



KEMENTERIAN PENDIDIKAN
BAHAGIAN PERMATA



NURTURING THE SCIENTIFIC MINDSET OF GIFTED LEARNERS: INSIGHTS AND EXPERIENCES FROM KOLEJ PERMATA INSAN, UNIVERSITI SAINS ISLAM MALAYSIA

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AGENDA

- ▶ Gifted Students
- ▶ PERMATA Insan College
- ▶ Nurturing Scientific Mindset

WHO IS GIFTED STUDENT?



“Giftedness as the possession of exceptional natural abilities (aptitudes or gifts) in one or more domains, such as intellectual, creative, social, perceptual, muscular, or motor control. These abilities are present from birth or develop early and are considered to be at least among the top 10% of an individual's age group.”

Francoys Gagné

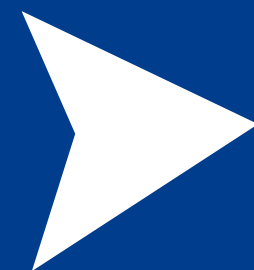
THE UNTAPPED POTENTIAL OF GIFTED LEARNERS



High cognitive level



Heightened curiosity



**Inclination toward
critical thinking**

**Gifted
underachievement**

**- Boredom from an
unchallenging
curriculum**

PERMATA INSAN COLLEGE



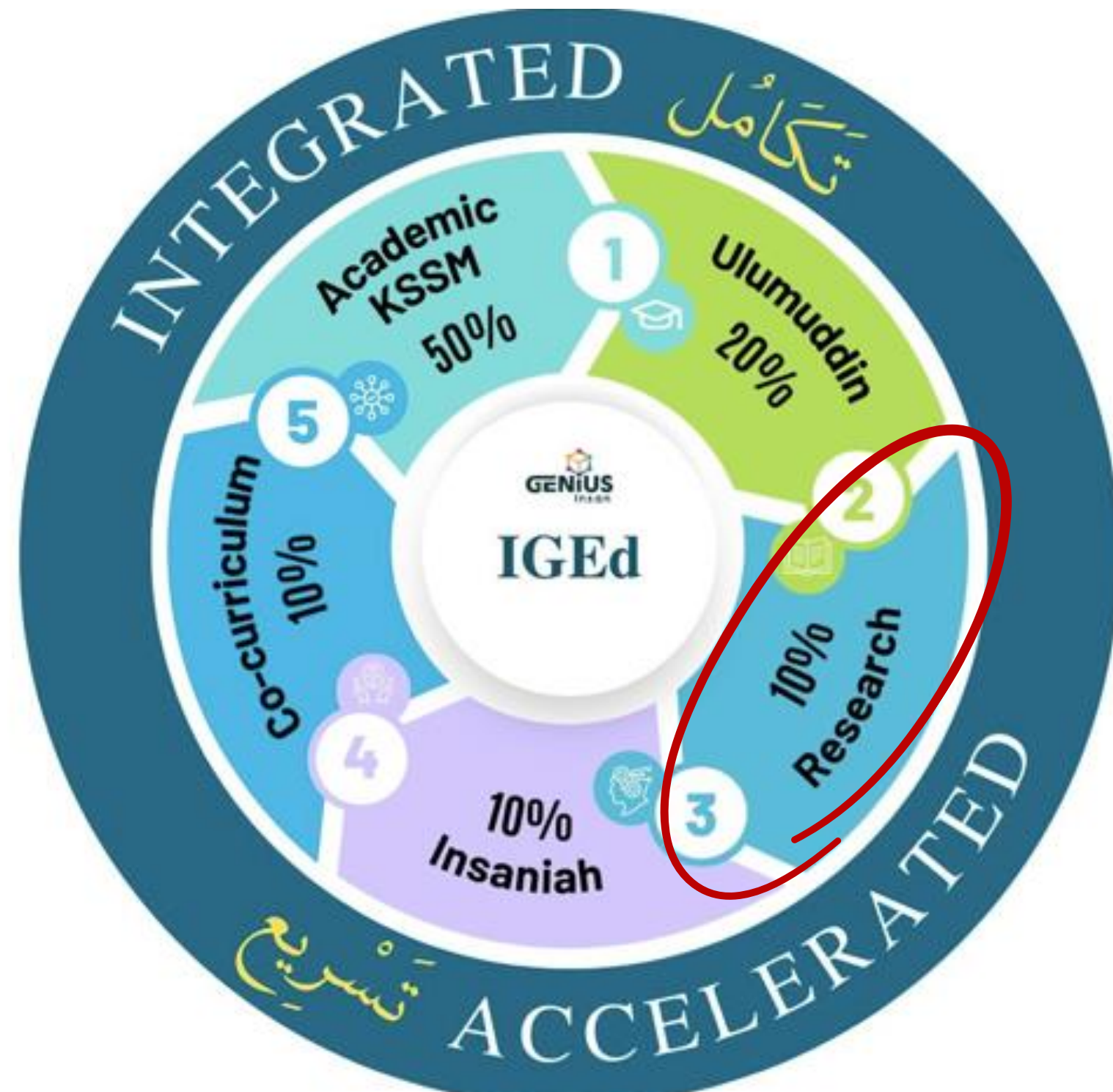
01 School in University

02 Aged 13–16

03 Selected from across
Malaysia through an IQ
Test

04 Integrated, Enriched,
Accelerated Curriculum





CURRICULUM PERMATA INSAN COLLEGE

Integrated Gifted Education (IGeD)

DEFINITION OF SCIENTIFIC MINDSET

The kind of thinking that involves the coordination of theory and evidence in the process of drawing conclusions, making decisions, and solving problems.

Kuhn, 2002

A way of thinking that thrives on deep questioning, self-reflection and expanding understand

WHAT ARE WE NURTURING?

Curiosity

An intrinsic desire to explore, ask, and understand.

Critical thinking:

The ability to analyze claims, evaluate evidence, and draw reasoned conclusions.

Open-mindedness:

Willingness to consider multiple perspectives.

Resilience:

Persistence in the face of uncertainty and failure.

Ethical reasoning

- Reflecting on the moral implications of research and innovation.

IT'S
OK !!

To make mistake
Slow or get inconclusive results



NURTURING SCIENTIFIC MINDSET

TEACHER



- => ROLE MODEL
- => FACILITATOR
- => LIFE LONG LEARNERS
- => BUILDER OF SCIENTIFIC CHARACTER

INSTITUTION



- => CREATOR OF SUPPORTIVE ENVIRONMENT
- => PROMOTER OF INTERDISCIPLINARY APPROACH
- => COLLABORATORS
- => FUNDDER

TEACHER

*The art of teaching is the art
of assisting discovery.*

mark van doren



**Emergency Alert**

56m ago

NDRRMC(10:55AM,21Jul25) Orange Rainfall
Warning sa Metro Manila. Nagbabanta ang
matinding pag-ulan, pagbaha at pagguho ng lupa

Do you know that rain smells different in the city than in the village?

Curiosity in Everyday Life

TEACHER

Role Model of Scientific Thinking

teacher demonstrates scientific thinking through actions, attitudes, and speech even beyond the classroom syllabus

Skepticism Without Cynicism

Drinking cold water
after meals causes
cancer.

TEACHER

Facilitator of Research and Innovation among Students

- Create opportunities and offer structure for students to engage in research and innovation
- Encourage students to take ownership of their research journey.



TEACHER

Lifelong Learner

"A teacher's growth fuels the growth of their students."

- Teachers must always keep learning.



TEACHER

Builder of Scientific Character and Ethics



- Guide students to be honest in their work, responsible in handling data, and respectful of others' ideas.
- Nurturing students having integrity, discipline, and a deep sense of accountability

INSTITUTION

Creating a Supportive Environment

- Access to tools and resources such as science laboratories, experimental materials, digital databases, and scientific journals.
- A flexible academic structure that allows time for inquiry-based learning and student-led projects rather than rigid syllabus coverage.



INSTITUTION

Promoting Interdisciplinary Approaches

Integrate science with technology, ethics, religion, sociology, and even the arts.

What are the ethical implications?

What does religion say about altering life?

science affects society, and society also shapes science



INSTITUTION

Seed Funding or Internal Grants

- Testing Ideas without fear
- Boosting Confidence and Ownership
- Encouraging a Research Culture



Recognizing and Rewarding

acknowledged for their efforts, not just results, fuels their passion for research.

scientific thinking is not about
always getting it right. It's
about asking better questions
next time

INSTITUTION



Collaboration Between Ministries: MOE, MOHE, MOSTI

Ministry of Education (MOE)

-Ensure the curriculum is flexible enough to support enrichment, research activities,

Ministry of Higher Education (MOHE)

-bring the expertise, research labs, supervision, and collaboration opportunities.

Ministry of Science, Technology, and Innovation (MOSTI)

-support grants, competitions, tech incubation, and commercialization.



INSTITUTION



Collaboration Between Ministries: MOE, MOHE, MOSTI

So why does this collaboration matter?

Because when MOE, MOHE, and MOSTI work together:

- Students don't just learn theory, they apply it through real research.*
- Teachers don't just teach, they mentor innovation.*
- Universities don't just publish, they nurture young talent.*
- And the nation doesn't just educate, it builds a future generation of scientists, thinkers, and innovators.*



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WHEN?
10 - 11
OCTOBER
2025

WHERE?
Kolej PERMATA
Insan,
Universiti Sains
Islam Malaysia
MODE: HYBRID

**REGISTER
HERE**



IJURECON

2025

6TH INSAN JUNIOR RESEARCHERS INTERNATIONAL CONFERENCE & INNOVATION



STREAM FOR A BETTER FUTURE

[HTTP://PERMATAINSAN.USIM.EDU.MY/I-JURECON-2025/](http://permatainsan.usim.edu.my/I-JURECON-2025/)

FEES

LOCAL PRESENTER/ INNOVATOR	
KPM SECONDARY SCHOOL STUDENT (INCLUSIVE OF WORKSHOP & PROCEEDING PUBLICATION)	RM50/ PAPER
NON-KPM SCHOOL STUDENT/ PRE-UNIVERSITY & UNDERGRADUATE STUDENT	RM80
INTERNATIONAL PRESENTER/ INNOVATOR	
SCHOOL & UNIVERSITY STUDENT	USD30
PARTICIPANT	
KPM SECONDARY SCHOOL STUDENT	FREE
NON-KPM SCHOOL STUDENT/ PRE-UNIVERSITY & UNDERGRADUATE STUDENT	RM20
INTERNATIONAL	USD10

PUBLICATION

- All full articles will be published in the conference's e-proceedings
- E-posters will be published as an e-book
- USD50 publication fees for non-KPM school students and international participants

SCIENCE TECHNOLOGY RELIGIOSITY ENGINEERING ARTS MATHEMATICS

CONFERENCE

- POSTER
- INNOVATION COMPETITION
- IDEATION CHALLENGE

REGISTRATION AND
ABSTRACT
SUBMISSION
16 JUNE - 10 AUG
2025

DEADLINE OF
FULL ARTICLE
/POSTER
SUBMISSION
30 AUG 2025

DEADLINE OF FULL
ARTICLE & E-POSTER
SUBMISSION
WITH CORRECTION
13 SEPT 2025

FEE PAYMENT
18 AUG - 6 SEPT
2025

NOTIFICATION OF
ABSTRACT/ POSTER
ACCEPTANCE
7 JULY - 16 AUG
2025

NOTIFICATION OF
CORRECTION
6 SEPT 2025

DEADLINE OF
INNOVATION
VIDEO AND POSTER
SUBMISSION
13 SEPT 2025



Thank You



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