

EDUCATION. The Billionaire Who Wants to Make Math Easy

New school initiative launched

Being able to do math is absolutely essential, but traditional teaching leaves far too many students feeling ashamed of not understanding.

That's the view of Roger Akelius, who wants to make math concrete and simple.

On August 27, the Math Factory in Vara will open, and all students in the municipality will be able to visit at least once per semester.

There are no soccer goals in the garden of real estate billionaire and entrepreneur Roger Akelius outside Gothenburg.

This is hardly a coincidence.

"I was always picked last for the soccer team at school. I had a weak left eye and could never train myself to judge the distance to a ball. I developed a lifelong fear of soccer, golf, and ice hockey, and I could never help my kids with ball games," he says, adding:

"Other kids experience exactly the same thing, but with math." That problem is significantly worse, according to Roger Akelius, not only for the competitiveness of Swedish companies and the like, but also to a very great extent for individual people.

"I've seen how people lose a lot of money on stocks, savings accounts, pensions, gambling, and economic cycles because of a lack of math skills," he says. Shame is a problem in this context, he adds. Roger Akelius is no fan of traditional classroom instruction and grades.

"Grades create one winner and ten losers. Feeling like you've failed creates a sense of shame and that, in turn, causes many to stop even trying." Back to the garden. Here you'll find, among many other things, a stone-edged circle with a radius of ten meters, a grid on the ground, posts, cones, and ribbons.

Above all, there's a mathematics professor here today.

Samuel Bengmark is the director of the Akelius Math Learning Lab at Chalmers University of Technology and the University of Gothenburg. He demonstrates that it's possible to quickly develop an understanding of complex mathematics using a lot of simple and concrete methods.



Vara City Councilmember Gabriela Bosnjakovic gets to learn not only what a cosine is, but also a whole lot else about angles and distances in geometric figures. Samuel Bengmark is in charge of the hands-on teaching methods.

"In high school, you study pretty advanced trigonometry, and that's when you get into sine and cosine," he says.

Using a long strip of tape that forms two sides of a triangle, he demonstrates how the longest side changes as he moves along the outer ring. "That's what a cosine is," he says.

In any case, the demonstration is a more tangible explanation than the textbook's definition, which reads: "A trigonometric function for an angle equal to the ratio between the adjacent side and the hypotenuse."

The hypotenuse, incidentally, is one of several unnecessarily complicated mathematical terms that Roger Akelius doesn't like. "Just say the longest side."

And don't say numerator and denominator. Say 'parts of the whole.'

Simplifying descriptions and letting students work in different ways, often 'hands-on' with practical tools, are the cornerstones of the educational approach the Akelius Foundation and Chalmers are now developing.

Furthermore, the work should take place in small groups of six students in order to create a safe environment and prevent the risk of bullying.

The idea is also that students should be able to take on the role of instructor for the group.



"The most effective thing... The best way to learn something is to be a teacher for others," says Roger Akelius.

Part of the mathematics instruction will take place in connection with physical activity. The Akelius Foundation is now seeking additional outdoor space at another location in Vara to develop the program even further.

Starting this autumn, students in Vara's schools will be able to take part in the educational approach.

On Nordhemsgatan, the Akelius Foundation has created its "Math Factory." Outside the building, a number of tools for practical learning can be seen, but most of the interior is also new.

"We have invested about ten million kronor there," Roger Akelius explains.

Six teachers, whose salaries are funded by the foundation, have been employed by the municipality. Each term

, every student will be able to visit the Math Factory to receive a practical, hands-on foundation that they can later build on in regular classroom instruction.

The inauguration will take place on August 27, and students will begin visiting during the autumn term.

"It will be great fun and very exciting. With the tools that Roger has helped us develop, I am convinced that we can make a difference," says Samuel Bengmark, who is responsible for the operation.

He adds that they will also be able to receive students who either need extra support to meet educational goals or are so advanced that they risk becoming under-stimulated in regular classroom teaching.

The Math Factory is part of the effort to develop educational materials for the Akelius Foundation's aid work. The foundation...

The foundation operates several hundred schools around the world, including in Gaza and Cape Verde.

The fact that it is being established in Vara is not solely because Roger Akelius once attended secondary school here.

"It's because of that lady," he says, pointing to Vara's Moderate Party municipal commissioner, Gabriela Bosnjakovic.

"She has been nagging me for five years. For four years I said no, but eventually I said yes."

To say that Gabriela Bosnjakovic is pleased about the initiative would, of course, be an understatement. She speaks of the major investment by an external actor who is also funding six teaching positions and promoting a modern educational approach that will benefit students.

"This is how I want to work, with the public and private sectors collaborating."

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