

Reducing the Number of Sleepy Students' in the Class during Learning: In the Case of Third Year Plant Science Students

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Abstract

A nap is a short period of sleep, usually taken during the day. Action research was conducted at Debarik University, college of agriculture and environmental sciences for 3rd-year plant science students with the sleepy students in the class room. The general objective was reducing the number of sleepy students in the case of plant science third year students. Then identified problems help to plan the intervention for further work. We have prepared questionnaires for those students with open and closed ended questionnaires; in addition to that we have carried out an interview with them and observations so as to address the objectives of the study. Both quantitative and qualitative approaches were used. The data were generated from primary sources. The primary data were collected from 7 students using questionnaires. Data from the questionnaire were analyzed using the Statistical Package for Social Sciences (SPSS version 20). To reduce the number of sleepy student in the class room, we implemented different interventions like bring them in front seat, open the class room windows, giving tasks to them, making the lecturing method more attractive, and participatory. We could reduce the number of sleepy students from 7 to 3 then further works are suggested. The method of lecturing should not be boring, able to use attractive teaching material and others, make the class room environment favorable to learn (good aeration, make the learning process participatory, advising the student on planned time management, giving a task for the sleepy student to present or to share idea, try to call by their name for those students having sleepiness problem in the class and others are suggestions or recommendation for next cycle.

Keywords: Sleepy, reducing, number, students, class

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1. INTRODUCTION

1.1. Background

Sleep is a complex process that we all experience every day. Without proper sleep, we cannot function properly and the risk of several different health problems increases. The lack of sleep affects our social and work life. Learning becomes challenging and we become forgetful. Thousands of students around the globe are at risk of sleep deprivation which contributes to lower academic outcomes (Merenheimo, 2018). A nap is a short period of sleep, usually taken during the day. According to Weale (2017) reported that students are struggling to concentrate in lesson due to the lack of sleep has been linked to the use of electronic devices late into the night. When students do not get the optimal 8 to 10 hours of sleep that they need, they lose their ability to succeed academically. Students have trouble retaining information, coping with stress, and staying focused (Persky, 2018).

Naps can be divided into three categories according to the National Sleep Foundation as planned napping, emergency napping, and habitual napping. Planned naps, also called preparatory napping, are naps taken before an individual feels sleepy. This nap is usually taken to ward off fatigue and tiredness later on in the day. Emergency napping happens when the individual feels very sleepy and tired and they feel they cannot go on with the activity they were carrying out, such as naps taken by drivers when they drive for long periods. Habitual napping is naps taken at the time each day, usually practiced by young children.

Many students tend to fall asleep in lectures, taking naps in between lectures, in the library, and even during the brief hour at lunch. Thus, napping seems to be part of a students' everyday life. Naps have an impact on a students' academic performance in class and their influence on students' concentration ability should be delved in to find out a way for students to concentrate better in class. Even if a student does not sleep during class time, they may experience brief mental lapses. Sleep experts often refer to mental lapses as micro sleep. A state of emotional arousal or increased effort due to increased motivation can overcome sleepiness and fatigue for a short period without observed changes in performance. University (college) students are sleeping less due to an overload of activities and that insufficient sleep impacts their health, mood GPA, and safety.

Regarding academic performance obtained by university students and its relationship with the quality of sleep, it has been found that sleep disorders correlate with difficulties in achieving academic success (Curcio *et al.*, 2006). Education is hugely important to a students' ability to become independent, and yet, today, students aren't getting the most out of it. The importance of education is lost on students who are sleeping in class, and there are things that we can do to keep students awake during class hours.

1.2. Significance of the study

The amount of sleep obtained by students has been shown to directly influence attentiveness and memory function (Matricciani *et al.*, 2012; Terman *et al.*, 2012). Sleepiness and fatigue is an unavoidable consequence of sleep loss (Carskadon *et al.*, 1998). It often presents itself in later waking times, tardiness, sleeping during class time, and memory loss. Thus, sleepy or fatigued students might be the last ones to take initiatives when participating in group or cooperative learning (Dahl, 1996). Thus, teaching techniques employed in the classroom would have to be highly rewarding and stimulating to ensure that sleepy or fatigued students remain engaged and motivated. However, tasks that are complex and require simultaneous abstract thinking, creativity, integration, and planning, might be impervious to compensatory motivational strategies. These are tasks that might be influenced primarily by sleep deprivation (Dahl, 1996).

Generally in the Debarik university in general and particularly in a college of agriculture and environmental sciences napping or we can say it mental lapses is a problem those students who experience such kinds of problem in the class during lecturing becomes inactive and he or she can't follow attentively and unable to engage actively in the teaching-learning process. In addition to this, the concentration of the teacher may disturb since we are looking at their reaction in front of the students. The Attentions of students will be disturbed during we are going to talk and settle the problem. These kinds of problems are observed in most of the class since we have taught different departments and students of the second and third year of the college but serious cases are observed in the case of third-year plant sciences students. The member of this group witnessed this problem in third-year plant science students. Therefore this action research was done with the following objectives;

1.3. Research Objectives

General Objective

- Reducing the number of sleepy students in class during learning in the case of third year plant sciences students

Specific objectives

- ❖ To identify the cause of sleepiness of the student
- ❖ To identify and implement possible strategies in alleviating the problem

Research questions

- i. What are the factors for students' sleepiness in the class?
- ii. What are the solutions for students' sleepiness in the classroom?

2. METHODS AND FINDINGS

2.1. Sampling and Data Collection

The research target groups were third-year plant sciences students with a total number of 7 students (3 female and 4 male students). Data were collected through questionnaires and observations. The sample respondents were selected from third-year plant science students who have such a problem during learning. As one of our group members was a teacher of the target class it was easy for us to identify those students. Both qualitative and quantitative data were collected.

2.2. Data collection methods

To gather the full information from the participants, the researchers applied the following data collection instruments.

2.2.1. Questionnaire

Close-ended and open-ended survey questionnaires were prepared and distributed for 7 students questionnaire survey was conducted to assess pre- and post-intervention changes of the students.

2.2.2. Observation

To gather information about the real situation of sleepy students in the class, the group members observed the students in a classroom.

2.3. Methods of data analysis

After collecting all necessary and relevant data, the group had organized it in appropriate way to present, analyze, and interpret as well as to summarize the data. Data from the questionnaire were analyzed using the Statistical Package for Social Sciences (SPSS version 20). Information and points from observation were summarized and key ideas were mentioned. The analyzed data was presented through tabulation, percentage, and frequency.

2.4. Identified Causes for Sleepiness in the Class

To identify the root cause of sleepiness during the class of the students, the researchers collect information from students using questionnaire and performs observation. From this information, the causes of sleepiness were

identified from the questionnaire and observations were the following:

-  When the lecturing is boring
-  Assignment and another related workload at night killing more time on social media using a Smartphone
-  Classroom setting arrangement
-  Afternoon class
-  Hot classroom
-  Less interactive teaching methodology

2.5. Findings of the research

2.5.1. Pre-action assessment of student

Third year Plant sciences students were our target students with the problem of sleepiness during class. There were seven students and we used both open and closed-ended questionnaires to collect the required data. Collected data were analyzed by using different tools. And the results found are described in the following table.

		Frequency (%)	
		Yes	No
1	Do you experience these problems in all classes	4 (57.1)	3 (42.9)
2	Do you think napping in the class affects your academic achievement?	7(100)	
3	Do your teacher take measure students having a nap in the class?	3(42.9)	4(57.1)
4	Do you think those measurements are necessary?	5(71.4)	2(28.6)
5	Do you have a smart phone?	6(85.7)	1(14.3)
6	Is your dormitory free from any noise to sleep?	3(42.9)	4(57.1)
7	Do you have an additional responsibility beyond learning?	2(28.6)	5(71.4)
8	Sex of respondents	Female 3(42.9)	Male 4(57.1)
9	What do you think your main reason for taking a nap in the classroom?	Boring lecturing method	2(28.5)
		Go to bed late in the previous day	2(28.6)
		Due to repeated sleepless nights	1(14.3)
		unaware of test or exam schedules	1(14.3)
		Afternoon class	1(14.3)
10	When do you experience these Problems?	Morning class	2(28.6)
		Afternoon classes	3(42.8)
		Both	2(28.6)
11	Time to bed	3:00	1(14.3)
		6:00	3(42.9)
		5:00	2(28.5)
		4:00	1(14.3)

Table 1: Questionnaires' results from respondent

Before intervention 4 of them said their problem happens in all classes especially in the afternoon classes.

This may be due to warm and crowded classroom environments. All of them know sleeping in the class affects their grade achievements and agreed that it is necessary if teachers take measurements for sleepy students. However, they said only a few teachers take measurements on them others seem to just ignore them and continue lecturing. 5 out of 7 sleepy students said they sleep after 5 o'clock which is late for most peoples. The use of Smartphones for the internet, games, etc., and the existence of noise around their dormitory during the night are major reasons for going to bed too late but participating in different responsibilities is not that much a serious problem to sleepy in the class room. Going to bed late doesn't stop them to be wake up early in the morning. The result shows that most of them wake up early in the morning to do additional activities and to use their smartphone for social media then disturbs the day ahead for them in the class.

Going bed late in the previous day and the boring lecturing method mentioned by students are the two main reasons for the problem of sleepy during lecturing. The way teachers deliver the course determines being sleepy

or not, most of them are highly affected by the teaching methodology of the teacher. The instructor of our target class (our group member) said the problem of sleepiness is not only their problem for the sleepy students but it is a problem for the whole class. Other students' attention was focused on sleepy students in the class and misses the class. Even the teacher's attention is on sleepy students and can disturb her moods also. She also confirms that those students who are sleepy are inactive and less motivated to attend the lecture. We have added the question at which time they wake up in the morning and their mid exam result by the course project planning and analysis.

3. INTERVENTION PLAN

Set the student at the front of the class: Less likely to sleepy when seated nearby us, and if she/he does, we can be sure to notice. If the student is seated elsewhere in the class, moving towards her/him if we see her/him falling asleep. Our presence may serve as a wake-up call. We also might consider seating her/him near the window; the light and fresh air may make her/him more alert.

Opening the window: Warm classroom environment is one of the factors that lead to the students makes sleepy during lecturing, so making all the windows open can make the classroom comfortable, and the fresh air changes their mood.

Giving tasks to the student: Teachers should give a task to present or to give some ideas related to the topic then he/she becomes active and eager to listen to what we are teaching. And we unexpectedly call to by their name a question.

Creating an active learning classroom environment: Student's participation should be appreciated in the class, group discussion, assigning those students for the presentation purposely to actively engage in the discussion.

Use of Attractive teaching methodology: The way of teaching should be given higher attention to reducing sleepy students. So we should avoid boring lecturing methods by preparing attractive and smart power points by including pictures, videos. And also, another method is taking a short breaktime in between long lecturing makes it more attractive and motivates them to learn more.

Advising to use their time effectively: Time determines all the activities they are to be performed, so planned use of time helps to do activities on time. Most students spend time on necessary activities so they need to be advised to use their time on important activities and efficiently.

4. IMPLEMENTATION OF INTERVENTION PLAN

Set the student at the front of the class: Students who are experiencing such problem mostly sat at back or in the middle of the students, so we arranged front set purposely for them and that helps us to follow up with them easily even they become active since they think we can notice them easily when they become sleepy.

Opening the window: We made sure that all windows are opening before starting the class for good aeration during lecturing.

Giving tasks to the student: we gave them a task to present or to share their ideas on topics we were delivering at the time. And we unexpectedly call them by their name and asking a question.

Creating an active learning classroom environment: We should appreciate those students' participation in the class. We were giving them a group discussion and in the end, we purposely select those students to present what they were discussing.

Use of Attractive teaching methodology: We gave attractive lecturing by preparing a smart and attractive PowerPoint by including simple and clarifying pictures that were supported by videos.

Advising them to use their time effectively: We arranged a time to talk to them in our office, when we were asking them they didn't have any plan to use their time. Most of their time passed on something not important to them; even they kill lots of time using their smartphone for social media, to see films and videos. We were told to them to use their time by plan and to reduce spending time on their smartphone finally helps them to get ready early for bed and active for the next day.

5. EVALUATION OF THE INTERVATION

5.1. Post-action assessment of student

		Frequency (%)	
		Yes	No
1	Do you experience these problems in all classes	1 (14.2)	6 (85.8)
2	Do you think napping in the class affects your academic achievement?	7(100)	
3	Do your teachers take measure students having a nap in the class?	3(42.9)	4(57.1)
4	Do you think those measurements are necessary?	7(100)	(0.00)
5	Do you have a Smartphone?	6(85.7)	1(14.3)

		Frequency (%)	
		Yes	No
6	Is your dormitory free from any noise to sleep?	3(42.9)	4(57.1)
7	Do you have an additional responsibility beyond learning?	2(28.6)	5(71.4)
8	Sex of respondents	Female	Male
		3(42.9)	4(57.1)
9	What do you think your main reason for taking a nap in the classroom?	Boring lecturing method	0(0.00)
		Go to bed late in the previous day	0(0.00)
		Due to repeated sleepless nights	0(0.00)
		unaware of test or exam schedules	1(33.3)
		Afternoon class	2(66.7)
10	When do you experience these problems?	Morning class	1(33.3)
		Afternoon classes	2(66.7)
		Both	0(0.00)
11	Time to bed	3:00	4(57.1)
		6:00	3(42.9)

Table 2: Questioner result from respondent after intervention

The action research team has evaluated the overall process of the research. After the implementation of the solution measures for sleepy students, the effectiveness was assessed again through questionnaires, visual observation, and interviews. The researchers implement good intervention tools as plans to solve the problems identified by the researcher at the very beginning. The table above indicates the post assessment result after the implementation of the selected interventions.

After the implementation of selected interventions, we tried to collect the questionnaire again to check whether the implementations were effective or not. The measures we took by making the class less boring, advising students about importance of getting good sleep (by arranging the time they go to bed and wake up in the morning) and to use their smart phone for only important purpose since they kill most of their time on social medias, gaming, and videos. We were able to see some progresses like students' selected boring class and going bed late in previous day as reasons for sleepiness before the intervention. This result out of 7 sleepy students 4 becomes normal and active in the class room in following the session attentively.

After the implementation of the intervention, there was no student who selects boring lecturing and late time to sleep as a problem to them to be being sleepy in the class. Since the teaching learning process was so smart and attractive they become active and motivated to follow attentively the lecture. They tried to plan at which time to go to bed and how effectively and efficiently their smart phone, so able to sleep early and obtained enough sleep at night that helps them to be active in the next day. Not only their time for bed affected their sleepiness in the class but also the time they used to wake up in the morning greatly determines their sleepiness in the class.

When we see the table those who wake up early in the morning it may be to do activities like, assignments, reports or may be to use social media that affects the day ahead in the class room. They passed all fatigued and depressed day. After the implementation of the intervention which is advising them related to their time management they showed us a progress change as compared to the previous. The time to wake up in the morning showed a progress in 4 of them but 3 of them remains with the problem. 4 out of 7 get bed early and get enough sleep at night due to the implemented intervention that was advising them to use their time appropriately and get enough sleep. Bringing sleepy students in front benches to check up on them were other action we took.

Giving them a task and asking a question by calling their name unexpectedly bring a change in their academic performance and activity in the class. When we were comparing their mid exam result with the final exam results, we have at hand they works hard and makes them productive this shows us the students sleepiness behavior affects their academic achievement. Our intervention made them to follow attentively and to engage in different group works. The class room environment and setting arrangement of the chair considered as a hindrance to teaching and can also changes the moods of students. We used to open windows before the lecturing was started and after the intervention the students told as a good measurement was taken helps to follow freely since the aeration was good.

6. CONCLUSION AND SUGGESTIONS FOR NEXT CYCLE

After implementing the interventions like bringing them to the front set, giving task to them, opening windows,

use of attractive lecturing method, making class less boring and helps them to actively participate in the class. Generally, students who have such a problem can be adjusted through a continuous effort by teacher as well. However, we can't change the behavior of sleepiness nature of 7 students at all, because it cannot be achieved at a night only so, we suggest this and further mechanisms of solving the problem of sleepy students in the class during lecturing. Based on the above conclusion we recommended the following points for next cycle.

-  The method of lecturing should not be boring, able to use attractive teaching material and others.
-  Make the class room environment favorable to learn, good aeration Make the learning process participatory
-  Advising the student on planned time management
-  Giving a task for the sleepy student to present or to share idea
-  Try to call by their name for those students having sleepiness problem in the class

7. REFERENCES

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8. ANNEXES

Questionnaires

1. Sex of respondent
 - A. Female
 - B. Male
2. What do you think your main reason for taking a nap in the class room?
 - A. Boring lecturing method
 - B. Warm class
 - C. Go to bed late in the previous day
 - D. Due to repeated sleepless nights
 - E. unaware of test or exam schedules
 - F. lots of social activities after class
 - G. No breakfast
 - H. Afternoon class
 - I. Health problem
3. Do you experience these problems to all classes? Yes/No in some classes
4. When do you experience these problems?
 - A. Morning class B. Afternoon classes C. Both
5. Do you think napping in the class affects your academic achievement? Yes/No
6. Does your teacher take measurement for students having nap in the class? Yes/No
7. Do you think those measurements are necessary? Yes/No
8. Do you have a smart phone? yes/No
9. What time do you usually go to bed? _____
10. At what time you wake up at the morning? _____
11. Is your dormitory is free from any noise to sleep? Yes/N
12. Amount of money you received per month? _____
13. Do you have an additional responsibility beyond learning? Yes/NO
14. What was your score in mid exam for Microbiology?
