

# **CGS601**

## **Assignment-5**

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While thinking of a scenario, I gave sincere thoughts to various daily-life scenarios such as how a waiter attends to different tables listening and writing orders simultaneously, how a person cooks in the kitchen and may forget to add sugar in tea while attending to a cell phone or talking to another person in the kitchen. Forgetting to add sugar also is sometimes associated with the emotional state of the person. We will try to consider the scenario of mind wandering in college education. Extensive studies have been conducted on inattention during lectures.

### **Mindwaring in college lectures:**

It has been observed that distractions during lectures may not come from external stimuli at all. Various relationships such as the influence of mind wandering on grades of a course has been studied in the past 50 years or so. Recent study in 2011 by Lindquist and McLean provided five thought probes to students at specific intervals and were asked if they were experiencing thoughts which were unrelated to the lecture at that moment and it was recorded that these unrelated thoughts were present on almost 33% of probes on the average.

Another interesting observation was that mind wandering increases with increase in time span of lectures. Reduced note making was observed with increased mind wandering. Mind wandering can be intentional (if you have not attended previous lectures and already knew you will not understand today's lecture). In a study it was observed that unintentional mind wandering is relatively low and does not decrease or increase much during a course from initial or later days, but intentional mind wandering was observed to be increasing as semester proceeds. There was another very important observation in studies as intentional mind wandering was associated with negative performance in daily quizzes(retention of material of the just conducted lecture) while unintentional mind wandering impacted negatively on end term examinations. Studies on recorded lectures have also been conducted recently and almost similar observations were made, almost mind wandering on 40% of probe presented, increasing with increase in lecture length.

Another experiment by 3 scientists allowed participants to divide the mind wandering into 5 categories and observed that “thinking about or using another technology” accounted for 29% of all thinking not related to the task in hand. Also they observed that mind wandering was negatively predicted by working memory capacity.

The amount of mind wandering inversely affects performance in exams in most cases as shown by many studies.

Advanced methods like EEG signals were also used to study mind wandering in a live lecture setting. Task measured experiments, one of which was a shape presented on the lecture screen randomly at some point and students had to present the button as soon as possible on the smartphones, recording response time of students.

Attention failure (which one can notice) was directly related to SAT scores as shown by one of the studies in 2012.

Another type of inattention that harms learning of an individual is irrelevant distraction task, which is used to measure interference caused by visual distractors irrelevant to task. Magnitude of inattention varies from person to person and is related to childhood inattentive symptoms.

### **Reducing inattention in college lectures;**

A lot of research has been done to reduce mind wandering and inattentiveness as there are clear evidences that these affect performance in academic and related fields. Szpunar in 2017 distinguished between two approaches which were reactive and proactive:

Reactive Approach : Detecting attention lapses in real time and refocusing lapses in a live setting.

Proactive Approach : Development of educational techniques which helps in encouraging on task performances.

Reactive approaches are mostly impractical and costly, thus limited research has been performed in this area while a lot of research has gone to proactive methods, some being altering the classroom environment to minimise distractions, it was observed sitting near to lecture stage reduces mind wandering suggesting seating arrangement can be an important factor. How the

instructor teaches the subject and amount of interest by students also seems to have correlation with mind wandering.

Another important task , reading was also analysed and was observed that working memory capacity has a negative correlation with reading comprehension.

Noisy backgrounds and silent backgrounds were considered and it was observed that noisy background students are inattentive due to external stimuli while second cases are due to mind wandering.

More methods have been designed which are meant to be student or learner specific as to whether to only listen to the lecture or should take notes simultaneously. In reading with a noisy background, if the font is easy to read, background noise is less as compared to a font which is difficult to read.

There are many studies which are underway to reduce inattentiveness and some approaches are even implemented in many places like reducing distractions in a classroom but approaches like reduction in live lectures is quite impractical (Back Benchers :)).

**References:**

- [https://discovery.ucl.ac.uk/id/eprint/10081737/1/Hobbiss\\_thesis\\_revised.pdf](https://discovery.ucl.ac.uk/id/eprint/10081737/1/Hobbiss_thesis_revised.pdf)
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