**Nurturing the gifted**

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Pakistan – a nation of about 230 million people – is the fifth largest country in the world and it is estimated that there are about four million children who attend high school (Class 9 and10) in the country.

If we go by the definition (for example: that of MENSA, the largest and oldest high-IQ society in the world) that about two per cent of a country’s population comprises of highly talented individuals, that leads us to the conclusion that almost 100,000 Pakistani students attending Class 9 and 10 each year are gifted and exceptionally talented (and there is almost an equal number without even the opportunity to attend school).

However, the government-run schools are based on rote learning and provide basic – mostly mediocre – education while only a handful of such students have the financial means to attend private schools that offer an education more in sync with international standards.

As a result, the country is unable to properly nurture and groom the bulk of its gifted children and to offer them opportunities to create value for themselves and their country.

There are many countries in the world that have realized that their gifted children should be picked up at an early age and given the best education possible. A pertinent example is that of Russia which has produced many renowned scientists, mathematicians and engineers during the past decades. When the former Soviet Union was thrown into World War I and II, its science and engineering education and practice was rather primitive compared to other European countries and this was a major reason why it suffered such huge losses in these wars.

After World War II, catching up with the West in science and technology became an existential matter for the country. To meet this challenge, physics-mathematics boarding schools, as well as day schools, for gifted students were established all over the country from the early 1960s which gave the country leading mathematicians, scientists and engineers.

In Iran also, the National Organisation for Development of Exceptional Talent (NODET) was established in 1976. This organization currently runs about a hundred middle schools and a hundred high schools spread all across the country and almost all famous Iranian scientists, researchers and educationists from Iran are graduates of NODET schools. The first woman who obtained fields medal in mathematics (the equivalent of the Nobel Prize for mathematics) is Prof Maryam Mirzakhani, who taught at Stanford University and was a graduate of one of these schools. These schools are one reason why Iran has been able to indigenously develop world class technology in defence and many other sectors.

In the US, schools for gifted children are called magnet schools and these have been in operation since the late 1960s. A number of world leaders have graduated from these magnet schools in various disciplines and one notable example is The Bronx High School of Science which has produced eight Nobel laureates as well as other exceptional individuals.

These examples firmly reinforce the axiom about the early bird catching the worm. To be more specific, there are no two ways about creating building blocks for promising talent. In a nutshell, we make their today, they make their tomorrows, and their success fuels inspiration for all those who can see a pathway in this to similarly find their calling.

This brings us to where we, in Pakistan, figure in the scheme of things. One of the oft repeated mentions that the country is renowned for is throwing up raw, unfiltered talent, especially in sport, but also in other areas such as IT. But as heartwarming as it feels to have such talent, it means very little if it does not find breeding ground and is not nurtured and honed for optimum results.

Fortunately, there are a few institutes trying to do their bit to push the envelope. Not all of these may cater to the under privileged (which is why there’s a need to do more on this front) or are not-for-profit entities, but they are doing a service nevertheless to tap the talented and carve a path for them. These include the S.T.E.M. School System, The STEM School, The Nobel STEM Schools and STEM International School.

One outstanding example in imparting a world class education in mathematics and sciences, especially computer science, is the SundarSTEM School, which started its operations in 2021 as a non-profit high school at Sundar City, Lahore. The enrolment is purely on merit and scholarship is provided to all students based on the income level of their families. The school invites Class 8 applicants from across the country who have an outstanding track record in mathematics and an in-person math test is conducted in January of each year in 15 major cities by utilizing National Testing Services (NTS).

From this first round, the top 100 are short-listed and invited to the school in February for additional testing in math and logic. A final batch of about 30 students is finally selected who join the school’s summer camp in Pre-Class 9 held from end-March to mid-August. After extensive schooling and testing during this period in math, computer science and English, those who are deemed qualified to handle the rigorous curriculum of the school are invited to join as full-time Class 9 students in the term starting in end-August.

The school opened its doors for the first batch of Class 9 students in June 2021 and during the past year or so, has had much success in national as well as international contests including: one, Google Kick Start Round G-2022 worldwide open competition held on Oct 15: One of our students stood 1st in Pakistan amongst 87 participants from the country. Two, the European Junior Olympiad in Informatics (EJOI) 2022 held on September 23: One of our students won a silver medal and two others bronze medals.

Three, selection into Pakistan’s team for the International Math Olympiad which is to be held during July 2023 in Japan: Seven students from SundarSTEM are part of the 19 students shortlisted for Stage 2.

Four, EDVON Coding and Robotics League competition in Karachi on Aug 24 2024: In the university level computer science competition, two teams from SundarSTEM participated and secured third and fourth positions. All other teams in the competition were from various universities across the country.

Five, Contest NaSCon ’22 at FAST Islamabad held on May 22, 2022: This was also a university level computer science competition and the team from SundarSTEM secured the third position in competition with 40 teams representing various universities from all over the country.

What these early successes show is the potential in the country’s children if they are provided with a conducive environment at the right time to learn and excel. It is our hope the SundarSTEM will not only help raise the bar in terms of high school education in math and sciences in the country but also serve as an example for other institutions to produce students that are at par with the best of their peers worldwide.

Pakistan’s talent, if nurtured properly by institutions dedicated for this purpose, can create much value for the country. The country’s vast population of 230 million will then no longer be a liability but a true asset.

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