

Cumann Oidí Matamaitice na hÉireann

# NEWSLETTER

Irish Mathematics Teachers' Association



Number 113

2013



## REVIEW OF 'themathstutor.ie' AS A TEACHING AND LEARNING RESOURCE

With the growth of smartphone and tablet usage, there have been some interesting developments in the area of e-learning. With the introduction of the Project Maths syllabus, teachers are looking for new resources to support their teaching and allow students gain different perspectives on mathematical concepts. Recently, a new system entitled 'themathstutor.ie' has been developed to meet the needs of the modern generation who are more likely to search for assistance online when seeking clarification on a problem. Given how much time students spend on social media, it's an easy transition for them to start learning online.

I used this new system from the perspective of a teacher to see how it would benefit both students and teachers. Very often parents will approach the mathematics teacher and ask an opinion of a particular resource. This review outlines my experience of using this method of teaching and learning mathematics. Unlike a lot of other websites, which were designed with English or American education systems in mind; this one is aimed specifically for use with the Irish syllabus. Instead of having to navigate through a large volume of extraneous material, all the detail is relevant and useful. I particularly like the fact that all years and levels are catered for. Lessons ranging from Junior Cert. Ordinary Level to Leaving Cert. Higher Level are provided. It caters for all five strands of Project Maths, which allows one to focus on areas that are of immediate concern while enabling revision of more comfortable areas. As teachers we often get tunnel vision, focusing on the particular level of the subject that we are teaching. Using a system like this allows the teacher to get an overview of the syllabus quickly whether we are actually teaching a particular level or not. Someone who has retired from the profession recently could log on and see how the syllabus has changed using this resource. Similarly, a pre-service teacher or one returning from a different country could use this system to get up to speed with Project Maths as it now stands in the classroom.

The lessons are video based and you can stop, pause or repeat them as many times as you wish. Students can often complain that things progress too quickly and this allows them to control the pace of the lesson. It's beneficial that the lesson focuses on one key concept which is typically just ten minutes long. The advantage of this is that the student is kept engaged and the succinct timing avoids the risk of getting bored or losing attention. It would be easy to use advanced models from GeoGebra but the tutor uses diagrams that are produced by hand. I think this makes the lesson more accessible and does not detract from the concept that is being outlined. As a teacher, I think it allows you to reflect on your practice. It gives you an opportunity to look at the teaching of a topic as if you were sitting in someone else's classroom. Given that teachers of a subject are generally timetabled at the same times, it can be impossible to find an opportunity to get insight from your peers or watch another class in action. The video lessons are a convenient means to do just that.



Some of the lessons that I accessed, especially at Junior Certificate, provide an enriched experience for the student through the use of stories from the history of mathematics. While we would all be familiar with Pythagoras, we might not be as aware of such characters as Hippasus and his role in irrational numbers. These stories could be useful starting points for a teacher looking for inspiration when introducing new content or looking for cross-curricular material in Transition Year. Similarly, connections to real life are provided and situate the concept in terms of how it can be applied in the daily life of students. Again, this is something that teachers could make use of when considering how to teach topics.

Each lesson is followed by a quiz. It is good to see that the questions are not simply a case of right or wrong. The answers are corrected automatically and if an error is made, then further clarification is provided to highlight where the student might be going wrong and give further guidance in the topic. In this way, the student learns as much from the assessment as they do from the lesson. If this is insufficient, a forum is provided where a specific question can be posted and more detailed assistance is provided. The forum allows the student to outline their difficulty or confusion in their own words and get feedback from the administration. The interaction continues until the student is able to understand the concept or solve a particular problem. Over time the forum will prove to be a very valuable resource as it builds on the experience of previous generations of students. What was an issue for one student in 2012 will no doubt cause difficulty to others in future years. Again the range of material is impressive; students have raised questions on Sets at Junior Cycle on the same board as queries on Newton's laws of cooling.

The system appears to be particularly suited to the dynamic nature of Project Maths. Feedback is sought on the forum and there is evidence of material being reviewed and updated. It is clear that the system is evolving, in line with the needs of students and teachers. Plans for the future include the gradual introduction of a PDF overview of each lesson which will allow students to decide quickly if it is necessary to revise a particular topic or not, something that would be especially effective when coming close to examinations. Last year, 'Operation MathsFormation' was run weekly for eleven weeks at the end of the academic year. These were webinars, seminars delivered over the web, with one lesson provided for each of the examination levels right up to the examinations. It is planned to deliver these again, which could be very beneficial for students.

Details of membership can be found at [www.themathstutor.ie](http://www.themathstutor.ie) and a special discount is available for groups. Students can access the entire Probability course free of charge, in order to try out the system and get familiar with e-learning before deciding to commit to full membership. Teachers can avail of complimentary membership upon request. This could be a very useful resource for students looking to do extra work or gain additional assistance while learning at their own pace. It would also be beneficial to a teacher who wishes to get new ideas or even a fresh perspective on the Project Maths syllabus.