Singaporean education

and why its so great

This is a presentation to you, loving parents, who are looking to send your child to Singapore for the education sytem

Which group are you in?

Definitely yes

Have had experience with Singaporean education whether it be from people you have met before, you yourself/family have studied there before.

Maybe?

Have thought about it but have concerns such as

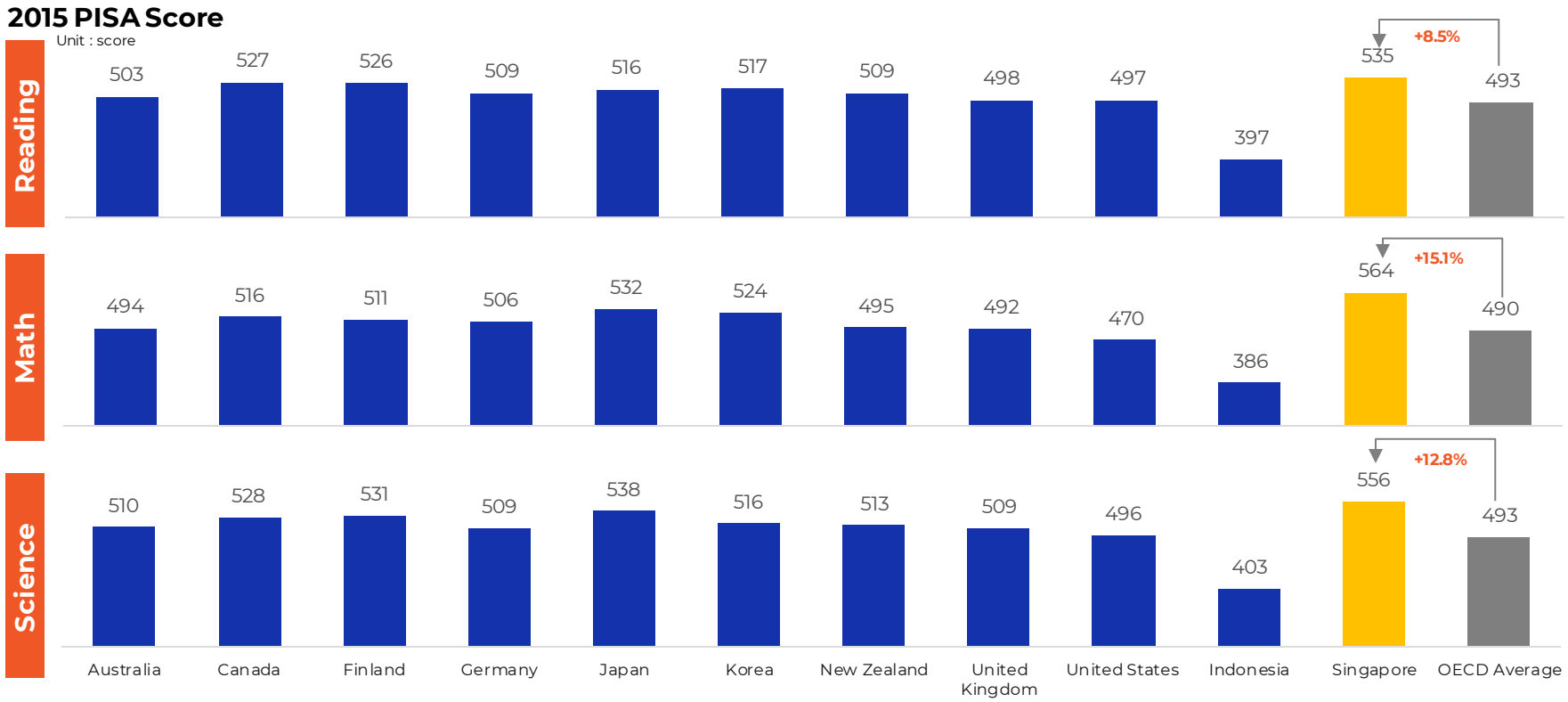
- Will it be too faraway?
- Will it be too stressful?
- What will the social & physical environment be like?
- Cultural concerns etc.

Oh no!

You never think about sending your child abroad because he/she's your baby!

Singapore Education is the best in the world

In 2015, Singapore scored highest in all PISA scores out of all countries and beat the global average by 8.5-15%



Source : OECD data

So what about the research about rain fall?

LinkedIn

Articles People

The Surprising Link Between Weather and Employee Productivity: Insights for Managers and Leaders.

Zuhair Abualrihy MD, CPE
Medical director- Physician Executive-MBA candidate
Published Sep 9, 2023

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Have you ever wondered if the weather impacts your team's productivity?

It turns out that there's intriguing research suggesting that the link between weather and productivity might not be what we commonly assume.

Contrary to the belief that good weather leads to increased productivity, studies propose a different perspective. They found that bad weather can boost productivity by reducing distractions. When the weather outside is less than ideal, we tend to be less preoccupied with thoughts of outdoor activities or what else we could be doing, leading to improved focus on our tasks.

ACADEMIA Search

Does bad weather affect student performance in school?

A/Prof. Brendon Hyndman

Springer Open Search Get

Research and Practice in Technology Enhanced Learning

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Research | Open access | Published: 14 July 2022

The impact of extreme weather on student online learning participation

Ezekiel Adriel D. Lagmay & Maria Mercedes T. Rodrigo

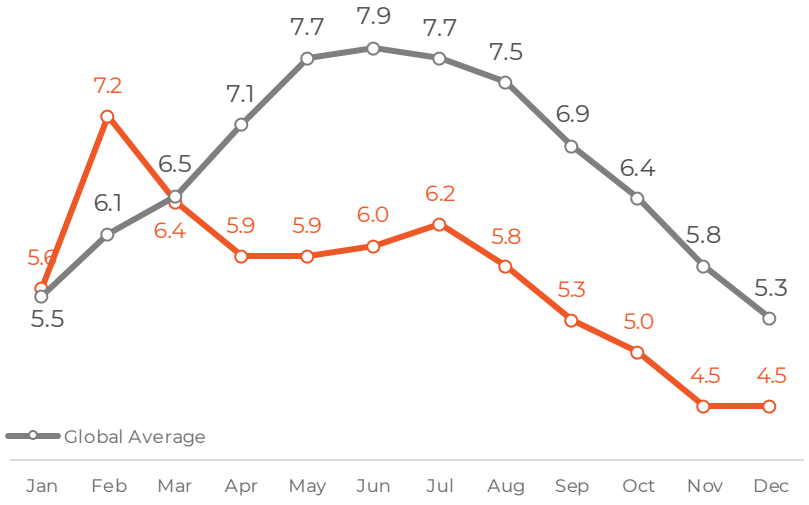
Research and Practice in Technology Enhanced Learning **17**, Article number: 26 (2022) | Cite this article

Singapore’s bad weather is accomodative to high productivity

Singaporeans enjoy approx 5.6 hours of daily sunshine while rest of the world enjoy 6.7 hours

Daily Sunshine Duration in a month

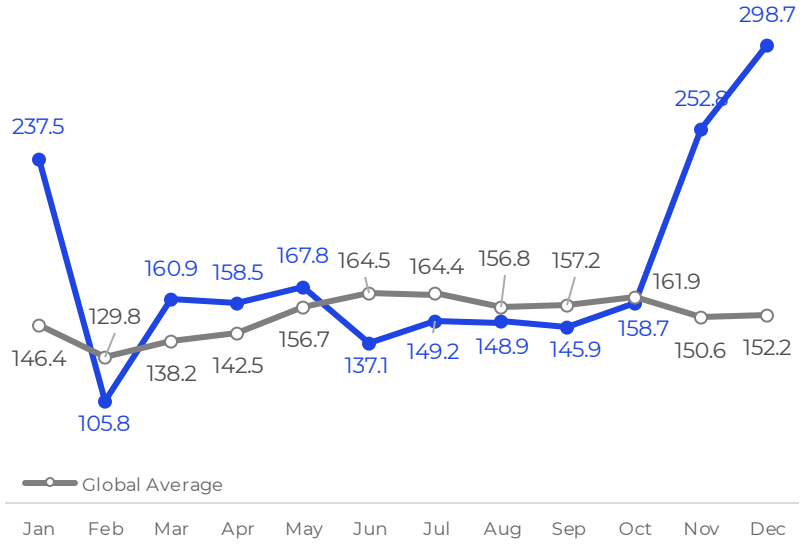
Unit : number of hours



It also rains a lot in Singapore at approx 162.23 mm per month while at the rest of the world only 151.8 mm

Monthly total rain recorded (precipitation)

Unit : mm

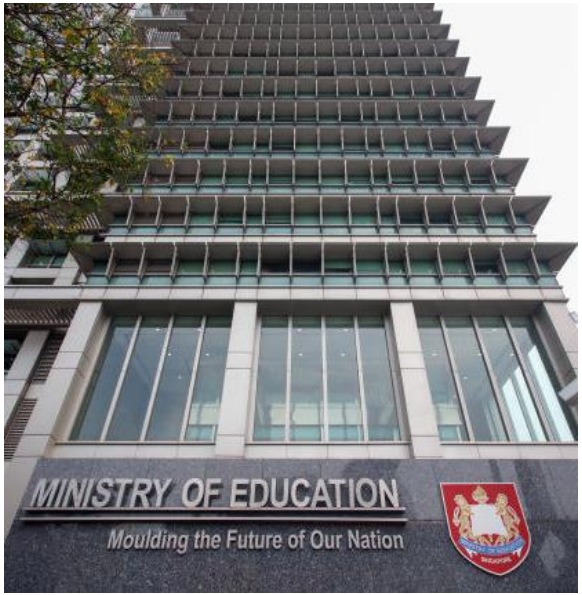


Note: Singapore’s data is median value of monthly data from the period of 1982-2022

Source : Singapore Government, wikipedia

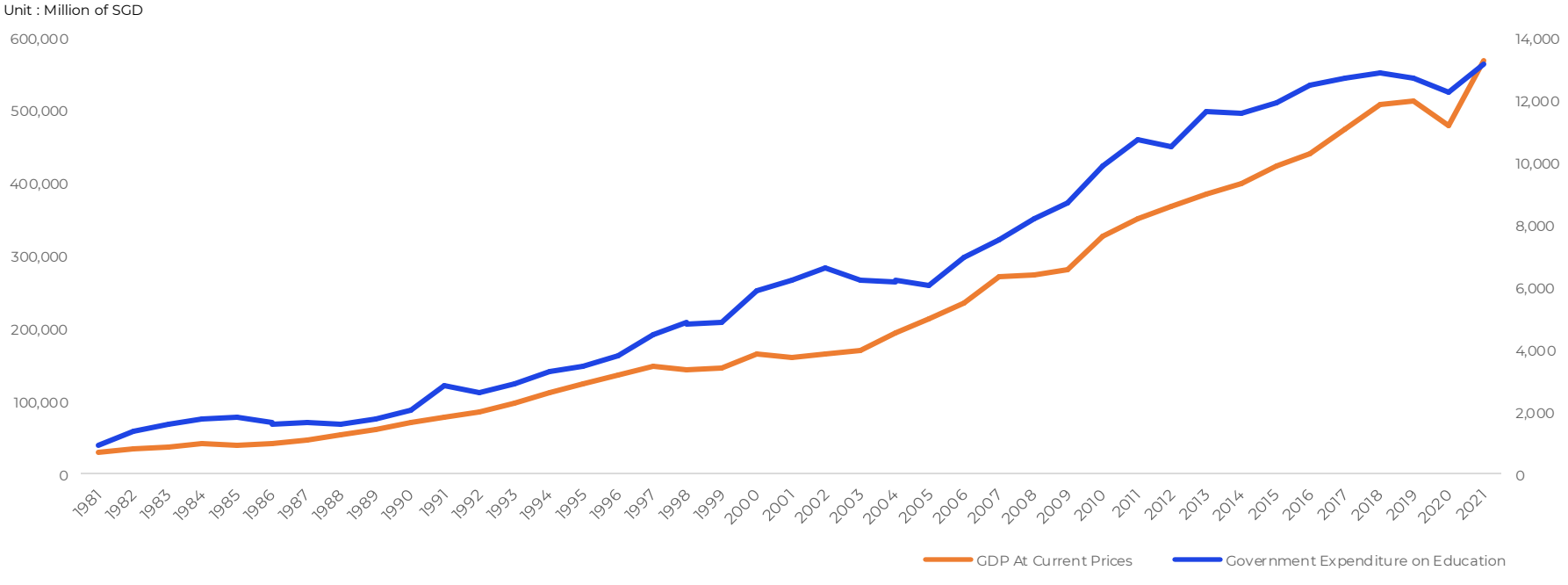
Reasons that make Singaporean schools a great idea

Strong education infrastructure



Singapore has the “right” environment

Singapore government spends money on education at the same rate as GDP growth...



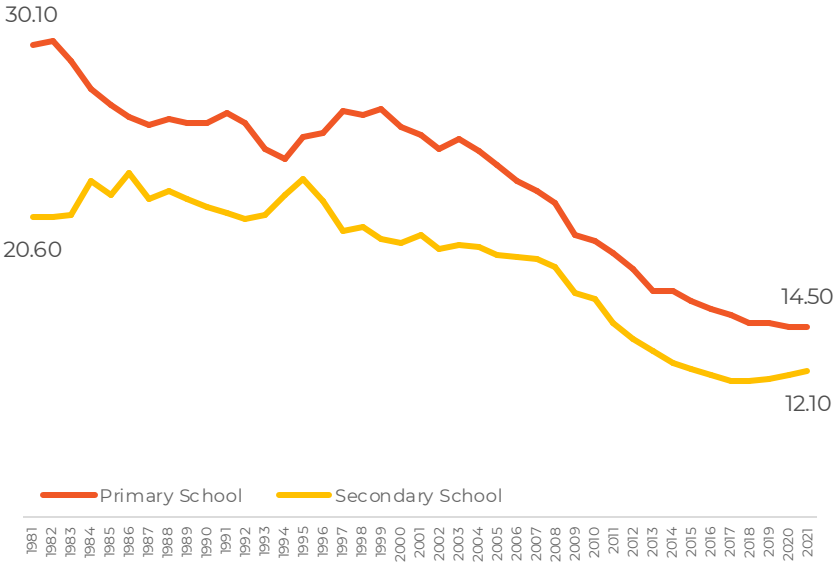
Source : Singapore Government

...resulting in very strong education infrastructure

Decreasing students to teachers ratio promoting better attention per student

Number of students per teacher

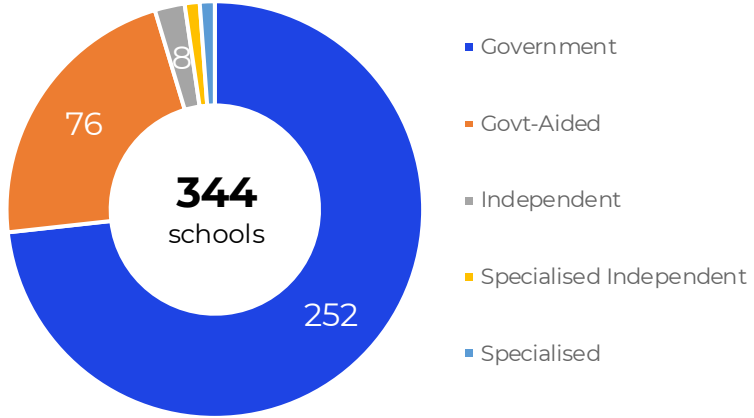
Unit : number of students



Strong public school system across the country

Number of schools in Singapore in 2021

Unit : number of schools



Source : Singapore Government

Local weather is effect behaviors unless we are dancing in the rain

Appendix

Research and resources

...resulting in very strong education infrastructure

High Teacher ratio to students	Very Experienced teachers	With lots of school
https://beta.data.gov.sg/collections/447/view https://beta.data.gov.sg/collections/453/view https://beta.data.gov.sg/collections/418/view	https://beta.data.gov.sg/collections/450/view	https://beta.data.gov.sg/collections/454/view

Very strong education infrastructure

Singapore is among the top countries on % of education spending of GDP

Singapore data

- https://beta.data.gov.sg/collections/413/view
- https://beta.data.gov.sg/collections/826/view

Other countries data
https://data.oecd.org/eduresource/public-spending-on-education.htm

Household expenditure is highest on education

https://tablebuilder.singstat.gov.sg/table/TS/M212981

https://www.todayonline.com/singapore/singaporeans-spend-twice-global-average-childrens-local-education-hsbc

Children also spend the most time studying

https://www.oecd-ilibrary.org/sites/639ecob7-en/index.html?itemId=/content/component/639ecob7-en#chapter-6

https://nus.edu.sg/newshub/news/2022/2022-08/2022-08-10/SWOT-st-10aug-pA16.pdf

https://www.linkedin.com/pulse/surprising-link-between-weather-employee-productivity-zuhair#:~:text=They%20found%20that%20bad%20weather,improved%20focus%20on%20our%20tasks.

bad weather can boost productivity by reducing distractions. When the weather outside is less than ideal, we tend to be less preoccupied with thoughts of outdoor activities or what else we could be doing, leading to improved focus on our tasks

Its always raining

Piya's Python HW.xlsx

During the day its too hot & to go outside

Piya's Python HW.xlsx

https://beta.data.gov.sg/collections?query=temperature

Prompts

Here are some example prompts if you need inspiration:
> * You work for the Singapore tourism and you are required to advice tourist who visit Singapore and love being outdoors, on how they can be prepared based on their travel months.
> * You work for a local delivery-app and you want to use weather to better plan your operations.
> * You are hired by Meteorological Services Singapore to analyze weather trends in Singapore and identify businesses that might be interested to use them.
> * You are an outdoor event planner. After covid, you want to create events that families can come and enjoy.
> * *Feel free to be creative with your own prompt!*

And here are some example problem statements related to the above prompts. Come up with your own or modify these for your needs:
*> * Weather in Singapore are largely sunny or rainy. However, tourists who are not familiar with local weather conditions may be caught off guard, causing their plans to be disrupted. This project aims to analyse trends in Singapore weather to identify adverse conditions for tourists who enjoy being outdoor. This analysis can help tourist plan travel period and itinerary better, bringing home a pleasant experience.*
*> * You are working for a local delivery services company. Every year, delivery operations and customer demand are heavily impacted by rainy weather conditions. This can be circumvented if the company can plan for such conditions beforehand. This project aims to analyse the monthly weather patterns over the year to allow the operations team to better plan and allocate resources during the rainy seasons.*
*> * *Feel free to be creative with your own problem statement!**

Deliverables

All of your projects will comprise of a written technical report and a presentation. As we continue in the course, your technical report will grow in complexity, but for this initial project it will comprise of:

- A Jupyter notebook that describes your data with visualizations & statistical analysis.

- A README markdown file the provides an introduction to and overview of your project.

- Your presentation slideshow rendered as a .pdf file.

NOTE: Your entire Github repository will be evaluated as your technical report. Make sure that your files and directories are named appropriately, that all necessary files are included, and that no unnecessary or incomplete files are included.

For your first presentation, you'll be presenting to a **non-technical** audience. You should prepare a slideshow with appropriately scaled visuals to complement a compelling narrative. **Presentation duration will be **15 minutes.****

Your technical report will be hosted on Github Enterprise. Make sure it includes:

- A README.md (that isn't this file) >> good example executive summary [here](https://www.proposify.biz/blog/executive-summary) for your README.md.

- Jupyter notebook(s) with your analysis (renamed to describe your project)

- Data files

- Presentation slides

- Any other necessary files (images, etc.)

Presentation instructions

- **Presentation Time: 15 minutes**

- Use Google Slides or some other visual aid (Keynote, Powerpoint, etc).

- Consider the audience. Assume you are presenting to a **non-technical audience** (executives with the College Board, school administrators, admissions counselors, State officials, etc.).

- Start with the **data science problem**.

- Use visuals that are appropriately scaled and interpretable.

- Talk about your procedure/methodology (high level, **CODE IS ALWAYS INAPPROPRIATE FOR A NON-TECHNICAL AUDIENCE**).

- Talk about your primary findings.

- Make sure you provide **clear recommendations** that follow logically from your analyses and narrative and answer your data science problem.

Scoring

Project Organization
- Are modules imported correctly (using appropriate aliases)?
- Are data imported/saved using relative paths?
- Does the README provide a good executive summary of the project?
- Is markdown formatting used appropriately to structure notebooks?
- Are there an appropriate amount of comments to support the code?
- Are files & directories organized correctly?
- Are there unnecessary files included?
- Do files and directories have well-structured, appropriate, consistent names?

Clarity of Message
- Is the problem statement clearly presented?
- Does a strong narrative run through the project?
- Does the student provide appropriate context to connect individual steps back to the overall project?
- Is it clear how the final recommendations were reached?
- Are the conclusions/recommendations clearly stated?

Python Syntax and Control Flow
- Is care taken to write human readable code?
- Is the code syntactically correct (no runtime errors)?
- Does the code generate desired results (logically correct)?
- Does the code follows general best practices and style guidelines?
- Are Pandas functions used appropriately?
- Does the student demonstrate mastery masking in Pandas?
- Does the student demonstrate mastery sorting in Pandas?

Data Cleaning and EDA
- Does the student fix data entry issues?
- Are data appropriately labeled?
- Are data appropriately typed?
- Are datasets combined correctly?
- Are appropriate summary statistics provided?
- Are steps taken during data cleaning and EDA framed appropriately?

Visualizations
- Are the requested visualizations provided?
- Do plots accurately demonstrate valid relationships?
- Are plots labeled properly?
- Plots interpreted appropriately?
- Are plots formatted and scaled appropriately for inclusion in a notebook-based technical report?

Research and Conceptual Understanding
- Were useful insights gathered from outside sources?
- Are sources clearly identified?
- Does the student provide appropriate interpretation with regards to descriptive and inferential statistics?

Presentation
- Is the problem statement clearly presented?
- Does a strong narrative run through the presentation building toward a final conclusion?
- Are the conclusions/recommendations clearly stated?
- Is the level of technicality appropriate for the intended audience?
- Is the student substantially over or under time?
- Does the student appropriately pace their presentation?
- Does the student deliver their message with clarity and volume?
- Are appropriate visualizations generated for the intended audience?
- Are visualizations necessary and useful for supporting conclusions/explaining findings?