

Does Raykov's point coincide with some of the well known mathematical points - a visit to the Woodworking Professional School in Teteven, Bulgaria

by Evgenia Sendova

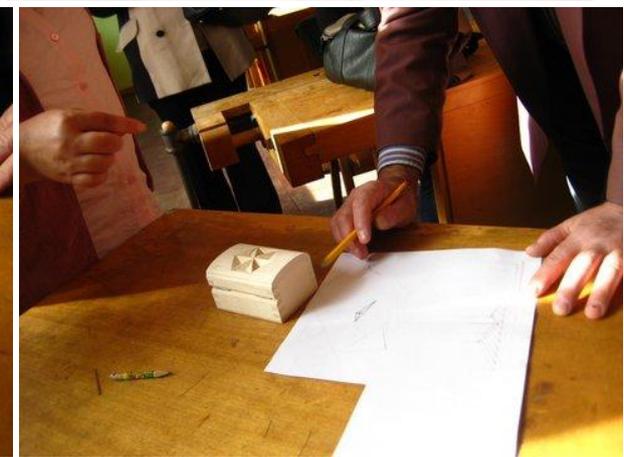
On 22 March 2014 the representatives of the Bulgarian Mascil team from IMI-BAS, Toni Chehlarova and Evgenia Sendova, payed a visit to the Woodworking Professional School "Sava Mladenov" in Teteven, about 100 km East from Sofia. The school gives exposure in a variety of paths in the woodworking industry including furniture-making techniques and wood carving. This day the school was celebrating its 105th birthday and there were representatives of similar schools from Macedonia, Serbia, Check Republic, Slovakia, Hungary. The teacher in mathematics, Diana Vassileva-Yosheva, had invited students from 8th and 9th grade and the regional expert in mathematics, informatics and IT, Tanya Icheva, to participate in a Mascil workshop during which the IMI-BAS researchers introduced to the participants GeoGebra dynamic constructions (based on rotational symmetry) for producing artistic designs for wood carved artefacts. The students learned fast how to use and modify the dynamic models specially prepared by Toni Chehlarova and invited us in their craftsmen laboratory to see if it is easy to implement the designs in practice. The master craftsman, Mr. Raykov, challenged us and the mathematics teachers present to identify mathematically the point he put by pencil directly in a triangle on the wood describing it as "the most esthetic one and such that the wood would not let the chisel go further". After a hot discussion the mathematicians agreed that this was not one of the well known centers in a triangle in the plane but rather a vertex of a "pyramid" with a non-planar basis. It is still a matter of inquiry in 3D to see if the point is known by another name in mathematics. However the connections between the beauty of the wooden artefacts carved by the students and the dynamic geometric models seem promising in generating creative ideas.



In front of the school: Toni Chehlarova, Diana Vassileva-Yosheva (math teacher) , Tanya Icheva (expert)



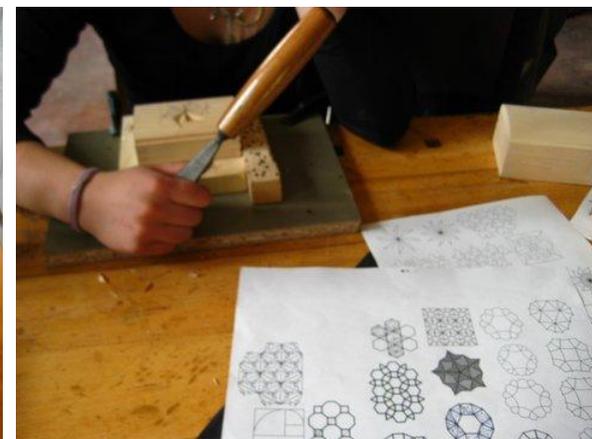
Opening the workshop



From explorations on the computer screen to the WoW



The point of Raykov



Which computer models are implementable?



Bringing the model to life



Looking at the woodcarving exhibition and the school museum



A ceiling in the school



The discussions continue