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INNOVATION COMPETITIONS: GROWING CREATIVE MINDS FROM PRIMARY SCHOOL TO UNIVERSITY

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BEYOND SPORTS: THE RISE OF INNOVATION COMPETITIONS

When we think about competitions, the first thing that comes to mind is usually sports. However, in today's fast-changing world, innovation competitions have become just as exciting, and maybe even more impactful. From primary school pupils with bright ideas to university students solving real-world problems, these competitions are shaping the next generation of problem-solvers, thinkers, and leaders.

Unlike traditional classroom learning, innovation competitions offer students the freedom to explore their creativity, test ideas, and present solutions in ways that textbooks alone cannot offer. Whether it's a robot built by 12-year-olds or a mobile application pitched by final-year students, these platforms are nurturing skills that last a lifetime.

WHY START YOUNG?

At the primary school level, innovation competitions spark curiosity. Kids are naturally creative, and when they're given a chance to design simple solutions—whether it's a water-saving gadget or a recycling project, they learn that their ideas matter. It builds confidence, teamwork, and presentation skills at an age when learning is all about discovery.

A critical role of innovation competitions in schools is their ability to stimulate the students' capacities. Research indicates that contests with diverse solver participation yield higher quality solutions, as the competitive environment encourages participants to explore multiple creative pathways [1],[2].

HIGH SCHOOL: BUILDING SKILLS AND IDENTITY

For secondary school students, innovation competitions provide a platform to apply classroom knowledge to real-life challenges. They learn how to brainstorm, research, and test ideas. More importantly, they begin to see themselves as creators, not just consumers of technology. These experiences often shape their interests and even influence their future career paths.

At this stage, Robotics and Internet of Things projects are very popular. From building autonomous robots to designing IoT sensors that monitor water quality, students get hands-on experience in solving problems around them. This exposure often sparks an interest that carries into university studies.

UNIVERSITY LEVEL: REAL-WORLD IMPACT

At university, innovation competitions go one step further. Students are challenged to solve problems that reflect real industry or community needs; the sustainability, digital solutions, health tech, you name it. Here, innovation isn't just about creativity; it's about practical application, entrepreneurship, and impact. Competitions also encourage collaboration across faculties, giving students a taste of multidisciplinary teamwork they'll experience in the workplace. Common themes include:

- Sustainability & Green Tech – renewable energy, waste reduction, sustainable farming.
- Digital Health & Wellbeing – apps or devices for healthcare and wellness.
- AI & Data-Driven Solutions – smart cities, predictive analytics, automation.
- Fintech & Smart Economy – blockchain, inclusive finance, digital marketplaces.
- EdTech & Learning Tools – gamified learning apps, XR, and digital platforms.

LIFELONG BENEFITS

Across all levels, the benefits are clear. Students develop critical thinking, communication, and problem-solving skills—competencies no textbook alone can teach. They also learn resilience: not every idea works on the first try, and that’s okay. The process of iterating and improving is itself a valuable lesson.

Whether it’s a primary school child proudly showing a handmade prototype or a university team pitching to judges, innovation competitions remind us that every student has the potential to contribute to the future. These platforms nurture creativity, build confidence, and prepare young minds to face tomorrow’s challenges with courage and imagination.

UiTM CAWANGAN NEGERI SEMBILAN AS A HUB OF INNOVATION

A local example is UiTM Cawangan Negeri Sembilan, which actively organises competitions like The Fourth International Competition on Sustainable Education 2025 (SUSED2025), Inovasi Masjid Pintar Sheikh Hj Ahmad – UiTMCNS, and Negeri Sembilan International Exposition & Research Symposium (NSIEx+RS2025). What makes these events unique is their inclusivity: they welcome participants from primary school pupils to professionals. This creates a rich ecosystem where young learners, university students, and industry experts can learn from one another. Figure 1 to 3 depicts examples of innovation competitions held by UiTMCNS.



Figure 1: Inovasi Masjid Pintar Sheikh Hj Ahmad - UiTMCNS



Figure 2: Sustainable Education 2025 (SUSED2025)



Figure 3. Negeri Sembilan International Exposition & Research Symposium (NSIEx+RS2025)

In conclusion, innovation competitions are more than contests. They are platforms that inspire, empower, and equip students to dream bigger and think differently. With institutions like UiTM Negeri Sembilan leading the way, the future of innovation in Malaysia looks brighter than ever.

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