Spaced Learning

At Pax Academy, we advertise our Qur’an program as a no-homework, painless process. In other words, the students do not need to repeat the verses again and again at home. Parents do not need to force their children to sit down for endless hours chanting before they memorize ayat. People often ask us how we do this. The answer is, “through Spaced Learning”. So what is this all about?

Recent years have seen enormous strides in the field of neurophysiology. Scientists now know much more about how the brain learns. They can tell you what factors promote brain function or helps left-right brain coordination. They also have found how to turn a short-term memory into long-term memory.

Pause right there. Did you actually read that right? Yes. This is a very important process. This means that if a person tells you, say a phone number, which you will remember for maybe 10 minutes at most, you now know how to turn that into something you will never forget. Of course, you will try to remember things more important such as Biology facts, math formulas, or even Qur’an verses.

Thoughts enter your brain as electro-magnetic waves, then circulate through the brain cells (neurons) and jump from cell to cell. These thoughts run through a circuit of cells. Some of the electricity runs around the same circuit again and again, thus producing short-term memory, but eventually the intensity finally fades and dies away, and that memory is lost.

A long-term memory is a little thing called an amino acid, which is the building block that proteins are made of. They grow on the root-like arms of the brain cells. How does that electric current change into an amino acid? We all know some of the ways: one way is to repeat it a few hundred times. The current keeps going round and round till it cooks the amino acid up. Another way is to associate it with a strong emotion: that’s equivalent to searing the amino acid in minutes. All of us remember exactly what we were doing the morning we heard about September 11, but not what we were doing the day before or after. Yet another way is to associate it with other facts already in the brain. For example, we all know what color Snow White’s hair is without having to repeat it.

But what about 20 different new terms in biology? Scientists have found that there is a critical lapse of time, namely, exactly 10 minutes that are vital to the conversion of a short-term memory into a long-term memory. You need to leave the information alone, to sit and cool off with the fire off, for 10 minutes, and let it cook itself, the way you do for microwave cuisine. Then, you cook it again (present the information again) a second time. Then turn the fire off and cool again for 10 minutes. Then a third and final cooking, and voila, the information is good for at least three weeks. Any reinforcement thereafter will lengthen the time it remains in your brain.

As we speak, I am only aware of one school in the world, other than Pax, carrying out Spaced Learning in class. This is at Monkseaton High School in England, for Biology classes. The students who complete the Spaced Learning courses all score at the top of the country’s annual GCSE exams. This is certainly a great indication of its effectiveness.