Recipient Details

Name of organisation or individual: [O] Maths Pathway

Reference Type: Industry/Business

State or territory: Vic

Serial Identification Number: 478356

Responses

Curriculum and assessment

We work with schools around Australia to reimagine their mathematics learning and teaching models. Our focus is on ensuring that students everywhere have access to best practice mathematics curriculum and assessment, regardless of circumstance.

Maths learning should not be simply about delivering dot points in the curriculum, but the limited and inflexible nature of traditional learning models (chalk and talk, textbook based, one size fits all, teacher at the front) generally leaves teachers feeling under pressure to race through the content (recent changes to the national curriculum notwithstanding). Historically, education systems in this country have contributed negatively to this by attempting to enforce a one-size-fits-all sequence of learning. Given that the average maths classroom in Australia contains a seven year spread of abilities (Grattan Institute, 2015), it is clear that this approach is untenable.

By personalising the curriculum for each student, our model (the Maths Pathway Learning and Teaching Model) ensures that students understand mathematics both more deeply and more rapidly, and gives the teacher the time in the classroom to focus on rich learning and small group instruction, both of which are much more suited to context-aware learning than the textbook / content-based model.

Traditional assessment practices in mathematics, including unit/topic tests, exams, and class tests, also follow the one-size-fits-all model, which is inappropriate everywhere, and particularly in multi-age or multi-grade-level contexts.

The Maths Pathway model provides a personalised model of assessment, in which each student is assessed according to the work that they do, and measured on the growth in learning and mastery that they demonstrate, rather than on arbitrary grade levels.

This allows students to move through the curriculum at their own pace, simultaneously promoting a much deeper level of understanding. The impact of this is remarkable. Across 81 regional, rural and remote schools, students have moved from an average growth rate of 0.51 years of learning / school year to an average of 1.30 years of learning / time. The program delivery cost is equivalent to a textbook for each student, which represents incredible value for the schools involved.

Rating: 7

Teachers and teaching

Teachers are core to the delivery of a high-quality learning experience for students. We recognise that, particularly in mathematics, the levels of teacher capability and confidence vary wildly across and within schools, and that this is a particular challenge in regional, remote and rural schools. In

order to deliver a consistently excellent learning experience for our students, we have invested heavily in professional development and training courses for the teachers in our partner schools.

Professional development, in all contexts, needs to be more than just one-off in-service or off-site events. This is particularly in regional, remote and rural contexts, given that the majority of in-person professional development takes place in capital cities.

We operate a 'train the trainer' model of professional development for our teachers, and combine it with a peer-supported community of practice. We conduct local residential training retreats to train champion teachers in core pedagogical skills, and in organisational change management to help the manage the transition to a new learning and teaching model. They then conduct an in-school training program with the remote support of our education consultants, and join an online community of practice in which they exchange ideas, solutions and options for implementing the model.

This model has resulted both in broadly consistent implementations, and in the ability for teachers from different contexts and locations to interact regularly on significant pedagogical matters.

Rating: 7

Leaders and leadership
Rating: 0

School and Community
Rating: 0

Information and Communication Technology
Access to reliable internet is critical in allowing us to curriculum materials and modern learning experiences to students – and perhaps more importantly in allowing us to deliver timely intervention data to teachers, so that they can work with students in the most appropriate manner.

Just as important, however, is the internal wifi and network infrastructure in a school. Too often, a school with a decent internet connection is let down by a wifi network that cannot handle having every student simultaneously connected, which is increasingly a requirement of modern learning environments, and definitely required as part of our learning and teacher model. While students are not always online, when they are, they are working together, and need to be connected at the same time. Needless to say, the availability of a device for each student is also critical.

Rating: 5

Entrepreneurship and schools
Rating:

Improving access – enrolments, clusters, distance education and boarding
Rating for enrolments: 0

Rating for clusters: 0

Rating for distance education: 0

Rating for boarding: 0

Diversity

Rating: 0

Transitioning beyond school

Rating: 0

Additional Comments