



# **ASTI LEAP CHALLENGE REPORT 2020**

PREPARED BY: ASTI R&D DEPARTMENT

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## **1.0 Introduction**

### **1.1 Summary of ASTI and ASTI Leap Challenge**

The Association of Science, Technology and Innovation (ASTI) is an association of educators, scientists, industry representatives and individuals who are committed in advancing the role of the scientific community in inspiring the youth of the nation to join and excel in the world of science. Association of Science, Technology and Innovation (ASTI) is a nongovernmental organization (NGO) working towards empowering young children through various projects such as Science Fair for Young Children (SFYC), Young Inventors Challenge (YIC), Creative and Critical Thinking Camp (CCTC), on the “Wings of Fire” series, Young Scientific Explorer (YSE), ASTI Progressive Learning and Understanding Science (A-PLUS), Young Inventors Journal (YIJ), ASTI Feynman Challenge (AFC) and collaboration projects with other bodies.

ASTI Leap Challenge is a project that introduces young people to the world of invention and innovation. By participating in this programme, students have an opportunity to enhance their creative and critical thinking skills to be able to solve a complex problem which is expressed by ‘doing’. Besides that, the programme also prepares and encourages the students to participate in various national and international competitions with various inventions ideas. It also helps build self-confidence for them to reach their full potential.

### **1.2 Background of ASTI Leap Challenge**

ASTI Leap Challenge, ALC, is a pilot project that ASTI initiated with Yayasan Hasanah as a funding partner in 2016. The project was initially for the so-called band 4 - 5 secondary schools which we believe have the potential to help students to achieve higher levels of learning and understanding. The aim of the project is to expose young people to the world of invention and innovation in a very hands-on manner.

ASTI Leap Challenge helps students with their creative thinking, critical thinking and problem solving skills. Schools from Penang, Kedah and Johor participated in the pilot project in 2017 for Phase I of the project. Phase I was an inter-school competition where each school sent a team to compete with each other. It was designed to give these schools an exposure to participating in such competition. It was also hoped that this phase will prepare the schools for Phase II of the implementation. As a continuation, for Phase II of the pilot in 2018, training was provided to the teachers and students to conduct their own School Level ASTI Leap Challenge (SL-ALC). In 2019, schools that participated in ALC 2018 continued to conduct ALC in their respective schools. Besides that, ALC training for 7 new schools by invitation was also conducted by ASTI in Simpang Renggam Zone.

## 2.0 Objectives of ASTI Leap Challenge 2020

### Project Objectives

- To give an introduction and experience to young people to the world of invention and innovation.
- To enhance their creative and critical thinking skills to be able to solve a complex problem which is expressed by actively 'doing'.
- Enhance problem solving skills among participants.
- Develop communication and presentation skills among participants.
- Encourage team work among participants.
- Develop "out of the box thinking" among participants.
- Develop 'hands-on' learning methods for the young people.

The programme also prepares and encourages the students to participate in various national and international competitions with various inventive ideas with self-confidence.

The schools are to conduct the competition in their schools as an annual event which will involve more students with various academic capabilities. This way more students will benefit from the project. The schools should also continue to be able to participate in various national and international invention competitions.

After participating in ASTI Leap Challenge, the participants should also be able to:

- Produce an original invention or solution and receive recognition for participating in the event.
- Meet and network with other young people who share similar passion.
- Develop creative and innovative thinking skills.
- Develop teamwork dynamics to solve problems.
- Use resources such as the internet, library and experts to hone their research skills.
- Learn to document their invention project.
- Enhance self-esteem and confidence.
- Acquire public presentation and writing skills.
- Be more proactive by solving problems they see around them.

### **3.0 Methodology / Mode of Implementation**

The schools that participated in ASTI Leap Challenge in the past and a new school in Kedah were sent invitation letter to organise ASTI Leap Challenge 2020. A total of 14 schools agreed to conduct ASTI Leap Challenge in their schools this year. These schools were sent the theme for ASTI Leap Challenge this year, Proposal Template and also Report Template for ALC. The theme for ASTI Leap Leap Challenge 2020 was “Invention/Process To help your School/Community be more Efficient”. Four schools had submitted their proposal to ASTI to conduct ALC this year.

The schools that agreed to organise ALC have decided not to continue with ALC this year due to school closure because of Covid-19 Lockdown. When the school reopened after Movement Control Order (MCO), only 1 school which is SMK Simpang Empat from Penang showed interest in continuing with ALC in their school. The school was requested to submit an amended proposal due to changes in the programme because of the new regulation.

The school had completed the 2 physical trainings before MCO. When school resumed, SMK Simpang Empat opted to continue and complete the programme by submitting presentation slides via Telegram. The students submitted their presentation slides to the organising team for judging purpose. Upon completion of ALC, the school submitted a report to ASTI. The participating students and teachers were given e-certificate for completing ALC 2020.

### **4.0 Acknowledgment**

We would like to thank Kementerian Pendidikan Malaysia and Jabatan Pendidikan Negeri Pulau Pinang for the approval given to conduct the programme in schools, teachers and students for participating and completing ALC in their school despite the challenges faced by them.

### **5.0 Conclusion**

ASTI continued with ASTI Leap Challenge 2020. Just like in 2018 and 2019, ASTI Leap Challenge 2020 was held at school level. The school continued to conduct ASTI Leap Challenge in its school as an annual event. We hope for 2021, when the schools reopen, ASTI Leap Challenge will be restarted in schools because it helps build students' confidence and helps in developing creative and critical thinking skills in students.

We would particularly like to congratulate SMK Simpang Empat (Penang) for their unrelenting effort to continue with this project despite all the problems faced by all in 2020. It shows to us that for any education system to work and be meaningful, the teachers and the headmasters are by far the most important component of its success.

## Pictures of ASTI Leap Challenge in SMK Simpang Empat (Penang)



**(Pictures taken on 11 March 2020, before MCO)**



**ASSOCIATION OF SCIENCE, TECHNOLOGY & INNOVATION**

Association of Science, Technology and Innovation (ASTI)  
No.16A, Jalan 21/12, Sea Park, 46300 Petaling Jaya, Selangor, Malaysia.  
Tel: 03-78778571/ 03-78655557  
Fax: 03-78729551  
Email: [asti2510@gmail.com](mailto:asti2510@gmail.com)

[www.asti.org.my](http://www.asti.org.my)