

# The Evolution of Gifted and Talented Education in Malaysia

Musa Mohamad<sup>1</sup>, Ahmad Bazli Ahmad Hilmi<sup>2</sup>, Mohd Arubi Ismail<sup>3</sup>, Mohd Zamrus Mohd Ali<sup>4</sup>, Mahiz Spawi<sup>5\*</sup>, Ahmad Fuad Mohamad Amin<sup>6</sup>

Kolej Permata Insan, Universiti Sains Islam Malaysia (USIM)

\*Corresponding Author

DOI: <https://doi.org/10.47772/IJRISS.2026.100300408>

Received: 25 March 2026; Accepted: 30 March 2026; Published: 11 April 2026

## ABSTRACT

Gifted and talented education in Malaysia has undergone significant development over the past few decades. This article examines the historical evolution of gifted and talented education, from an elite education system to more systematic specialised programmes, including the establishment of Fully Residential Schools (Sekolah Berasrama Penuh, SBP), MARA Junior Science Colleges (Maktab Rendah Sains MARA, MRSM), the PERMATA Pintar Programme (2009), and Kolej PERMATA Insan (2010). In addition, government policies such as the Malaysia Education Blueprint 2013–2025 have played an important role in strengthening gifted education in the country. Despite this progress, several major challenges remain, including limited awareness among the public and teachers regarding this specialised form of education, constraints in government funding, the suitability of the curriculum for gifted learners, and difficulties in identifying talent from psychometric and cognitive perspectives. In addressing these challenges, the study proposes the utilisation of technologies such as artificial intelligence (AI) in gifted and talented education systems, as well as the expansion of collaboration with international institutions to enhance the standards of gifted education in Malaysia. With continuous improvement in the education system, strong policy support, and the integration of modern technology, gifted and talented education in Malaysia has the potential to continue growing and to produce high-quality human capital capable of contributing to national development and global innovation.

**Keywords:** Educational Evolution; Gifted and Talented Education; Kolej PERMATA Pintar; Kolej PERMATA Insan

## INTRODUCTION

Gifted and talented education refers to a specialised educational system designed to meet the needs of students who demonstrate exceptional abilities in academic fields, leadership, the arts, creativity, or other specific talents (Gagné, 2004). Gifted and talented students often possess high levels of intelligence, remarkable creativity, and strong intrinsic motivation in particular domains (Renzulli, 2012). Therefore, specialised education is essential to ensure that their potential is developed optimally.

In the Malaysian context, education for gifted and talented students has become increasingly important in ensuring the development of high-quality human capital capable of contributing to national progress. This form of specialised education is not only intended to provide intellectually appropriate challenges for gifted learners, but also to prevent the phenomenon of underachievement, in which highly able students fail to realise their full potential due to an insufficiently challenging learning environment (Subotnik, Olszewski-Kubilius, & Worrell, 2011).

At the global level, gifted and talented education has been recognised as an important strategy in the development of a knowledge-based economy and innovation. Studies have shown that investment in gifted education can produce individuals who play significant roles in national development, particularly in the fields of technology, entrepreneurship, and leadership (Sternberg & Davidson, 2005). Therefore, gifted and talented education in Malaysia should continue to be expanded and strengthened in line with global developments to ensure that the country remains competitive in producing high-quality human capital.

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## Early History of Gifted and Talented Education in Malaysia

In the post-independence era, Malaysia began to place greater emphasis on science and technology education as part of its broader effort to develop the nation's human capital. Among the early initiatives undertaken was the establishment of MARA Junior Science Colleges (Maktab Rendah Sains MARA, MRSM) in 1972, which aimed to nurture talented students in the fields of science and engineering (Kementerian Pendidikan Malaysia, 2013). In addition, several daily schools introduced Special Planning Classes (Kelas Rancangan Khas, KRK) and Science Stream Class Programmes (Program Kelas Aliran Sains, KAS) to provide greater opportunities for high-achieving students.

One of the most significant milestones in gifted and talented education in Malaysia was the establishment of the PERMATA Pintar Programme in 2009 through a collaboration between the Malaysian government and Universiti Kebangsaan Malaysia (UKM). The programme was designed to identify gifted students through the UKM1 and UKM2 Screening Tests and to provide them with opportunities to participate in the School Holiday Camp Programme (Program Perkhemahan Cuti Sekolah, PPCS) as well as intensive academic programmes at Kolej PERMATA Pintar UKM (UKM, 2024).

In addition to Kolej PERMATA Pintar UKM, which focuses primarily on science and technology, the Malaysian government also established Kolej PERMATA Insan in 2010. This institution was founded through a collaboration between Universiti Sains Islam Malaysia (USIM) and the Ministry of Education Malaysia, with the objective of providing specialised education for gifted students who demonstrate potential in Islamic studies and science (Kementerian Pendidikan Malaysia, 2021).

Kolej PERMATA Insan introduced the Tahfiz-STEM curriculum, which integrates religious education with modern science in order to produce a generation of ulul albab who possess strong Islamic knowledge as well as advanced scientific skills (Hamzah, 2016). Students at Kolej PERMATA Insan also participate in specialised programmes involving academic research, Qur'anic memorisation, and mastery of the Arabic and English languages.

According to the Malaysia Education Blueprint (2013–2025), gifted and talented education is regarded as one of the key components in the development of highly skilled human capital. The Blueprint outlines various initiatives to strengthen gifted and talented education, including curriculum enhancement, teacher training, and the use of technology and artificial intelligence in learning (Kementerian Pendidikan Malaysia, 2013).

## Early Education for Gifted Students before the Establishment of Formal Programmes

Before the introduction of specialised programmes for gifted and talented students, the Malaysian education system primarily emphasised mainstream education designed to meet general educational needs. Nevertheless, students who demonstrated outstanding academic performance were given opportunities to study in selected schools such as English-medium schools and elite religious schools. Since the British colonial period, several premier schools, including Victoria Institution (1893), Malay College Kuala Kangsar (1905), and St. John's Institution (1904), have played an important role in providing a more challenging learning environment for high-achieving students (Tan, 2012).

In 1957, following Malaysia's independence, the government began to focus on developing a more inclusive and progressive education system. Although no specific programmes for gifted students existed in the early stages, examination systems such as the Lower Certificate of Education (Sijil Rendah Pelajaran, SRP) and the Malaysian Certificate of Education (Sijil Pelajaran Malaysia, SPM) enabled high-performing students to be identified and given opportunities to continue their studies in high-performing schools.

## Early Educational Policies that Created Opportunities for High-Achieving Students

During the 1960s and 1970s, the government began to implement more systematic educational policies to support gifted and talented students. One of the earliest initiatives was the establishment of fully residential schools (Sekolah Berasrama Penuh, SBP) in 1965. These schools were created to provide high-quality education

for outstanding students, particularly among the Bumiputera population, in order to increase their participation in professional fields (Ministry of Education Malaysia, 2013).

In addition, MARA Junior Science Colleges (MRSM) were established in 1972 to focus on gifted students in the fields of science and technology. MRSM was introduced by the Majlis Amanah Rakyat (MARA) with the objective of developing highly skilled human capital in STEM (Science, Technology, Engineering, and Mathematics). The MRSM programme emphasised a deeper and research-oriented learning approach to ensure that talented students in science received education comparable to international standards (Rahman, 2018).

### **The Establishment of Special Programmes in Daily Schools**

In addition to SBP and MRSM, the daily school system also began to offer special programmes for gifted students. In the 1990s, programmes such as the Special Planning Class (Kelas Rancangan Khas, KRK) and the Science Stream Class Programme (Program Kelas Aliran Sains, KAS) were introduced in daily schools to provide high-achieving students with opportunities to learn in a more challenging academic environment (Ismail, 2015).

Furthermore, Cluster Schools of Excellence (Sekolah Kluster Kecemerlangan, SKK) were introduced in 2007 as part of the Ministry of Education Malaysia's effort to enhance educational quality in selected daily schools. These schools emphasised the development of students' talents in various domains such as academics, sports, the arts, and innovation.

Awareness of the need for specialised education for gifted students increased significantly in the 2000s, which eventually led to the establishment of more focused programmes such as PERMATA Pintar in 2009. This programme marked an important turning point in the formal evolution of gifted and talented education in Malaysia.

### **The Establishment of Gifted and Talented Education Programmes in Malaysia**

Gifted and talented education in Malaysia has undergone rapid development over the past few decades. From elite educational systems such as fully residential schools to more structured specialised programmes, the Malaysian government has undertaken various initiatives to ensure that gifted students receive education that is appropriate to their abilities. This section discusses key milestones in the history of gifted and talented education in Malaysia, the establishment of the PERMATA Pintar Programme in 2009, and the development of specialised institutions such as Kolej PERMATA Insan in 2015.

### **Key Milestones in the History of Gifted and Talented Education in Malaysia**

Since the early years of independence, education in Malaysia has evolved to meet the needs of high-achieving students through the fully residential school system and institutions such as MRSM. However, specialised programmes for gifted and talented students were only formally introduced in the twenty-first century.

Among the key milestones in the history of gifted and talented education in Malaysia are the following:

1. 1965: The establishment of Fully Residential Schools (Sekolah Berasrama Penuh, SBP) as institutions for high-achieving students.
2. 1972: The establishment of MARA Junior Science Colleges (Maktab Rendah Sains MARA, MRSM) to nurture talented students in science and technology.
3. 2006: The government began to examine the need for specialised programmes for gifted students, which eventually led to the establishment of the PERMATA Pintar Programme.
4. 2009: The establishment of the PERMATA Pintar Programme to formally identify and develop the potential of gifted students.
5. 2015: The establishment of Kolej PERMATA Insan, specifically for gifted students in Islamic studies and science.

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## The Establishment of the PERMATA Pintar Programme in 2009

In 2009, the Malaysian government launched the PERMATA Pintar Programme, an initiative under the Prime Minister's Department aimed at identifying gifted students from across the country. The programme was inspired by gifted education systems in the United States and other developed countries that tailor educational approaches to the needs of high-potential learners (Subotnik, Olszewski-Kubilius, & Worrell, 2011).

PERMATA Pintar introduced the UKM1 and UKM2 tests, an assessment system designed to identify gifted students among primary and secondary school pupils. Students who pass these assessments are given the opportunity to participate in the School Holiday Camp Programme (Program Perkhemahan Cuti Sekolah, PPCS) at Universiti Kebangsaan Malaysia (UKM) and may subsequently be admitted into specialised programmes at Kolej PERMATA Pintar UKM.

The programme focuses not only on academic development but also on character formation and leadership skills. PERMATA Pintar has also collaborated with overseas institutions such as the Johns Hopkins Center for Talented Youth (CTY) to ensure that the programme remains comparable to international standards (Rahman, 2018).

## The Formation of Kolej PERMATA Insan for Gifted Students in Islamic Studies and Science

As part of the effort to advance Islamic education among gifted students, the Pre-Kolej PERMATA Insan Camp was established in 2010 through a collaboration between Universiti Sains Islam Malaysia (USIM) and the Malaysian government. This programme was specifically designed for students who demonstrated high ability in Islamic studies and science. Subsequently, in 2015, the first cohort of students was admitted to Kolej PERMATA Insan.

Students at Kolej PERMATA Insan follow a curriculum that integrates in-depth Islamic education with science, technology, engineering, and mathematics (STEM). This approach is intended to produce a generation of *ulul albab* individuals who excel not only in academic fields but also possess strong religious understanding (Hamzah, 2016).

In 2021, Kolej PERMATA Insan was rebranded as Kolej PERMATA Insan, while maintaining the same objectives with further improvements in its learning and research systems.

## The Development of Specialised Institutions: Kolej PERMATA Insan and PERMATA Pintar UKM

Following the early success of the PERMATA Pintar and PERMATA Insan programmes, the Malaysian government continued to expand gifted and talented education through the development of more specialised institutions.

### 1. Kolej PERMATA Insan (2015–present)

- Employs the Tahfiz-STEM curriculum to integrate Islamic education with science and technology.
- Offers a specialised pre-university programme for gifted students before they proceed to higher education.
- Functions as a major institution in developing contemporary Muslim scholars capable of contributing to the advancement of the ummah.

### PERMATA Pintar UKM (2009–present)

- Was restructured from the original PERMATA Pintar programme and is currently under the Ministry of Education Malaysia.
- Offers a curriculum based on research and innovation for gifted students in STEM-related fields.
- Collaborates with various international universities to ensure that the programme remains competitive and relevant.

The expansion of these programmes reflects the Malaysian government's commitment to developing a more inclusive educational system that emphasises the cultivation of high-quality human capital for the nation's future.

## **Government Policies on Gifted and Talented Education**

Gifted and talented education in Malaysia has received increasing attention over the past few decades. The government has introduced various policies and initiatives to support gifted students so that they may receive educational opportunities commensurate with their intellectual abilities and talents. This section focuses on how the Malaysian education system supports gifted learners, the role of the Malaysia Education Blueprint, and the issues and challenges involved in implementing policies related to gifted and talented education.

### **How the Malaysian Education System Supports Gifted Students**

The Malaysian government has implemented several key measures to support gifted students, including the following:

#### **1. Introduction of Special Programmes for Gifted Students**

- Programmes such as PERMATA Pintar UKM, Kolej PERMATA Insan, and MRSM Ulul Albab were established to provide more challenging educational opportunities for gifted students in both academic and religious domains (Rahman, 2018).
- High-performing schools such as Fully Residential Schools (Sekolah Berasrama Penuh, SBP) and Cluster Schools of Excellence (Sekolah Kluster Kecemerlangan, SKK) also offer specialised programmes for high-achieving students.

#### **Screening Tests and Identification Systems for Gifted Students**

- The government introduced the UKM1 and UKM2 tests to identify students who are eligible to participate in gifted and talented education programmes (Ministry of Education Malaysia, 2013).
- These assessments enable students with exceptional intellectual abilities to be identified at an early stage and provided with appropriate learning opportunities.

#### **Provision of Differentiated Curriculum and Pedagogy**

- Specialised curricula, such as the Tahfiz-STEM curriculum at Kolej PERMATA Insan and research-based learning modules at Kolej PERMATA Pintar UKM, were introduced to align instruction with the needs of gifted learners.
- Differentiated instruction is applied to ensure that students do not become disengaged and are continuously challenged according to their intellectual capacities (Subotnik, Olszewski-Kubilius, & Worrell, 2011).

### **Collaboration with International Institutions**

- Several gifted education programmes in Malaysia collaborate with international institutions such as the Johns Hopkins Center for Talented Youth (CTY), as well as universities in Australia and the United Kingdom, in order to ensure that these programmes meet global standards (Tan, 2012).

### **Support from the Malaysia Education Blueprint (PPPM)**

The Malaysia Education Blueprint (2013–2025) is the principal national education policy document that gives attention to gifted education. Among the major aspects of the Blueprint in supporting gifted students are the following:

#### **1. Priority Given to Differentiated Education**

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- The Blueprint recognises the diversity of students' abilities and promotes a flexible education system capable of accommodating the needs of gifted and talented learners.
  - This policy emphasises more complex and in-depth learning for students with high academic abilities (Ministry of Education Malaysia, 2013).

### **Enhancing the Quality of High-Performing Schools**

- The Blueprint sets targets to expand the number of High-Performing Schools (Sekolah Berprestasi Tinggi, SBT) and Cluster Schools of Excellence (SKK) to accommodate gifted students in various fields, including academics, the arts, and sports.

### **Provision of Alternative Educational Opportunities**

- The Blueprint supports the development of Kolej PERMATA Pintar UKM and Kolej PERMATA Insan as models of gifted and talented education in Malaysia.
- The government also provides greater space for online education and digital learning to enable gifted students to access more advanced and personalised learning opportunities suited to their abilities.

### **Development of Highly Skilled Teachers**

- The Blueprint emphasises the importance of training teachers in differentiated instructional strategies so that they are able to adapt teaching methods to the ability levels of gifted students (Hamzah, 2016).

### **Issues and Challenges in the Implementation of Gifted and Talented Education Policies**

Although considerable efforts have been made by the Malaysian government to support gifted and talented education, several issues and challenges remain:

#### **Lack of Awareness and Support from Society**

Many parents and teachers still have limited understanding of the need for specialised education for gifted students, resulting in insufficient guidance and support for these learners (Ismail, 2015).

There is also a stigma that gifted and talented education is intended only for elite students, whereas it should be inclusive of all those who qualify.

#### **Shortage of Experts and Trained Teachers**

- Gifted and talented education requires teachers who are skilled in differentiated pedagogy, yet the number of teachers with such expertise remains limited (Rahman, 2018).
- Teacher training for working with gifted learners continues to receive insufficient emphasis within mainstream teacher education systems.

#### **Limited Financial Resources**

- Gifted and talented education programmes require substantial financial allocation, particularly for the provision of laboratories, specialised learning materials, and research programmes (Ministry of Education Malaysia, 2019).
- There are ongoing challenges in ensuring the sustainability of programmes such as Kolej PERMATA Pintar UKM and Kolej PERMATA Insan without funding reductions that could affect educational quality.

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## Challenges in Identifying Gifted Students

- Assessment systems such as UKM1 and UKM2 are not without limitations and may fail to identify gifted students from low socioeconomic backgrounds or those living in rural areas.
- Some gifted students also display unique cognitive profiles, such as twice-exceptional learners (2e), who possess exceptional talents while simultaneously experiencing learning challenges such as dyslexia or ADHD (Subotnik et al., 2011).

## Challenges in Gifted and Talented Education in Malaysia

Gifted and talented education in Malaysia continues to face various challenges in its implementation, despite the government's increasing efforts to strengthen and expand the system. Among the major challenges are the limited awareness among society and teachers regarding this form of specialised education, issues related to funding and government support, the suitability of the curriculum for gifted learners, and the difficulties involved in identifying gifted students from psychometric and cognitive perspectives.

### Limited Awareness among Society and Teachers regarding Gifted and Talented Education

One of the greatest challenges in gifted and talented education in Malaysia is the limited awareness among society and teachers regarding the importance of specialised education for gifted learners. In many cases, gifted students are often regarded as ordinary students who merely require more academic exercises, whereas in reality they need different and more challenging learning approaches (Subotnik, Olszewski-Kubilius, & Worrell, 2011).

In addition, teachers in national daily schools are often insufficiently trained to address the needs of gifted students. Studies have found that many teachers do not fully understand the differentiated instructional approaches required for gifted learners (Ismail, 2015). As a result, many gifted students become bored and less motivated because they do not receive sufficient intellectual stimulation in the classroom.

Furthermore, parents and the wider community often assume that gifted students do not require additional support because they are already intelligent. This is a misconception that may hinder their development, as without proper guidance many gifted students are at risk of underachievement, that is, failing to realise their full potential (Renzulli, 2012).

### Issues of Funding and Government Support

Gifted and talented education requires substantial financial resources to develop and sustain high-quality programmes. Although the Malaysian government has established several initiatives, such as Kolej PERMATA Pintar UKM and Kolej PERMATA Insan, funding for these programmes often remains a major challenge (Rahman, 2018).

Among the key issues faced are the following:

- Education budget reductions – In recent years, there have been reductions in funding for gifted and talented education programmes, which have affected operations and research in this field (Ministry of Education Malaysia, 2019).
- High costs of specialised programmes – Programmes specifically designed for gifted students, such as advanced science curricula and research-based programmes, require sophisticated laboratory equipment, expert instructors, and additional learning resources, all of which are costly.
- Insufficient financial resources for specialist teachers – Gifted education requires teachers who are skilled in differentiated pedagogy, yet budget limitations often mean that teacher training is not prioritised.

Many developed countries, such as South Korea and Singapore, have achieved success in gifted education through substantial government investment in this field (Tan, 2012). Therefore, Malaysia must also strengthen its financial commitment to ensure the sustainability of high-quality gifted education programmes.

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## A Suitable Curriculum for Gifted Learners

Another major challenge lies in the constraints involved in providing an appropriate curriculum for gifted learners. The national curriculum is often oriented towards mass education and does not provide sufficient space for acceleration and enrichment for gifted students (Gagné, 2004).

Among the main problems related to the gifted education curriculum are the following:

1. Lack of flexibility in the national education system – Gifted students are often constrained by a standard syllabus that is insufficiently challenging. Although acceleration programmes such as grade-skipping exist, they are still not widely implemented.
2. Limited emphasis on research and innovation in learning – Gifted learners often require research-based learning; however, most schools in Malaysia continue to rely on traditional teaching methods (Ministry of Education Malaysia, 2013).
3. An examination system that places excessive emphasis on memorisation – The Malaysian education system remains overly examination-oriented and gives insufficient attention to creativity and critical thinking, both of which are essential for the development of gifted learners (Hamzah, 2016).

Countries such as Finland and Germany have successfully implemented flexible gifted curricula that emphasise independent study, project-based learning, and acceleration for gifted students (Sternberg & Davidson, 2005). Malaysia may adopt similar approaches to improve its gifted education system.

### Challenges in Identifying Gifted Students (Psychometric and Cognitive Aspects)

Identifying gifted students is a major challenge because there is no single universal method that can be used to assess their abilities. Most screening systems in Malaysia still rely primarily on intelligence tests and academic achievement, which may fail to identify talents in other areas such as the arts, music, leadership, and creativity (Subotnik et al., 2011).

The main challenges in identifying gifted students include the following:

1. Limitations of standard intelligence tests: Tests such as UKM1 and UKM2 assess only certain cognitive dimensions and may not be able to identify students who are gifted in non-academic domains.
2. Gifted students in the twice-exceptional (2e) category: Some students are gifted but also experience learning difficulties such as dyslexia or ADHD. Such students are often overlooked in conventional education systems (Rahman, 2018).
3. Lack of holistic assessment tools: Most schools in Malaysia do not have comprehensive methods for identifying student talents across multiple dimensions, such as portfolio assessment, creativity testing, or teacher observational analysis (Gagné, 2004).

Countries such as Australia and Singapore have adopted multiple-criteria models that assess not only academic intelligence but also creativity, leadership, and exceptional abilities in specific domains (Tan, 2012). Malaysia needs to broaden its assessment methods to ensure that all gifted students are identified and given appropriate opportunities.

### The Use of Technology and AI in Gifted Education

The advancement of technology and artificial intelligence (AI) has created significant opportunities to strengthen gifted and talented education. Several technological innovations may be effectively utilised, including the following:

1. AI in the Identification of Gifted Students

- AI systems can be used to analyse student performance more comprehensively based on psychometric assessments, online learning data, and records of academic achievement.
- AI may also assist in identifying twice-exceptional (2e) students, that is, students who are gifted but also experience learning challenges such as dyslexia or ADHD (Sternberg & Davidson, 2005).

## 2. AI-Based Learning and Curriculum Adaptation (Adaptive Learning)

- AI-powered learning platforms can be tailored to students' individual levels of understanding, thereby enabling gifted learners to progress according to their own pace of development.
- Chatbot technology and virtual tutors may help gifted students gain access to more advanced and challenging learning materials.

## 3. Gamification and Virtual Reality (VR) in Learning

- Gamification can be employed to make learning more interactive and engaging for gifted students.
- Virtual Reality (VR) and Augmented Reality (AR) can be used to enable gifted learners to explore complex scientific experiments, historical simulations, and real-world problem-solving scenarios.

## 4. Digital Learning and Global Access

- The use of Massive Open Online Courses (MOOCs) and online learning platforms can enable gifted students in Malaysia to participate in courses offered by leading global universities such as MIT, Harvard, and Stanford.
- The government may collaborate with organisations such as Google, Microsoft, and Coursera to develop specialised learning modules for gifted students in Malaysia.

## Collaboration with External Institutions to Enhance Programme Standards

Collaboration with international institutions is crucial to ensure that gifted and talented education programmes in Malaysia remain comparable with those of developed nations. Among the forms of collaboration that can be further expanded are the following:

### 1. Partnerships with International Universities

- Programmes such as Kolej PERMATA Pintar UKM may establish academic partnerships with leading universities such as Harvard University, the University of Cambridge, and Johns Hopkins University.
- Gifted students may be provided with opportunities for academic exchange and research placements abroad.

### 2. Development of International-Standard Curriculum

- Malaysia may draw lessons from gifted education systems in Singapore, South Korea, and Finland, all of which have successfully developed gifted students to a global level (Tan, 2012).
- Collaboration with the Johns Hopkins University Center for Talented Youth (CTY) may contribute to improving the assessment system and curriculum for gifted students in Malaysia.

### 3. International-Level Teacher Training

- Teachers working with gifted students may be offered specialised training at overseas institutions such as the National Association for Gifted Children (NAGC) in the United States.

- Teacher exchange programmes may also be introduced to enable gifted education practitioners to learn directly from international experts.

#### 4. Participation in International Competitions and Conferences

- Gifted students from Malaysia may be given greater opportunities to participate in innovation and research competitions such as the Intel International Science and Engineering Fair (ISEF) and the International Mathematical Olympiad.
- Exposure to international forums and conferences may help gifted students build global networks and further develop their potential.

## CONCLUSION

The evolution of gifted and talented education in Malaysia demonstrates significant progress through the various policies and programmes introduced by the government. Beginning from a general education system, Malaysia has gradually developed specialised schools and gifted education programmes such as Kolej PERMATA Pintar UKM and Kolej PERMATA Insan, which provide broader opportunities for gifted learners. Nevertheless, challenges such as limited public awareness, the shortage of trained educators, and constrained government funding remain major issues in ensuring the effectiveness of these programmes.

Moving forward, Malaysia needs to adopt proactive measures to improve curriculum quality, expand access to gifted education, and integrate technology and AI into teaching and learning. In addition, strategic collaboration with international institutions and the private sector may help raise the standards of gifted education to a level comparable with that of developed countries. With such improvements, the gifted and talented education system in Malaysia will become more competitive and capable of producing high-quality human capital that contributes meaningfully to national development and global innovation.

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