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### Empowering Future Innovators: A Community Engagement Program on Automotive Technology for Secondary School Students

Rafiq Hilmi Razali<sup>1</sup>, Erzam Zamani<sup>2</sup>

<sup>1</sup>Faculty of Mechanical & Automotive Engineering Technology, Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia

#### Abstract

This community service initiative was conducted by two undergraduate students from the Bachelor of Automotive Technology program at Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA) to provide a motivational talk and knowledge-sharing session on automotive technology. The program was held at Sekolah Menengah Kebangsaan Indera Shahbandar, attended by 17 students. Conducted over two hours, the session aimed to introduce school students to automotive technology concepts and inspire them to pursue careers in this field. The initiative was beneficial in increasing awareness about automotive technology and boosting motivation among school students by exposing them to higher education opportunities and technical knowledge.

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## 1. Introduction

Community engagement plays a crucial role in fostering academic and career aspirations among school students. Higher education institutions often undertake outreach programs to inspire young learners and provide them with insights into various academic and career fields. One such initiative was conducted by two undergraduate students from UMPSA's Bachelor of Automotive Technology program. The aim was to introduce secondary school students to the field of automotive technology while motivating them to pursue their educational goals.

Motivation talks and technical exposure programs are essential for bridging the gap between secondary and tertiary education. Many school students lack exposure to specialized fields such as automotive technology, which may limit their career aspirations [1]. By conducting such programs, university students can play a vital role in shaping the aspirations of younger students and encouraging them to explore technical fields.

The Malaysia Education Blueprint 2013-2025 envisions a holistic approach to student development, integrating intellectual, spiritual, emotional, and physical growth within a bilingual learning environment [2–5]. The education system aims to install strong ethics and spirituality, preparing students to navigate life's challenges with sound judgment and principles while fostering a sense of responsibility toward their communities. A key objective is to strengthen national identity by ensuring that all students, regardless of ethnicity, religion, or socio-economic status, develop a deep sense of patriotism [6–9]. This is achieved through an understanding of Malaysia's history and shared aspirations for the future, as well as promoting inclusivity by encouraging students to not only accept but also embrace diversity.



**Figure 1:** Graphical concept of what every student will experience in school [2]

Guided by the National Education Philosophy, the Blueprint 2013-2025 focuses on equipping students with essential knowledge, skills, and competencies to thrive in a globalized world [10]. Core academic proficiency in subjects such as Mathematics, Science, and the Arts is emphasized, along with fostering lifelong learning and critical thinking. Leadership development is also a priority, with initiatives to build resilience, entrepreneurship, emotional intelligence, and teamwork [11–14]. Additionally, bilingual proficiency in Bahasa Malaysia and English is highlighted, ensuring that students can effectively communicate both nationally and internationally. Through these initiatives, the blueprint aims to create a well-rounded, competent, and globally competitive generation of Malaysians.



**Figure 2:** Sekolah Menengah Kebangsaan Indera Shahbandar, Pekan

Sekolah Menengah Kebangsaan Indera Shahbandar was chosen as the venue for this program due to its potential to benefit from increased exposure to technical education. Many students in secondary schools may not have clear guidance on career paths in automotive technology, and such initiatives provide valuable insights. The program was designed to be interactive and engaging, ensuring that students remained interested throughout the session. **Figure 2** shows the entrance gate of Sekolah Menengah Kebangsaan Indera Shahbandar, Pekan

The Bachelor of Automotive Technology students from UMPSA shared their knowledge on fundamental automotive concepts, including vehicle mechanics, maintenance, and advancements in the automotive industry. They also highlighted the importance of automotive technology in the modern world and the growing demand for skilled professionals in the industry. Beyond technical knowledge, the session aimed to install motivation among students by sharing personal experiences of university life and career prospects. The UMPSA students discussed the opportunities available in the automotive field, scholarships, and the importance of pursuing higher education. This approach helped the school students see a tangible connection between their current studies and future career opportunities.

By engaging in this community service activity, the UMPSA students also developed their communication and leadership skills. It allowed them to practice their ability to convey technical knowledge effectively and inspire younger students. Such programs create a mutually beneficial environment where university students can give back to society while enhancing their own personal and professional development.

## **2. Activities**

The two-hours program was carefully structured to maximize impact within a limited timeframe. The session began with an introduction to automotive technology, where the UMPSA students explained basic concepts such as vehicle components, engine functions, and maintenance practices. The presentation included visual aids and interactive discussions to keep the students engaged. The school students were encouraged to ask questions and share their thoughts on automotive careers. **Figure 3** shows a group discussion between UMPSA students and school students.



**Figure 3:** Group discussion between UMPSA students and school students

The second half of the session focused on motivation and career guidance. The UMPSA students shared their personal experiences, discussing the challenges and rewards of studying automotive technology. They provided insights into the various career paths available in the automotive industry, including opportunities in engineering, manufacturing, and vehicle maintenance. By the end of the session, the school students expressed a heightened interest in automotive technology and a greater motivation to pursue higher education. **Figure 4** shows that the session received a good response from all the participants. The students really enjoyed it.





**Figure 4:** The session received a good response from all the participants

### **3. Conclusion**

The community service program conducted by UMPSA's Bachelor of Automotive Technology students at Sekolah Menengah Kebangsaan Indera Shahbandar proved to be a valuable initiative. By introducing school students to automotive technology and providing motivation for their future careers, the program successfully achieved its objectives. The session not only increased students' knowledge about the automotive industry but also inspired them to consider higher education and technical careers. Future programs of this nature can further enhance student awareness and career aspirations, benefiting both the participants and the community at large.

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