Psychology theories on how to study

How to Study According to Cognitive Psychologists

All over the world, learning is generally characterized by periods of classes and lectures alternating with tests and exams. These tests are mostly done after every three weeks or a month. Most students and lecturers do not take these tests seriously and view them as a waste of time and energy preferring the end-semester exam only. However, research activities carried out on student study methods seem to prove otherwise- that regular and frequent testing improves the learning experience. This article will try and analyze different research findings and come up with a valid and informed conclusion.

For decades now, memory tests have become one of the most common ways of finding out whether students remember what they are taught in class. These tests are carried out in the form of picture and word lists. Research focuses on two approaches to studying; repeated-study system and repeated-testing program. Each method has its own group of students with a different schedule. Results that have been obtained from these studies have shown that students who studied repeatedly perform well in tests administered immediately after studying but failed in later tests. On the other hand, students that underwent constant testing ended up with good long-term memory and had excellent results in tests that came even after the research was over. (Wheeler et al, 2003). Constant testing not only improves the learning experience but also reduces the rate of forgetting significantly in tests delayed as long as forty two days (Carpenter, Pashler, Wixted and Vul, 2008).

Ebbinghaus (1885/1964) carried out memory research using nonsense syllables that are composed of alternating consonants and vowels. He read and re-read a list containing these syllables until he mastered all of them and then he determined how long it lasted for him to relearn it after some time. His results showed that the longer the time taken after learning, the more he forgot. However, more forgetting actually occurred the first few days of after learning and then became gradual and slower with time. This can be explained further by the use of the forgetting curve. These findings can be integrated in the normal learning experience by making sure that teachers and lecturers administer tests after immediately after learning for them to obtain excellent results. According to Bahrick students taking many courses in the same disciplines are more likely to retain their memories for a longer time. This is because the courses emphasize repetition of major and central concepts of the discipline ensuring that students have a constant reminder of whatever they learnt several years ago. Additionally, the performance in a certain course does not influence the rate of forgetting of the course contents (Bahrick and Hall, 1991).

Some people have the notion that overlearning will produce good grades. Contrary to this belief, studying excessively has proven to boost short-term memory. Long-term retention was however, poor. People who study continuously for long hours and sometimes for several days are better off when faced by immediate tests as they have the advantage of reading the same thing over and over. In contrast, people who only read small bits every few days experience great success when it comes to delayed tests. This is because overlearning fills up and tires the mind as one has no resting time to

sit back and reflect on the content learned. This makes them to forget things that they learned previously as they concentrate on acquiring new knowledge. Learning should be accompanied by small break intervals that allow the mind to relax and organize the information learnt. Failure to do this can be catastrophic as the student will end up remembering only the things that he/she read most recently. However, overlearning has its advantages too; it is advisable for someone expecting a test in the afternoon to make sure that he/she utilizies the whole morning to study. Another example is a person travelling to a new place for a short time. He/she can read a language translation dictionary overnight and travel in the morning. This will help him/her to remember the new words and phrases during the course of the trip (Rohrer, Taylor, Pashler, Wixted and Cepeda, 2004).

Most mathematical textbooks used in classes today have topical questions at the end of each chapter. These tests only focus on the recently learned materials. Experiments carried out to determine the effect of these tests on long-term memory have proved that this method, in comparison to tests comprising of random questions from all learned topics, produce inferior results. This is because in the normal format, students who failed to grasp the tested topic will perform poorly and will not have another chance to study and repeat the tests. However, in the shuffled format, a student has an advantage in that he/she may have grasped random knowledge from the tested topics and thus will be able to answer questions derived from these sections. Additionally, the shuffling method allows the teacher to set future questions from previously tested topics and thus the students will be able to

recognize and remember these questions and answer them successfully (Rohrer and Taylor, 2007).

A person’s mood can affect one’s memory capability. A study carried out by Hertel and Hardin (1990) shows that depressed people or people with generally low moods have less memory retention that normal happy people. In their study, they used homophones to come up with sentences that either induced a sad mood or were neutral. Results from a recognition test administered after the sentences were read to the participants revealed that majority of them did not remember homophones from sentences that were associated with a depressive mood. A possible explanation for these findings can be that normal happy people automatically developed a strategy for remembering while the depressed group needed to be taught a strategy before they could apply it to boost memory retention. Depression or low moods thus, have a great effect on long-term memory retention capability of a person.

Nowadays, prospective students are attracted by institutions that offer short-duration courses. This is partly because most people are in a hurry to get out of the education system and join the working class. However, such kinds of courses have their own limitations. Most of these courses rarely have mid-semester tests and only focus on the main exam. This ensures that lecturers teach non-stop to meet the tight deadlines and students only engage their brains during the exam period. This kind of learning is bad as it does not offer learners the time to read and revise whatever they have learnt and by the end of the semester, they have to run back to their books to even remember the introductory part. Such kind of system does not encourage

long-term memory retention of information as it does not offer students the challenge to study regularly. Study time that is distributed across the semester produces more excellent results that a one-time study activity. This is known as the spacing effect (Seabrook, Brown and Solity, 2004).

People generally tend to remember pleasant things more than unpleasant ones. According to Metcalfe (1998) people tend to overestimate their achievements almost in all aspects of life. This effect, known as the overconfidence effect, also plays a role in long-term memory retention. This is because people, especially students will only tend to remember the sections or chapters that they think they understood and neglect the others that were in their view, difficult.

The spacing effect can also be analyzed in another way. Shorter and more frequent teaching sessions produce better results than long sessions occurring once in a while. This is because the shorter sessions give the student a little amount of content to study and thus the student will be able to read and understand the lessons taught faster. On the contrary, long and spaced lectures leave the students with a lot of content to study and they end up straining so as to be prepared before the tests. This has an overall effect on the performance in that most students will perform poorly as they will not be able to remember the content in the many number of pages perused during revision.

It is still not understood why people do not adopt these new study methods with all the research proving that they are better in comparison to traditional conventional methods. Most people view the new study methods as too

difficult or impossible to follow. The cost of replacing the old study methods with the new alternatives is particularly low as the school does not have to buy any new material. The teacher is the only one expected to assist in this transformation by introducing these alternatives slowly to the students. With time, the students will have adapted o the new methods such as random and repeated testing. Such alternatives are advantageous in that they offer more performance and do not come at any extra cost. Authors with the normal conventional mathematical textbooks can also be involved in the change by introducing these aspects in their next edition of their publications.

However, these alternatives also present some challenges. Students tested in the new methods produce more errors during the learning experience despite the good performance in the tests. This can be attributed to the fact that many students are not ready to study all the time and still hate the thought of having tests regularly. Most people view studying as a punishment by the school and thus are not open to the idea that increased and random tests can better their performance. Some schools and institutions also view their current teaching methods as satisfactory to produce normal grades as they are only interested in the financial benefit from tuition fees rather than overall academic excellence.

In conclusion, the new alternatives methods of learning are way better than the old conventional methods. If these methods were to be integrated into the learning experience, all institutions will display increased performance in tests and exams. However, naturally people are resistant to change and thus some of these alternatives will never be utilized. The new methods used to conduct the experiments have more advantages than disadvantages and

thus should be recommended to the relevant authority so as to be included in the curriculum. These new methods boost long-term retention of memory and it is advisable to all institutions to adopt and inculcate them in the learning experience. Students will benefit from these new methods by displaying better results in their tests. This kind of system will also produce more competent graduates and professionals for the job market and thus the quality of products and services in the market will be improved. If learning is carried out in the prescribed methods, students and teachers will enjoy a smooth and stress-free study environment.

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