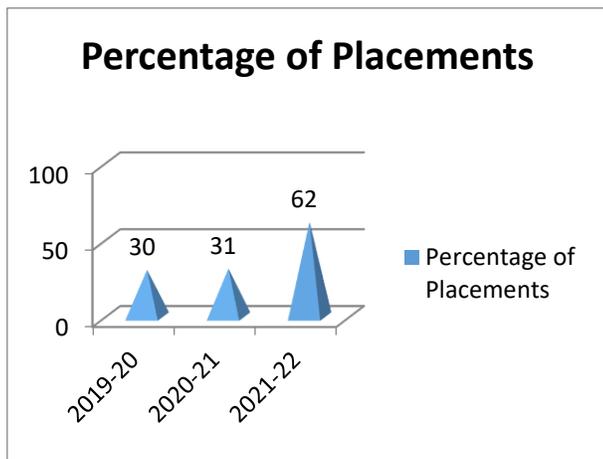


Figure 1: Placements for the last three years

**Conclusion:** Very Impressive change is observed in the concentration & confidence level of students of batch 2018-19. Not only their performance in the University exams has improved but more number of students could clear aptitude test for various companies for campuses held at institution in AY 2021-22. Near about 28 percent of the students have grabbed more than two

offers. 11 percent of students have placed in more than three companies. The institution has record maximum placements for this batch of 21-22 with average package of 8 lakhs. It can therefore be concluded that the innovative method of employing games, outdoor activities, and cognitive ability helps to improve students focus and concentration on the studies and the overall outcome of increased confidence results in better placements and better packages.

It is concluded that for overall development of the student, each of the mentioned activity is important and it should be carried out at least for three months on daily basis to get the best results.

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