IAVM

Report – 2nd online Vedic Mathematics conference - 2016

On 12th and 13th March 2016, fifty Vedic Maths enthusiasts from 5 different continents and 15 different countries came together to participate in the 2nd Global Online Conference organized by Vedic Maths Academy. The theme of the conference was "Vedic Maths in Education".

DAY 1

Introduction

One could feel the ripple of excitement across the globe as each participant eagerly logged in to join the virtual room of like-minded people. Swati Dave (member of the organizing committee) welcomed the group and introduced the other organizing committee members – James Glover, Kenneth Williams, and Arvind Prasad. After a couple of housekeeping instructions by Swati, the mike was handed to James Glover who formally inaugurated the conference.

James set the tone for the conference by saying that "Vedic Maths has a huge role to play in education and this is largely due to the fact that the system leads to a depth of understanding, a high level of achievement, the scope for creativity and many time-saving techniques useful for public examinations. Vedic Maths in education leads to three paradigm shifts. Firstly, it offers techniques and methods for solving problems that are, at present, unconventional. Secondly, some change to the method of teaching and thirdly, a change of perspective leading to a greater inter-connectedness of diverse topics." He concluded his talk with a powerful sentiment that echoed through the heart of many "Vedic Mathematics is a treasure store waiting to be unleashed into the world of education".

To keep the momentum going with no further delay, the first session of the conference was commenced.

Global Projects

This was followed by a session on "Global Projects" - a series of short presentations from VM practitioners around the world to talk about their successes, their challenges, and their future plans. The practitioners from different countries - Manoj Talwar (India), Kuldeep Singh (India), Rajagopala (India), Sivaram Pusapati (Japan), Ike Prudente (Philippines), Gowri Ramachandran (Philippines),Guru & Anu (Australia), Miracule Gavor (Ghana), Badriya Raiani (Morocco), Angela

Henry (U.K.),Prof. Frank Marzano (USA), Rick Blum (USA), Dave Robinson (Canada), Chandrasekharan (USA),Krishna Kirtan Das (USA), Sreenivasa Ainapurapu (USA), Nathan Annenberg (USA), and Jarrath Presse (USA) shared their stories as most in the group connected to their experiences. The most amazing aspect was to see the wide range of audience that VM catered to - seniors, college students, high school students, young and very young kids, all now experiencing joy in maths. The audience was in awe to hear one presenter after another talk about their passion and belief in VM, and their readiness to walk that extra mile to promote VM as best they can. The enthusiasm in the room was contagious as the discussions continued well beyond the stipulated time.

Scheduled workshops of Ken Williams and Swati Dave had to be canceled to make up for the overtime.

Break

In the break, video of Shyla Ravishankar's students was shown, and not many left their chair as they watched young kids fervently talk about the wonders of VM.

Special Projects

The group came together for the last session of the day – "Special Projects" - the accounts of special projects that are underway in various parts of the world. The presentation from Jodie Mason was about the continuation of the remarkable development of teaching Vedic Maths and Pebble Maths in New Zealand. This was followed by a talk from James Glover about newly formed charitable organization "Institute for Advancement of Vedic Mathematics" as a collaborative platform to promote, sustain and increase individual and collective understanding and research of Vedic Mathematics skills, study, and expertise.

The presentations were followed by a very brief Q&A session. Day 1 ended on a very positive note, with a promise of more to come the next day.

Day 2

Introduction

Excited and eager, the group was raring to jump in for another day of scholarly discussions on research papers, participation in interactive workshops, and contributing to the panel discussion on the issues and challenges of "Vedic Maths in Education". After a warm welcome by Arvind Prasad, the first session on "Research Papers" commenced.

Research Papers

Giuliano Mandotti from Italy was the first speaker of the day. (Designated first two speakers JitenderSingh(India) and Saee Patil(India) were absent). In his paper “Starring at the 9”, Giuliano revealed the beauty of number 9 to find the difference between two-digit mirror numbers. (e.g. 45 & 95), and extended the understanding to find the difference between three-digit mirror numbers (e.g. 201&102) maintained simple using VM pattern, that of multiplication by 11. Aiyasami Salem (USA) complemented the findings and remarked that it was an “organic” presentation.

Next, were two papers - “Improvements in Final Exam Results after teaching 11th and 12th GradeMathematics using a combination of Vedic Mathematics and Visual Aids” by Alex Hankey, Vasant V Shastri and Bhawna Sharma, and “Efficacy of Vedic Mathematics and Yogic Breathing in school children - A pilot” by Vasant V Shastri, Alex Hankey, Bhawna Sharma, and Sanjib Patra. These are the first quantifiable studies done to study the efficacy of VM, hence of an extreme value because we are not aware of any other formal scientific quantitative assessments of the benefits of VM. Alex Hankey presented the first paper, and Prof. Vasanth presented the second. They both joined the conference from an internet café in rural India.

The first study conclusively proved that “The methods of Vedic Mathematics combined with computer aided visuals and Geogebra, when well used by enthusiastic and inspiring teachers, can materially improve maths grades received by students graduating from high school”, and the second study concluded that “The Vedic Mathematics and Yogic Breathing groups showed slight improvement in cognitive skills and slight decrease in math-anxiety compared to the Jogging group”. Alex Hankey unequivocally stated in his concluding remarks that “Adding VM to teaching High School and University Math, especially in teacher training colleges, can greatly impact a nation's aspiration to become a knowledge-based society and a fully developed country something India is aiming to achieve in 2030-2040.” After the presentation, Arvind very aptly remarked that the VM needs more such researchers to prove its case. Alex and Vasanth offered to guide anyone interested in doing similar studies.

Next was Andrew Nicholas, who read his paper “Three books and a paper: A Geometry Project”. The aim of the project was to produce a sort of miniature Vedic Mathematics version of Euclid's 'elements', covering much less ground than the 'elements' and doing so with greater speed and ease than Euclid achieved. This task occupies three books; they are: 'Geometry for an oral tradition', 'The circle revelation' & 'Eight essays on geometry for an oral tradition'. The last book will hopefully be available later in 2016, free online. A difficulty in the project was that for some one and a half centuries it has been known that the foundations of Euclid's 'elements' are flawed. Putting this right is a major contribution of the project.

Next presentation was by James Glover on "The sutras of VM in Geometry". James in his paper states that during the last fifty years or so geometry in education has diminished both in quantity and in quality and yet the pedagogic use and applications remain as important now as they were then. He presented a new perspective by uncovering the application of eleven sutras of VM to Geometry. The sutras provide simplicity and thus can be a great asset in teaching and learning. As the famous Renaissance artist and scientist, Leonardo Da Vinci said, "Simplicity is the ultimate sophistication".

The last presentation of the day was by Kenneth Williams on his paper "Evaluation of Trig Functions and Their Inverses". In his paper, he shows extremely simple and easy way to find trig functions without a calculator especially when high accuracy is not needed. Advantages of doing the calculations using this method are many; better understanding of the concepts, quick on-the-spot calculations or estimates, and less dependency on the calculators. He demonstrated two ways, the first gives more approximate results but is very easy, and the second shows how the first can be extended to a general method.

The audience was totally captivated to learn about all the innovative research and promptly regrouped after a short break of 10 minutes for the workshops.

Workshops

The first workshop was by James Glover. One of the striking features of VM is the ability to use different strategies to solve the same problem. James proficiently demonstrated this VM principle by showing 9 different ways to calculate 572. All the methods related to algebraic expressions, which prompted James to confirm that algebra and arithmetic integrate well and really support each other. The group participated enthusiastically to come up with different ways to calculate 19/30.

Next workshop was by Vinay Nair. This workshop was focused on Digital roots and perfect squares, Patterns in perfect squares. Patterns in squares between 40 and 60, and another method of squaring. It was interesting to see the beautiful "patterns within the patterns" emerge slide after slide as Vinay efficiently guided the group to the amazing "garland pattern" or "Square wave pattern". David complemented Vinay for his interesting and innovative set of ideas.

Panel Discussion

Topic: Vedic Maths in Education
Participants: James Glover, Prof. Frank Marzanno, and Krishna Das
Conducted by: Dr. Arvind Prasad

Prof. Alex Hankey was supposed to be the third panelist, but due to his travels, he could not join the discussion. Krishna was invited to join the panel as he had significant experience working on school curriculum, which he agreed to.

Within the theme “VM in education”, three questions were discussed.

1. Features of VM in different level of schools

Conclusion: VM itself is flexible and does not require a structure per say unless constrained by the school boards. For example, Krishna cited the example of Ken’s calculus course, suggesting that calculus can be introduced to the students much earlier if the school is willing to allow such indulgence!

2. Algebra in schools

Conclusion: VM based Algebra outscores conventional Algebra in a number of ways.

3. Teacher training

Conclusion: Teacher training is clearly important. Training for appropriate levels of teachers with feedback is necessary. Creating a good Teachers’ manual seems to be the way forward.

Follow-up questions by the attendees allowed discussions on the fact that while VM methods do offer speed of calculation, VM’s sutraic way of doing maths is much more than just speed. Therefore, calling VM methods as tricks not only sell VM short, but it also makes VM susceptible to appropriation in this age of internet and readily available information.

Unfortunately, due to the time constraints the lively discussion had to be halted to move on to the very last segment of the conference.

Thank You!!

Ken Williams proposed a vote of thanks to the participants and the presenters. Everyone in the room seemed to agree Ken’s sentiment that the conference was a huge success and that Vedic Maths is “there”.

Conclusion

Vedic Mathematics holds hope and promises to make an immense difference to math learning and teaching. Many steps across the world have been taken, all towards the same goal of using Vedic Maths to elevate the mind and spirit of all those who love math and also of those who don’t.