Academic Exploration Competition by

The Oxford & Cambridge Society of Malaysia

Prize Winners

STEM or Computer Science	Humanities Essay
What opportunities for post COVID recovery and improved everyday life are created by technology? Each team may consist of up to 3 people **Joint 1st place Chew Han Xheng** Energy Efficiency in Software Engineering **Joint 1st place Lucius Khor Zhe Yi, Quah Wei Chen** A Prospective Way of Covid-19 Detection through Breath Analysis **3rd Place Sainavi Mahajan** The Role of Nanotechnology in Post-Covid Recovery and Improved Everyday life	*Humanities: To what extent can the opportunity gap that was widened by COVID-19 be reduced?* Individual work - not a team task. **1st place Walter Tay You Zhe** Covid-19 and The Existing Digital Divide - Education's Kryptonite? **2nd place Lucas Li Yang Appleton** To what extent can the opportunity gap that was widened by Covid-19 be reduced? **3rd place Sahana Kaur** Causes of, and Solutions for, the Opportunity Gap in a COVID-19-Stricken World

Honourable Mention **Hana Fauzi, Izzati A Manap, Munierah M Nordin** Technological Prospects and Impacts for Post Covid-19 Recovery in Biomedical Sciences	*Honourable Mentions* **Allen Zhang** Addressing the Educational Opportunity Gap Created During COVID-19 **Meng Xiang** To what extent can the opportunity gap that was widened by COVID-19 be reduced? **Lim E Jac** To what extent can the opportunity gap that was widened by COVID-19 be reduced? **Yaodan Zhang** To what extent can the opportunity gap that was widened by COVID-19 be reduced?

Prizes	
• **1ˢᵗ prize:** RM500 cash (per team) • **2ⁿᵈ prize:** RM300 cash (per team) • **3ʳᵈ prize:** RM200 cash (per team)	• Certificate and medal • Prize giving ceremony once it is safe to hold a large-scale function. • Publication on our website and interview on our YouTube channel.

Comments on Winning Submissions

Humanities

Walter Tay You Zhe
Covid-19 and The Existing Digital Divide - Education's Kryptonite?
- This essay scored highly for originality, and for the efficacy of its suggestions.
- We particularly liked the idea of extending the role of libraries to perform the function of digitalising educational resources, and also to serve as a public area for students to access digital devices and/or rent out electronic devices.
- We appreciated some of the insights: for example, that online learning can assist knowledge retention.

Lucas Li Yang Appleton
To what extent can the opportunity gap, that was widened by Covid-19, be reduced?
- We liked this essay's focus on the impact of Covid-19 on single parents.
- The additional focus on the need to improve legal representation for disadvantaged groups to ensure fairer trials was insightful.
- The essay contained many practical suggestions, such as allowing single parents to only work the hours when their child is in school, or making it mandatory for practicing lawyers to meet pro bono quotas.

Sahana Kaur
Causes of, and Solutions for, the Opportunity Gap in a COVID-19-Stricken World

- This was a well-structured and well-referenced essay, with a particularly clear abstract.
- The focus on institutional resistance was insightful.
- The essay contained some captivating statistics, such as
  - 8 out of 10 low-income 8th-graders at high-poverty US schools cannot read at grade level.
  - Google recognizes 30 European languages but only one African language and no indigenous American or Pacific languages.

Chew Han Xheng
Energy Efficiency in Software Engineering

- Focuses on green computing especially because the pandemic has caused a lot of device usage. It highlights a unique problem which is something less obvious to the average citizen but a huge problem for the future.
- Well written, touching on an interesting topic which is not commonly broached but nevertheless presents a growing problem that should not be neglected. Original and thought-provoking.
- An exceptionally interesting and well written review of the common problem of excessive energy consumption by mobile phone apps, integrated with an excellently thought-through and presented solution. Very good indeed.

Lucius Khor Zhe Yi, Quah Wei Chen
A Prospective Way of Covid-19 Detection through Breath Analysis

- Well researched and coherent piece which looks at the various ways in which breath analysis can be used to detect the Covid-19 virus.
- Solid piece of work with good references to back up arguments.
- Goes in depth with respect to one solution which shows a lot of thought and effort in writing this piece.

Sainavi Mahajan
The Role of Nanotechnology in Post-Covid Recovery and Improved Everyday life

- Nanotechnology is often overshadowed by "sexier" fields in science and innovation, especially these days, therefore judges found this essay quite interesting and thought-provoking.
- Well presented with good sources providing supporting evidence to back the authors' arguments.

Special Mentions

Allen Zhang

Addressing the Educational Opportunity Gap Created During COVID-19

A very well-presented essay, with a good use of integrated diagrams. There were also some insightful comments, such as the fact that excessive reliance on technology can damage students' academic achievements, or the fact that school re-openings are sometimes being used as a political tool, and so may not be timed according to students' best interests.

Meng Xiang

To what extent can the opportunity gap that was widened by COVID-19 be reduced?

Whilst this essay wasn't one of the winners, the writing voice was distinctive and, at times, powerful.

Lim E Jac

To what extent can the opportunity gap that was widened by COVID-19 be reduced?

This essay was more journalistic in style: this meant that it did not score as highly as a piece of academic exploration, but it was an enjoyable read. It was one of the few essays to incorporate reflections on personal experience during the pandemic, which added to its readability.

Yaodan Zhang

To what extent can the opportunity gap that was widened by COVID-19 be reduced?

This essay, which looked at economic impacts, was one of the most academically focused of the essays. It was one of the few essays to incorporate a variety of charts and graphs.

Hana Fauzi, Izzati A Manap, Munierah M Nordin
Technological Prospects and Impacts for Post Covid-19 Recovery in Biomedical Sciences
- Well structured, with some good research done and discussion of innovative technologies i.e. mRNA for vaccines and compounds for drugs.
- Interesting read and is very well written.
- A bit lacking in more in-depth analysis or more original angles as the piece was mostly summarising ongoing research in biomedical sciences.

General Comments

Humanities

- There could have been a deeper level of analysis in many.
- There was a tendency for one-sided arguments - insufficient attention was given to counter-arguments. Evidence was often cherry-picked to prove a point.
- Single statistics at a single point in time were often quoted - there was limited consideration of trends over extended periods of time.
- Things that could have been given more consideration:
  - Learnings from pre-Covid attempts to bridge opportunity gaps such as the digital divide.
  - Writers could have given insights into the efficacy of online learning based on their own experience - recommendations as to what works well that would be useful to share.
  - No-one challenged the current education model.
  - No-one considered different types of electronic devices in more detail - in particular, no-one addressed the use of smartphones for education.
- Referencing could often be improved.

STEM

- Having seen many science essay entries for global competitions, including some held by Cambridge University, some judges felt the standard of this year's entrants were of very similar quality, albeit done within a shorter word limit.
- The shortlisted submissions were well-organised and properly structured. Several approaches or applications were discussed in detail, together as related aspects, including pros, cons and limitations. The submissions were clearly presented, with sources referenced accordingly. Overall, a commendable effort for students at school level - the essays showed a degree of sophistication beyond their age.
- One thing to note is that while most of the submissions showcased the students' ability to research, collect and synthesise information; some judges felt they lacked in-depth analysis. It would be good to see some new innovative ideas being proposed instead of purely referencing these existing ideas.