



SCREEN TIME BEFORE SLEEP AND ACADEMIC PERFORMANCE AMONG SCHOOL STUDENTS

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ABSTRACT

A sound learning is more important in schools to produce better human beings to the society in general and admirable individuals in particular. The school is a miniature society and the activities should have direct relations with the activities of the human life. Students who are better in academics can be victorious in their ventures and lead a life of difference and can reach success without much difficulty. Present students are addicted to the social media and mobile phones. Hence, the performance of the student's day to day is deteriorating. As a remedy to this, setting guidelines for screen time before bed, such as turning off devices at least an hour before sleep, may improve academic outcome for students. By limiting exposure to electronic screens before bed, students can improve their sleep quality and ensure they are well-rested for the day ahead. This can lead to improved concentration, better memory retention, and overall improved academic performance. Additionally, setting guidelines for screen time before bed can also help students establish healthy habits and improve their overall wellbeing.

In conclusion, exposure to electronic screens before bed can have a negative impact on students' academic performance. Lack of quality sleep can lead to poor grades, lower test scores, and overall decreased academic performance. However, setting guidelines for screen time before bed, such as turning off devices at least an hour before sleep, students can improve their sleep quality and healthy life style. It's important for students to establish healthy habits and prioritize their wellbeing in order to achieve academic success.

Keywords: Students, Screen time before bed, addiction to social media and Academic Performance

INTRODUCTION

Education is essentially a social affair and the school is charged by the society with the duty of training and bringing up and moulding the adolescents so that they may be able to participate effectively in the society to which they belong. Modern school is a miniature community existing for identifying and developing the potentialities of children by providing learning experiences. Its main duty is to foster the development of individuals and train to adjust with the social environment. The school is an idealized epitome of social life reflecting within it the elements of all the major activities that make up the work of the society.

The educator's duty is not confined only in giving instructions but to mould the growing organism. The Kothari Commission Report (1966) states, **"The destiny of India is now being shaped in the class room"**. Hence, the teacher has to play a dominant role in the present educational system in shaping the future generation of our country.

In today's digital age, it's not uncommon to see students glued to their electronic devices even late into the night. However, recent studies have shown that this excessive screen time before bed can have a negative impact on their academic performance. This study will explore the effects of screen time before bed on students' sleep patterns and academic outcomes. The researcher also highlights the importance of setting guidelines for screen time before bed, such as turning off devices at least an hour before sleep, to improve academic performance.

Studies have been oriented through talks and media that the exposure to electronic screens before bed can disrupt sleep patterns. The blue light emitted by electronic devices can suppress the production of melatonin, a hormone that regulates sleep. This can make it difficult for students to fall asleep and stay asleep throughout the night. Furthermore, the constant stimulation of electronic screens can keep the brain active, making it harder for students to relax and wind down before sleep. As a result, students may experience poor quality sleep or even insomnia, which can have long-term effects on their health and academic performance. A study published in the journal "Sleep Medicine" explored that teenagers who reported high levels of screen time had shorter sleep duration and more difficulty falling asleep than those with lower screen usage. Another study published in the Journal of "Clinical Sleep Medicine" found that night-time use of electronic devices was associated with higher levels of daytime sleepiness and poor academic performance.

. When students don't get enough sleep, they may feel tired, irritable, and have difficulty concentrating in class. This can lead to poor grades, lower test scores, and overall decreased academic performance. Furthermore, lack of sleep has also been linked to an increased risk of mental health issues such as anxiety and depression, which can further impact a student's academic success. Screen use adversely affected night time sleep, day time somnolence, and academic performance. These findings call for the implementation of educational public campaigns aimed at promoting healthy sleep and reducing screen exposure among adolescents.

OBJECTIVES OF THE STUDY

The study will focus on the following objectives: -

- To study the causes of poor attention and understanding level of selected students of class -VIII
- To develop the strategy for improving the attention level of selected students of class-VIII
- To identify the causes of the poor academic performance of the students of class- VIII
- To develop interest in academics among class- VIII students

RESEARCH QUESTIONS

1. Does student using e-Gadgets before bed time affect academic performance?
2. Does screen time before sleeping promote academic progress in students?

NEED OF THE STUDY

Sleep is vital for a person for cell regeneration and rejuvenation in order to maintain a strong immune system and improving mental and physical health. Deterioration of sleep over an extended period will end up to a large range of health issues, including increased stress, depression, insomnia and a weakened immune system. Ensuring that we prioritize getting enough quality sleep for maintaining good health and improving overall quality of life. Due to the advancement of technology, teenagers have become increasingly reliant on devices such as mobile phones, laptops, tablets, and other new gadgets. Electronic devices emit blue light that can suppress melatonin production and alter circadian rhythms, leading to disrupted sleep. Sleep deprivation can cause existing health problems, impair cognitive function, and increase the risk of accidents for an individual. Orienting students to avoid excessive use of electronics and limit screen time avoiding e-Gadgets in the bedroom can help them in offering good sleep patterns. The younger generation in the contemporary age are using e-gadgets for both academic and non-academic purpose. This article aims to study the modified sleep pattern after using innovative methods and exercises to perform before sleep.

HYPOTHESES OF THE STUDY

- There is no significant improvement in performance of class - VIII students in post-test than in their pre-test.

SAMPLE OF THE STUDY

The sample selected for the study are students of Class- VIII of Holy Angels Higher Secondary School, Chennai – 17. The sample size was **33** students who were pre-tested before the commencement of the study after permission had been obtained from the school authorities.

INNOVATIVE STRATEGIES ADOPTED FOR THE STUDY

1. Mind Map
2. Completing the dotted diagrams & marking parts
3. Finding the hard dictions and synonyms from the topic
4. Illustrating the statement of the problem in the form of story telling
5. Making students to enact the problem for further understanding

METHODOLOGY

In accordance with the objectives of the present experimental study, the data were gathered after conducting the pre test and post test on the experimental group, tabulated, classified, analyzed statistically and objectively.

The study lasted for six weeks. The pre-test was conducted on First week and in Week Two, analyzing the difficulties of the students and their level of understanding through various observational classes. Week Three, Four and Five was utilized for activities.

PREPARATION OF BLUE PRINT

Weightage Allotted to Objectives

Table - 1

S.NO	OBJECTIVES	MARKS	%
1.	KNOWLEDGE	14	28%
2.	UNDERSTANDING	16	32%
3.	APPLICATION	13	26%
4.	SKILLS	7	14%

Blue Print

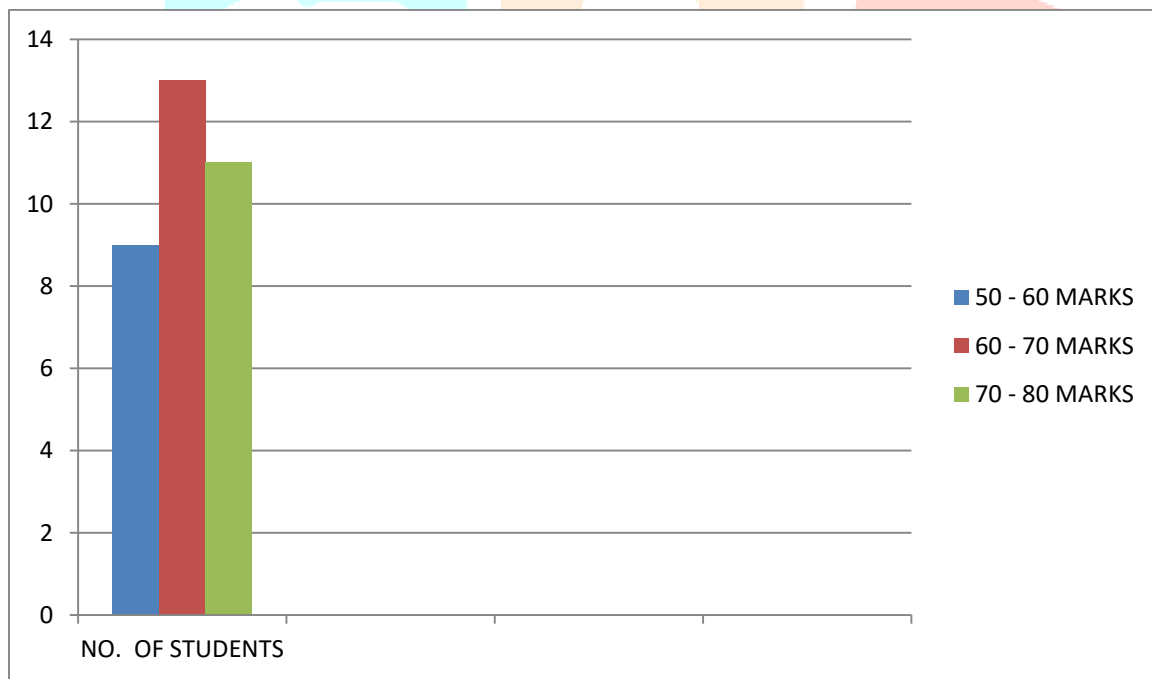
Table – 2

The investigator prepares a blue print for the achievement test.

OBJECTIVES/ CONTENT	KNOWLEDGE			UNDERSTANDING			APPLICATION			SKILL			TOTAL
	OBJ	SA	DA	OBJ	SA	DA	OBJ	SA	DA	OBJ	SA	DA	
INNOVATIVE METHODS	2(1)	1(2)	1(5)	2(1)	1(2)	1(5)	2(1)	1(2)	1(5)		1(2)		27
	1(1)	1(2)*	1(5)	1(1)	1(2)*	1(5)	2(1)	1(2)	1(5)		1(2)		27
	17 (1* SA in choice)			17 (1* SA in choice)			18			2			50 + 4*

Pre-Test**Table - 3****Level of Pre test of Upper Primary Students in Science**

Variable	Low – 50-60 Marks		Moderate 60-70 Marks		High 70 – 80 Marks	
	N	%	N	%	N	%
Pre-test	9	27.27	13	39.39	11	33.33

Table - 4**Performance of Pre-Test in Science**

From the above table, it is found that 33.33% of students of upper primary have high level of performance in bioscience, 39.39% students have moderate level and 27.27% of students' performance is below moderate level.

PRE-TEST INFERENCE

Generally, tests are conducted for evaluating the achievement and to test the acquired knowledge of the pupils. The pre-test was conducted in a classroom for class-VIII ranging in age from 12 to 14 years old, after giving inputs in conceptual knowledge. The investigator evaluated the students by conducting pre-test and after checking the answer sheets, based on the result of pre-test, students who were not able to perform well were

identified and also students who are under achievers in the basic concept of Biology. The investigator also identified talkative and inattentive students in the class for implementing innovative methods.

PLAN OF ACTION

The student samples were selected by conducting a test for 50 marks and based on the performance, the students were selected for the administration of the pre-test and Post-Test in the same topic. Before conducting the pre-test, the concept was explained to the students using chalk and talk method but after observing the performance of the students in the test, the topic was explained to them using innovative methods and deliberation to avoid screen time was given to the students. The instructions involved lifestyle changes and a routine that was easy to follow. The students were exposed to normal classes for a month and the post test was conducted.

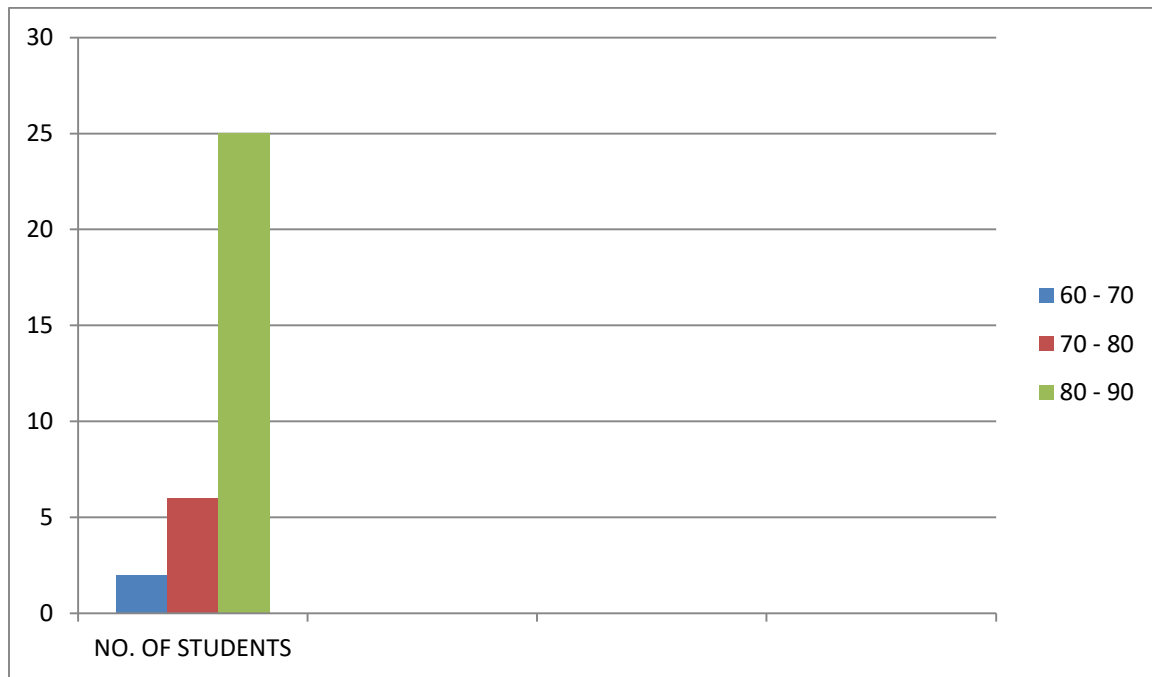
REMEDIAL MEASURES

Remedial measures refer to the techniques involved in removing the difficulties of the students' process. While teaching the content, storytelling method was employed and students were made to enact the concept for further understanding. Towards the end of the class, the students were asked to prepare a mind map to recollect the content. As an alternate to avoid screen time before sleep, the students were given dotted diagrams and hard scientific dictions to complete and mark the parts and also to collect synonyms as home work. Students were kept busy with activities so their body and mind are tired at the end of the day which yield a sound sleep. Assistance was given to students who lacked proper attention and made them more involved and felt wanted.

Table - 5

Level of Post test of Upper Primary Students in Science

Variable	Low 50-60 Marks		Moderate 60-70 Marks		High 70 – 80 Marks	
	N	%	N	%	N	%
Post-test	02	06.06	06	18.18	25	75.75

Table - 6

Performance of Post -Test in Science

From the above table, it is found that 75.75% of upper primary students have high level of achievement in bioscience, 18.18% of moderate level and 6.06% of below moderate level after reducing the screen time and using the work sheet for learning and practicing.

Table - 7

TEST	NO. OF STUDENTS	MEAN	S. D.	t value	Table value	Remarks at 0.1 level
Pre-test	33	70.8	15.95636	7.090	2.58	Significant
Post-test	33	75.9	13.8532			

The above table shows the pre-test and post-test scores of the 33 students of achievement test before and after teaching the innovative methods. The obtained 't' value was greater than the table value and there was significant difference at 1 percent level in the mean scores of the achievement of the students, so the action research hypothesis was rejected.

POST-TEST INFERENCE

After incorporating remedial measures, the investigator conducted a post-test on the topic that was taught in the past month for all the selected student sample. The post-test was conducted to check whether there is any improvement in the student's performance after action plan. The investigator noticed that majority of the students have showed a remarkable improvement. After adherence to the remedial measures, the

selected students were able to cope up with other students in the class. Lockdown had a strong impact on the student lives and they had a totally different lifestyle from the previous batches and the contemporary classroom involve a lot of challenges for the teachers and students. It's very important for these students to bounce back to normalcy as it might have some lifelong effects. This research therefore proves the importance of sleep, span of attention and impact of blue light on the young eyes. The research also stresses the incorporation of new strategies and techniques to facilitate active learning.

SUGGESTIONS AND RECOMMENDATIONS

After analyzing the entire study with respect to the methods and tools of data collection, the following suggestions and recommendations were given to the students, parents, administrators and teachers.

- Teaching and learning process should be made more interesting, attractive and spontaneous in classroom
- Lifestyle changes has to be done not only by the students but also by the entire family
- Frequent interactions with students will make them to be focussed in classroom.
- Both mental and physical activities to be conducted in school to keep the children busy

LIMITATIONS

- The study was limited to only one Matriculation school in Chennai district with 33 students of class VIII.
- The investigator did not develop any psychological tests for investigation purpose.

CONCLUSION

Sleep is vital for the mental and physical health wellbeing for men and women. Adolescents should have adequate sleep duration for an average of eight to nine hours every night. Sleep plays a significant role in facilitating cognitive function, learning and working memory. Hence, proper sleeping habits has a greater impact on mental health and academic performance. In the present days, screen addiction is estimated to be a thoughtful issue in adolescents. Screen time utilization excessively growing with adolescents causes screen time addiction at a young age. This research aimed to open new doors for screen addiction free children and adolescents.

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