



SOCIAL INNOVATIONS EDUBYTE 5 2020, INTERMEDIATE PHASE MATHS AND ACTIVE LEARNING

The research about maths teaching at South African public schools suggests that classroom teaching practice needs to be dramatically improved.

Classroom-based research points to teaching that foregrounds ritual participation (including chanting), passive listening and little sense-making, resulting in many learners failing to progress beyond inefficient one-to-one counting methods.

It suggests that in most classrooms – learners are **passive** and teachers are focused on administrative compliance. During school time, teachers spend a lot of time on administration and assessment – and precious time that could be used to help learners make sense of the maths is lost.

In an after-school programme, we should be using the full allocation of each lesson to encourage each and every child to **actively** participate in making sense of the maths. The more actively a child is involved, and the more fluent he becomes at the maths (as he would become fluent learning a language) – the closer we get to what is called – **productive disposition**.

Remember what we do at PEP Academy? We develop learners who are confident, independent and with a positive attitude to learning. In other words, we develop learners with a **productive disposition**. And we get there through classrooms that encourage **active** learning.

Our after-school programme is activity driven, includes games and encourages theory to be taught in a way that is fun and engaging.



EduByte

How can we encourage active learning in our classrooms?

- **Differentiation:** create opportunities for learners to work at different levels and if necessary, allow them the flexibility to work on problems they can manage.
- **Visualisation:** represent mathematics concepts in multiple ways, for example use manipulatives, pictures, charts, vocabulary cards. Look for ICT tools that help you visualise mathematics. Link these multiple representations back to the mathematics concept you are teaching.
- **Maths Talk:** giving learners the opportunity to express their thinking about the mathematics they are learning ensures that they are both retrieving these ideas from memory which helps embed them, but also gives you a way to “see” their thinking and correct any misconceptions they may be holding.
- **Embodied cognition:** this links mathematical ideas to body movement through dance, action and physical activity. Explore creative ways in which rhyme, song and dance can be linked to mathematical ideas.
- **Reflections on learning:** at the end of a unit of learning remind learners to think about their learning journey by writing down new words, key ideas or how they are feeling. As they become more comfortable with these reflections, they can write down what they struggled with and what they still need to learn.

*This is an open source educational resource drafted by Social Innovations. This note draws from the research report *Into the Gap*, authored by CASME. The references for the research are cited in the full report which can be downloaded from www.socialinnovations.co.za*