



## 2024 SEAMEO-Japan ESD Award

Theme: Promoting Lifelong STEM Learning through Community Engagement

### SUBMISSION FORM

The submission deadline is **15 August 2024**

Full Information: <https://link.seameo.org/esd2024>

- To participate in the 2024 SEAMEO-Japan ESD Award, please submit the information of your school's programme on "Promoting Lifelong STEM Learning through Community Engagement" by using this template of Submission Form on or before 15 August 2024.
- This **Submission Form** can be downloaded from the SEAMEO website: <https://link.seameo.org/esd2024> or request through email: [seameojapan.award@seameo.org](mailto:seameojapan.award@seameo.org)
- The **guidelines for submission** and the **judging criteria** are detailed in page 8-10 of this document.
- **How to Submit the Entry:** Please send the completed submission form of 2024 SEAMEO-Japan ESD Award and a link of 3-minute video clip together with supporting documents to the following Google Form:



<https://link.seameo.org/ESD2024/Submission>

- Important Note: to align with the ESD practices and to save the environment and energy, the Committee **WILL NOT** accept the entry in hard/printed copies.
- For more information, please visit: <https://link.seameo.org/esd2024> or contact the SEAMEO Secretariat's email: [seameojapan.award@seameo.org](mailto:seameojapan.award@seameo.org) or Tel. +66-2391-0144.

#### PART I: DETAILS OF YOUR SCHOOL

1. Name of your school: **Seri Mulia Sarjana International School**
2. Full address: **Simpang 340, Kampong Mata-Mata, Jalan Gadong, Bandar Seri Begawan**
3. Postcode: **BE17184**. Country: **Brunei Darussalam**
5. School's telephone number (country code+city code+telephone number) **673 242 1311**
6. School's Email Address: [infodesk@smsarjanais.edu.bn](mailto:infodesk@smsarjanais.edu.bn)
7. School website (if available): [www.smsarjanais.edu.bn](http://www.smsarjanais.edu.bn)
8. Approximate number of teachers participated in this programme: **45 Teachers**

9. Approximate number of students participated in this programme: 500 Students

## PART II: INFORMATION ABOUT THE SCHOOL'S PROGRAMME

The information of part II from no.1 to 14 should not be over five (5) pages long of A4 in total. The information should be written in Times New Roman/Calibri font, font size 11.

1. Title of the school's programme

**Fostering Lifelong transdisciplinary STEAM Learning Through School Community Engagement: Empowering Students to Design and Create Real-World Solutions for Local Challenges**

2. Summary of the programme (maximum of 300 words)

Our school's transdisciplinary STEAM programme is a wonderful example of how we can inspire lifelong learning through engaging the entire school community. Rooted in our school's core values, this programme offers young learners a chance to develop their creativity, critical thinking, and sense of social responsibility by connecting different subjects with real-world challenges.

The core of this initiative is our Digital Learning Unit, a specialized STEAM-focused hub equipped with a variety of digital tools and technological resources. Here, students dive into hands-on projects that cross the boundaries of Science, Technology, Engineering, Arts, and Mathematics (STEAM). Upper primary students take on meaningful projects that push them to use what they've learned in the classroom to solve real problems around the school.

For instance, our students recently designed a smart irrigation and monitoring system for our vertical garden. They used sensors to monitor soil moisture and created an automated watering system. This project allowed them to combine programming, engineering, and IoT technology, turning their ideas into practical solutions.

Collaboration is key in our programme. Students work together and often seek advice from community experts, making learning a shared experience. This involvement not only boosts their educational journey but also helps address local social and environmental issues.

Despite the program's recent establishment of only three years, it has already generated a substantial and observable effect. Students have created projects with potential commercial and environmental value, going beyond theory to develop practical solutions. Many of these initiatives focus on sustainability, contributing to the environment by solving local ecological problems or promoting green technologies. The success of our STEAM programme shows how effectively it prepares students to think creatively, act responsibly, and make a difference in their communities.

3. Objectives/goals of the school's programme

1. Promote Creative and Critical Thinking: Empower students to think creatively and solve real-world problems.
2. Encourage Hands-On Learning: Provide opportunities for students to learn through practical, project-based activities.
3. Foster Teamwork and Collaboration: Support students in working together and learning from one another.
4. Involve the Community: Engage local experts to enrich student learning and connect education with the community.
5. Promote Social and Environmental Responsibility: Guide students to create projects that positively impact their community and environment.

4. Period of the time when the programme has been started

The programme has been running for 3 years now.

5. Activities (strategies/activities of implementation, and brief information of each activity)

Project-based learning integrated with STEAM is a key component of our curriculum. Students are assessed not only on their written work but also on their ability to apply concepts through practical projects. Below are examples of project-based activities:

1. **Interdisciplinary Project-Based Learning (Year 1-4):** In the early primary years, students work in groups on simple, guided projects such as creating posters or dioramas. These projects help them understand how different subjects connect. They also begin learning basic programming to create simple games, integrating technology into their learning experience.
2. **Transdisciplinary Project-Based Learning (Year 5-6):** In the later years, students undertake "projects with a purpose" where they use their STEAM knowledge and skills to tackle real-world problems. They identify issues within the school, propose solutions, and develop working prototypes to show their Proof of Concept (POC). Outstanding projects may be entered into STEAM national competitions or become part of the school's green initiatives or other programmes.

These activities help students apply their learning in meaningful ways, bridging classroom concepts with real-world applications.

6. Teaching and learning approaches/strategies that the school has integrated into the programme

At our school, we are dedicated to making learning both enjoyable and impactful by employing a variety of teaching strategies. Here's how we bring these approaches to life:

Project-Based Learning has allowed students to create innovative solutions for real-world problems. For example, past students designed a miniature model of smart playground that generates electricity and developed a prototype to assist people with visual impairments using a microbit programmable kit. These projects not only made learning exciting but also demonstrated how their ideas can make a tangible difference.

Inquiry-Based Learning has encouraged students to explore their own questions and discover answers through hands-on experiments. In previous years, students investigated how different conditions affect plant growth, conducting their own experiments to find out what plants need to thrive.

The Integrated Curriculum has enabled students to creatively interweave different subject areas. For example, when learning about plants in science, they also produced intricate drawings and paintings in art class, seamlessly integrating their scientific understanding with artistic expression.

Collaborative Learning has led to impressive student projects. Teams of students have worked together to build small-scale models of smart homes and smart trash bins, each member contributing their unique skills and ideas to the final design.

Technology Integration has been a key part of our teaching. Students have used computers and tablets to learn coding, create digital presentations, explore interactive apps and IoT's, as well as designing and printing 3D models using 3D modeling software and printers which has enriched their learning experience.

Experiential Learning has enriched students' understanding through immersive field trips and engaging hands-on activities. Students have gained valuable firsthand insights by visiting local hydroponic farms to learn about innovative farming practices, as well as touring recycling facilities to deepen their comprehension of waste management and sustainability. These real-world experiences have provided powerful contextual learning, significantly enhancing the relevance and impact of their studies.

#### 7. Engagement with the community and sharing of school practices to the community

Despite ongoing efforts to establish partnerships with local institutions, organizations, and government entities, we are vigorously championing our students' projects through STEAM Project Exhibitions. These events provide an invaluable platform for students to proudly showcase their work and innovative ideas to the community.

Our school has taken proactive steps to engage the local community and showcase the innovative STEAM projects of our students. For instance, in June 2022, we had the privilege of presenting our students' remarkable work to the Vice President and former Secretary of Education of the Philippines Sara Zimmerman Duterte-Carpio during her state visit. More recently, we have invited distinguished guests, including the country manager of Microsoft and a distinguished parent who holds an important position in the Ministry of Education of Brunei, as well as members of the broader school community, to attend another STEAM exhibition. These events not only highlight the impressive innovations of our students but also provide an opportunity for community members to witness firsthand the exciting and transformative work being done within our school.

By hosting these exhibitions, we offer a glimpse into the creative and practical applications of our students' learning, fostering a stronger connection and sharing innovative solutions between our school and the wider community.

Moreover, our Student-Led Initiatives provide an invaluable opportunity for students to apply their classroom learning to real-world challenges. By testing their products and projects within the school environment, students gain practical experience and valuable feedback from members of the school community. This hands-on approach allows them to refine their ideas and solutions based on real-world data and observations.

We also invite guest speakers and organize educational trips where students can meet local experts who provide workshops and real-world insights, helping to connect them with the broader community.

#### 8. Monitoring and evaluation mechanisms

To ensure that our students' transdisciplinary and interdisciplinary projects meet our educational goals, we use a clear set of guidelines and a rubric that help us track their progress. Here's how we support and assess students throughout their project journey (Year 5-6):

**Ideation:** In the beginning, students brainstorm and come up with their project ideas. Teachers provide feedback to help them refine their concepts, making sure their ideas are both creative and achievable.

**Planning:** Students then create a plan for their project, outlining the steps they will take and what they will need. Teachers review these plans to ensure they are well thought out and feasible, helping students stay organized and focused.

**Prototyping and Testing:** As students build and test their prototypes, teachers monitor their work closely. They check how well the prototypes work and how students solve problems that arise. This ongoing support helps students make improvements and learn from their experiences.

Pitching: Finally, students present their projects to their classmates, teachers, and sometimes to special guests. Teachers assess these presentations, looking at how clearly students explain their ideas, how innovative their projects are, and how well they meet the project goals.

By following these steps and using our guidelines and rubric, we help students stay on track and achieve their project goals while making their learning experience engaging and rewarding.

#### 9. Measurable achievement of the school's programme to students, teachers, parents, and wider community

Our programme has achieved notable success in advancing educational outcomes for students, enhancing teaching practices, and engaging the wider community.

For students, we have observed significant improvements, particularly in the development of 21st-century skills. This includes increased project success and positive feedback that reflects enhanced critical thinking, creativity, and collaboration skills. Additionally, we have seen a growing interest among students in immersing technology such as coding and the use of AI in education.

Teachers have benefited from integrating STEAM into their teaching practices, which has enriched their methods and increased student participation.

Parental feedback indicates strong support for the programme, as evidenced by the recent Student-Led Conference survey. Parents have noted considerable progress in their children's learning experiences.

The wider community has also been positively impacted through student-led initiatives that address local needs. This is further highlighted by the public recognition received at the recent BICTA 2024 Awards, where we earned a Merit Award for two consecutive years and STEP Centre Brunei for winning 1<sup>st</sup> Place and 2<sup>nd</sup> place respectively under the Innovation Challenge 2023 competition, demonstrating the program's significant contributions to community development.

#### 10. Plan for future

As part of our school's commitment to "Moulding Global Citizens," our future plans for the programme focus on several key areas.

We aim to strengthen our connections with parents and other stakeholders to foster a more collaborative environment. By involving these key partners more actively, we hope to create a supportive network that enriches the educational experience and aligns with our school's values.

We will continue to nurture a culture of innovation among students. Our goal is to empower them to tackle global and local environmental or social issues through their projects. We envision students using their creativity and problem-solving skills to make a meaningful impact, whether it's addressing community challenges or contributing to global conversations. Additionally, we aim to instill a mindset of lifelong learning, where students continually seek new knowledge and skills beyond the classroom.

To enhance learning, we plan to forge partnerships with technology companies. These collaborations will provide students with access to the latest tools and resources, such as advanced coding platforms, virtual reality, and other cutting-edge technologies. By integrating these innovations into our curriculum, we aim to offer students an enriched and forward-thinking educational experience.

Overall, our vision is to create a dynamic and responsive programme that not only prepares students for the future but also actively engages them in making a difference in the world around them.

11. Interrelationship of the school's programme with other Sustainable Development Goals (SDGs) (Please refer to page 2 in the Information Note or <https://sustainabledevelopment.un.org/sdgs>)

Quality Education (SDG 4): Our programme promotes lifelong learning and skills development through innovative teaching strategies and project-based learning. By integrating STEAM disciplines and encouraging critical thinking and creativity, we support high-quality education and prepare students for future challenges.

Affordable and Clean Energy (SDG 7): Student projects often address energy-related issues, such as designing sustainable energy solutions. For example, our students have developed prototypes like a smart playground that generates electricity, contributing to the goal of providing clean and affordable energy.

Sustainable Cities and Communities (SDG 11): Through community-focused projects, such as smart irrigation and monitoring systems and green initiatives, students contribute to the development of sustainable cities and communities. These projects help address local environmental challenges and promote sustainability.

Climate Action (SDG 13): Our programme encourages students to engage with climate-related issues through their projects. By developing solutions like energy-efficient systems and participating in environmental awareness activities, students take action to combat climate change.

Partnerships for the Goals (SDG 17): We actively seek to strengthen partnerships with local businesses, organizations, and tech companies. These collaborations enhance our programme by providing resources, expertise, and real-world connections, thereby supporting the goal of fostering global partnerships for sustainable development.

12. Link(s) to the information of school's programme in social media platforms such as facebook, website, youtube

School Website: [www.smsarjanais.edu.bn](http://www.smsarjanais.edu.bn)

Instagram: <https://www.instagram.com/smsisbrunei?igsh=MTVvdDd5cnoeDR4eQ==>

Facebook: <https://www.facebook.com/SMSarjanaInternationalSchool?mibextid=LQQJ4d>

SMSIS TV: [www.smsarjanais.live](http://www.smsarjanais.live)

13. Photos related to the activity/programme (Maximum of five (5) photos with captions in English)

Photo1

Vice President of the Philippines, Her Excellency Sara Zimmerman Duterte-Carpio's School visit



Students showcasing their Transdisciplinary STEAM projects to Her Excellency, Vice President Sara Zimmerman Duterte-Carpio

Photo 2



Students demonstrating how 3D modeling and printing can be used for project prototyping.



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Instagram



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bicta.bn Brunei ICT Award (BICTA) 2024

Congratulations to Seri Mulia Sarjana International School for winning a Merit Award with their product TerraBin Sentinal for Primary School category

Our Year 6 Students received a Merit award in the Brunei ICT (BICTA) 2024 presented by His Royal Highness Prince Haji Al-Muhtadee Billah ibni His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah, The Crown Prince.



Photo 4



Microsoft Country Manager Mr. Akfash Latibu's visit along with several members of the school community.

Photo 5



Students pitching their project to the BICTA panel of judges