# Interactive Classroom Working Group: Personalising Learning

## Spotlight on Flipped Learning in Maths

By Niall O'Connor, Head of Maths and Science , Le Chéile Secondary School (Dublin, Ireland)

## Background

We are a new 1:1 iPad school with a Catholic ethos, opened in September 2014. Our name comes from the Le Cheile Trust who setup the school and who comprise of schools from fourteen Catholic congregations across Ireland.

Next year we are moving into a brand new building and for the next four years we will be adding a new year group to the school. We have been working with the University of Notre Dame on whole school culture formation and we now have a clear vision of who we are as a school and what our root beliefs and values are. These match the colours on the school crest above and will help us to continue to grow the school over the next few years.

There is a warm, friendly atmosphere within the school and we value our students as individuals. We expect them to live up to being their 'best self' in all aspects of school life and not just academically.

## Benefits of personalising learning for students and schools/teachers

Research shows us that lecturing and didactic forms of teaching do not meet the needs of the individual learner and only certain students succeed with these approaches. I want all learners to be given the same opportunity to learn and succeed and believe personalising students learning journey will enable this.

- *Students are individuals working towards similar goals, but they can personalise the journey they take to get there.*
- *Teachers continuously explore new teaching methods, trial new ways to use space and find different methods to empower students to learn.*

> *"I believe we are all individuals.*
> *I believe all students can succeed.*
> *I believe in learner autonomy as a lifelong skill."*
>
> Niall O'Connor
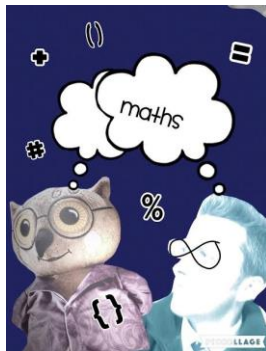
## Showcasing: Flipped Learning in Maths

I have chosen flipped learning in maths as a new teaching method and this has been implemented in all my maths lessons. Two tracking systems has been devised to monitor where students are in relation to the goal. There are numerous aspects still to be developed, such as, making the curriculum objectives clearer to students - similar to the Evalog system used by my colleague Philippe in the Planzette school in Switzerland. I will be changing and trialling new learning spaces when we move into the new school. Using flipped learning to personalise videos to individual students. Introducing more learning choices for students to increase personalisation and also whole class/year mid-topic growth mindset activities focusing on the process not the product.

- *To critically assess and practice new teaching methods to maximise students learning potential.*
- *All students work towards the same goal but students can choose different paths to reach that same goal.*

My showcase demonstrates how to use flipped learning in maths and how to track each student when every student is doing a different activitiy/homework. The tracking system incorporates rewards, sanctions and students having to take ownership for their own learning and demonstrate their weekly progress.

### How is theme demonstrated (in and out of school), and in which subjects/classes?

In a 40 minute lesson, every minute counts, so students are expected to maximise this time completing



maths activities. They find the activities on the school virtual learning environment on their iPad. For homework, they go to my YouTube channel where they will watch the maths content, make notes and then practice this new content in the next lesson. Students get a stamp in their copy in the first and last lesson of the week. At the end of the week, they take a photograph of the work they have done and upload it to demonstrate how much progress they have made in a week.

The big difference to traditional lessons is that I do not stand at the front of the room with students listening. The vast majority of teacher-student interactions are 1:1 and students can use the teacher more like a personal tutor than a whole class instructor. Using my tracking system, I target students to support in lessons and award gold/silver/bronze awards of achievements. No student is held back by the working speed of another students and there are lots of opportunities for extension work.

### Most popular technology used in support of theme

- To make the YouTube Videos, I use an app called 'Explain Everything'.
  - o This has freed me up in lessons to spend more time helping individual students. Previously, if I spent 20 minutes at the board instructing, I would only have 20 minutes left in the lesson to help students. Now I have 40 minutes helping students and all students can get their individual questions answered.
  - o It also allows parents to see what content is being covered in lesson when traditionally they would never get to see this.

- The school uses a virtual learning environment called 'Schoology'
  - This allows me a platform to put up activities which students can access on their iPad 24 hours a day, 7 days a week. It also has the benefits of social media but with an educational focus and I can message individuals, the class, the year group or the entire school and they can message me.
  - This also helps students who are absent as they can still access work and not fall behind.

- iPad app: 'Chegg Flashcards'
  - A simple and fun way to review and learn key terms and concepts

- iPad app: "Adobe Voice"
  - Creating maths related stories e.g. historical stories, show and tell, explain a process, etc.

### What happens in a typical 1:1 teaching situation or class when personalising learning?

Students take responsibility for their own learning and work at their own pace with 1:1 support from their teacher. Students love watching the videos instead of listening to the teacher talk at the board. They also prefer receiving 1:1 instruction and can receive additional help outside of the lesson as well.

Parents like that they can see what content is covered and how it is taught. This helps them to support their child at home.

Teachers support the idea and the other maths teachers have started using some elements of flipped learning in their lessons now as well. Some teachers fear that it involves more work for them and worry about their own computer skills to make it a success in their lessons.

### Impact

Introducing flipped learning in maths has had a big knock-on effect throughout the school, as other teachers are trying to implement their own different approaches to personalising learning. There are more learning conversations amongst staff which has broken down some of the fears around trialling new teaching approaches.

## How has personalising learning contributed to innovation and change?

Our first big acid test as a new school will be in the national exams next year when our first cohort of students will be taking them. This will give us a clear indication of the success of our project.

Personalised learning has created a new learning environment in the school and has contributed to one of our whole school root beliefs: 'We are all teachers, we are all learners, always". The biggest changes have taken place in the maths department where students have been joining courses from different teachers and there has been increased use of students playing the supportive role of teachers providing feedback to their peers.

Focusing on personalising learning has led me to working with other schools and teachers, which has allowed me to continue to refine the process and have additional continuous professional development opportunities which I can share with our school staff.

- **Expert**: Niall O'Connor, Head of Maths and Science
- **Twitter**: @noconnor_ed (Practice what you teach)
- Professional Development Service for Teachers (PDST) video from Niall's classroom

*"Technology used in the correct way is a very powerful tool. Technology just used for technologies sake will not raise students ability to learn by much. This leaves us with the situation whereby if you are using technology, you need to be open to trial and innovate with new teaching approaches and be a role model for students, that you are a learner too and we all never stop learning: "Ancora imparo"."*

*Niall O'Connor*