



How space affects learning, student attention and engagement

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South Africa faces a particularly challenging teaching environment with often overcrowded classrooms, distracted learners and hard working but sometimes underqualified teachers.

And another, more subtle challenge is that traditional teaching classroom experiences are often not aligned with how the brain works, particularly as it relates to attention.

Richard Andrews, Managing Director of Inspiration Office, an Africa-wide office space and furniture consultancy that has advised many schools and universities, said that learning institutions in South Africa can achieve far better results by better understanding how learning works.

"There are so many things vying for student attention today it makes it harder to get attention and therefore engagement, but there are five things that can be done to dramatically improve results:"

1) Seat location impacts attention

A study by Kennesaw State University revealed that where students sit in the classroom impacts focus. Said Andrews: "Students in the front and middle of the classroom stayed on task, while those in the back were more distracted. An active learning classroom where students easily moved and rearrange their seating enables them to stay attentive."

Classrooms configured with no fixed position where the instructor must stand and mobile seating create better results. Here a teacher or student can address the class, lead a discussion and share content from anywhere in the classroom. There's no front or back of the classroom, and since the seating allows students to change posture and position easily, every seat is the best seat in the room.

2) Active learning

Research by Diane M. Bunce, et. al. on "How Long Can Students Pay Attention in Class?", compared a passive lecture approach and active learning methods. Researchers noted fewer attention lapses during times of active learning. They also found fewer lapses in attention during a lecture that immediately followed a demonstration or after a question was asked, compared to lectures that preceded active learning methods. This suggests active learning may have dual benefits: engaging student attention and refreshing attention immediately afterward.

3) Physical movement fuels the brain

Schools are starting to incorporate more physical activity in the classroom, such as Delaney Collective, a high school in Sydney, Australia, where students do "brain pushups" each morning: five-minute, Tai Chi-like exercises that get the blood flowing and help students focus.

"Physical movement increases alertness and helps encode and trigger memory. Yet schools and teachers traditionally train students to be sedentary, and equate sitting still with greater attention and focus," noted Andrews.

Simply allowing students to get out of their seats to move while learning provides the brain with much-needed novelty and change.

4) Novelty and change get attention

Our brains naturally seek out what's new and different. Therefore varying materials and breaks facilitate attention. A study by Kennesaw State University found that students paid more attention when the professor reviewed quiz answers, presented new information or shared videos, essentially by changing things up.

Novelty and change facilitate learning in another way too. Repeating important points by engaging multiple senses helps to reinforce learning. There is a greater likelihood that learning will generalize outside the classroom if it is organized across sensory, physical, emotional and cognitive networks.

5) Learning has a natural rhythm

The need for periods of both quiet focus and healthy distraction finds its parallel in learning.

Our brain can focus on a task for only so long, after which it needs a break for renewal to achieve high performance on the next task. Ignore this rhythm, and we tend to lose focus.

"Researchers have found that people who respect this natural rhythm are more productive," said Andrews. Breaks for rest and renewal are critical to the body and brain, as well as to attention span. The work of education is similarly organic, changing at different times of the term, week, even during a single class period.