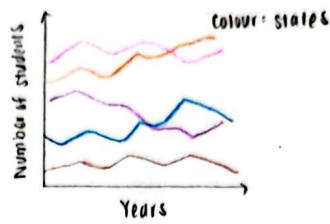


IDEAS

Choropleth Map



Line chart



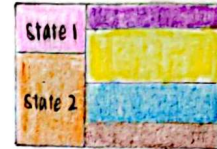
FILTER

Stacked bar chart



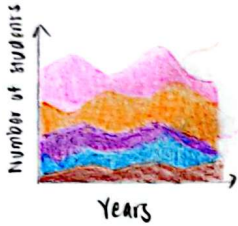
Similar to line chart, conveying the same meaning & line chart can visualise the trend more easily

Tree map

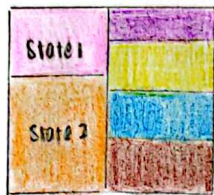


Not very informative if the quantitative attribute has small difference

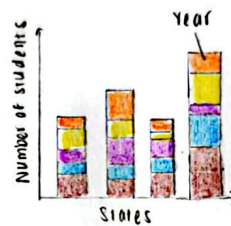
Stacked area chart



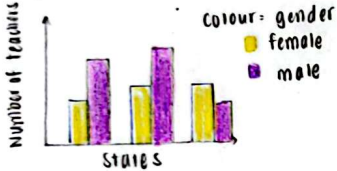
Tree map



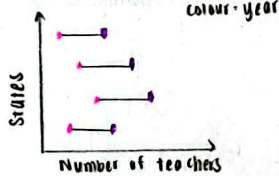
Stacked bar chart



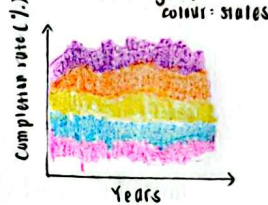
Grouped bar chart



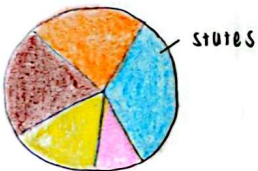
Lollipop chart



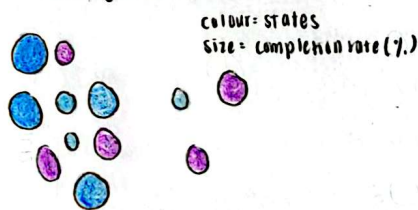
Streamgraph



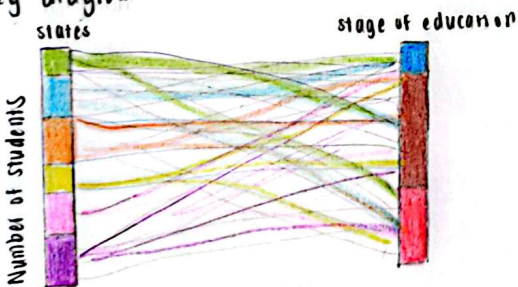
Pie chart



Dotting cartogram



Sankey diagram



CATEGORISE

Global secondary education



Overview of student data

- Number of students over time
- Completion rate (%) of students



Overview of teacher data

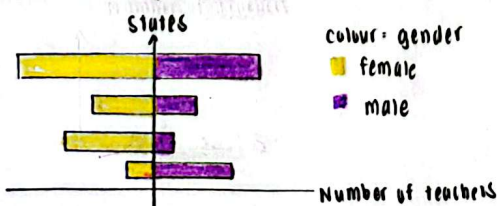
- Number of teachers over time
- Gender distribution of teachers



Dive deeper into the distribution of students in other stages except secondary education

COMBINE & REFINE

- Can consider butterfly chart instead of grouped bar chart for easier comparison



Can create radial chart instead of pie chart to emphasize more on the completion rate (%) of students



QUESTION

- Is the visualisation informative enough?
- Is sankey diagram very hard to implement using vega-lite?

LAYOUT

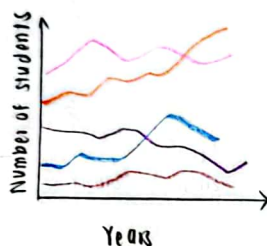
Secondary Education in Malaysia

XXXXXXXXXXXXXXX



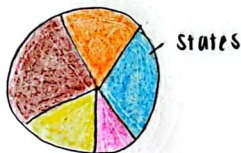
Year 2017

Overview of student data

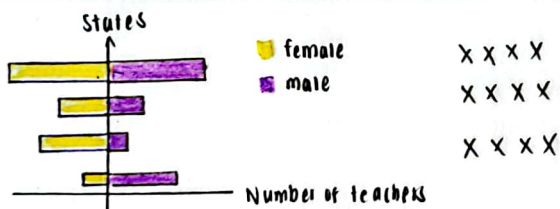


States
 State 1 XXXX
 State 2 XXXX
 State 3 XXXX
 ...

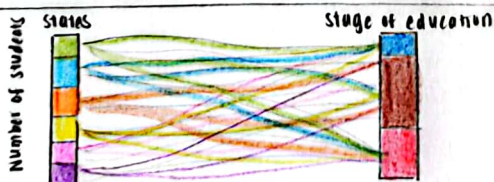
XXXX
 XXXX
 XXXX



Overview of teacher data



Distribution of students in stages



FOCUS

It is focusing on 4 main sections for the storytelling:

- ① Map (focus on global first)
- ② Student
 - Number of student
 - Completion rate
- ③ Teacher
 - Gender distribution
- ④ Distribution of students in stages

Title: Secondary Education Access and Quality in Malaysia

Author: Carmen Liew Jia Wen

Date: 6-10-2024

Sheet: 2

Task: Scrollable interactive poster

OPERATIONS

Year 2017

- User can drag the slider and observe the changes of enrollment ratio over time

States

- State 1 click!
- State 2
- State 3
- ...

- User can click and focus on the trend for that particular state

DISCUSSION

Advantages:

- sections are divided evenly
- headings and subheadings show a clear story

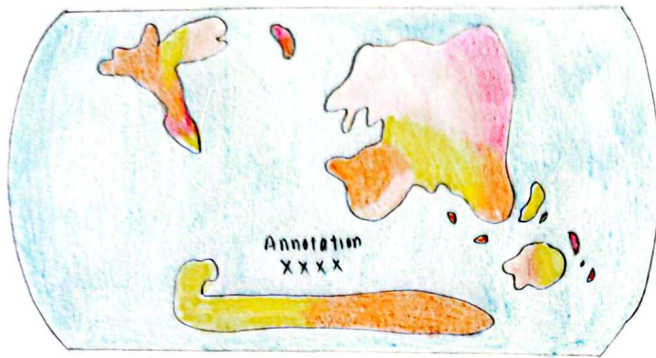
Disadvantages:

- Not much user interaction
- Too many empty spaces

LAYOUT

Secondary Education in Malaysia

Global Secondary Education Enrolment Ratio, 2021

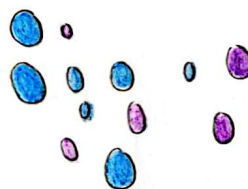


Overview of student data

Number of students studied

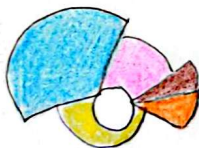


Completion rate per state



Overview of teacher data

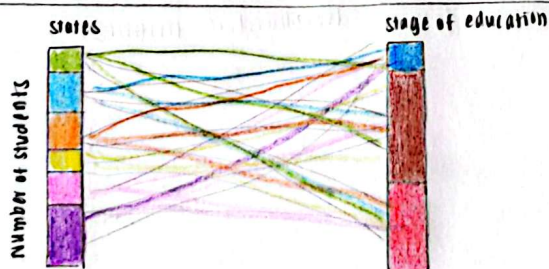
Percentage (%) of teachers



Female versus Male

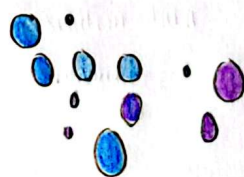


Student distribution



FOCUS

The sections are divided similar to sheet 2. However, the charts are placed side-by-side by providing more charts & information.



Cartogram is used here to show user clearly on which part is the state belongs to with completion rate data.

Title: Secondary Education Access and Quality in Malaysia

Author: Carmen Liew Jia Wen

Date: 6-10-2024

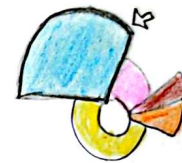
Sheet: 3

Task: Scrollable interactive poster 2

OPERATIONS

Zoom level: 100%

- Users can drag and zoom to see the enrolment ratio of each country in details.



- user can hover the cursor and it will highlight the particular section (figure-ground)
- Users can click on the bar from the grouped bar chart to focus on one specific state

DISCUSSION

Advantages:

- Sections are divided evenly, allow users to follow the flow
- Encode more data compared to sheet 2 (6 charts)

Disadvantages:

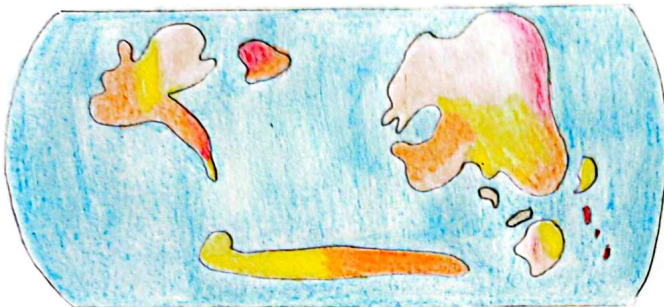
- Less explanation for each chart
- Doing cartogram may be hard to implement

LAYOUT

Secondary Education in Malaysia



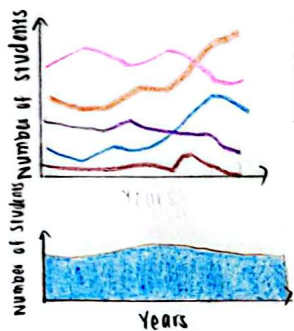
Global Education Ratio, 2021



Zoom level: 100%

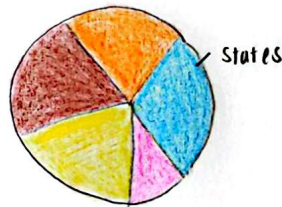
Demographics of Student & Teacher

Number of Students (2016-2021)



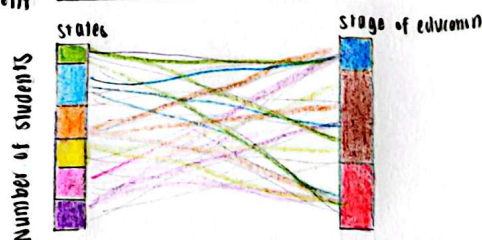
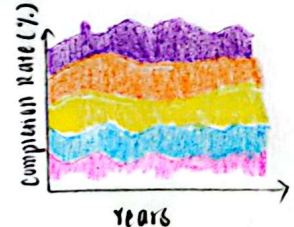
States
State 1
State 2
State 3
:

Proportion of teachers (2016-2021)



Select Year:

Completion Rate & Distribution of Student
colour: states



FOCUS

It is mainly focusing on:

- ① Global Education
- ② Demographics
 - Student
 - Teacher
- ③ Completion rate & Distribution of student

Unlike sheet 2 and 3 that focused on student first and then teacher, this sheet is focused on the demographics for both student and teacher, following by the outcome, including completion rate and distribution of student.

Title: Secondary Education Access and Quality in Malaysia

Author: Carmen Liew Jia Wen

Date: 7-10-2024

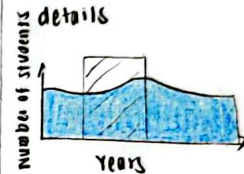
Sheet: 4

Task: Scrollable interactive poster

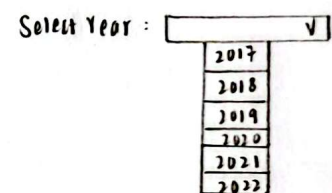
OPERATIONS

Zoom level: 100%

- User can drag and zoom to see the enrollment ratio of each country in details



- Brusher, user can highlight and drag to see the trend for a specific year (Line chart)



- User can select a specific year to see the proportion of teachers (Pie chart)

DISCUSSION

Advantages:

- good user interaction
- utilise empty space nicely
- Clear headings and subheadings

Disadvantages:

- All charts look simple except sankey diagram
- Lack of thorough explanation for each chart

LAYOUT

* Based on sheet 2

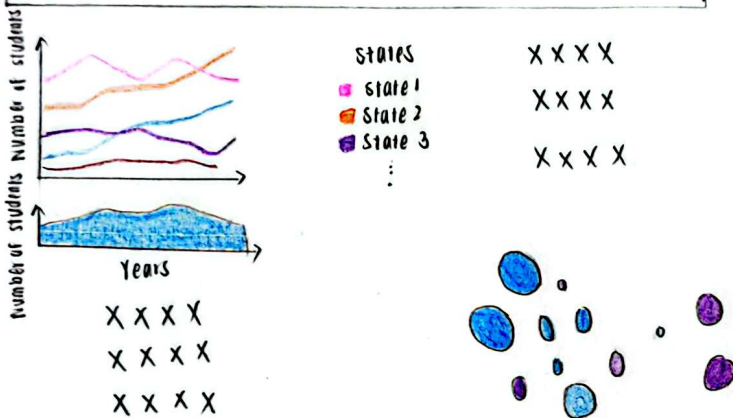
Secondary Education in Malaysia

Global Secondary Education Enrolment Ratio, 2021

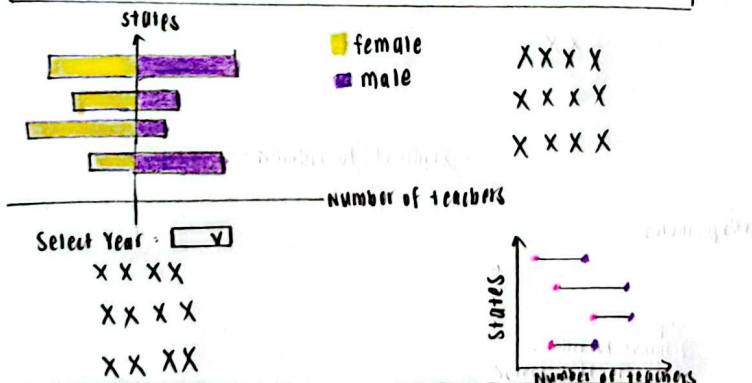


Zoom level — 100%.

Overview of student data



Overview of teacher data



Distribution of students in stages



FOCUS

It is also focusing on 4 sections:

- 1) Global Education
- 2) Student
- 3) Teacher
- 4) Distribution of students

Title: Secondary Education Access and Quality in Malaysia

Author: Caimen Liew Jia Wen

Date: 7-10-2024

Sheet: 5

Task: Final sheet with scrollable and high user interaction poster

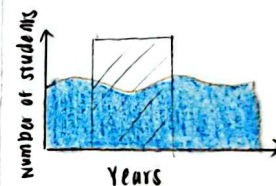
OPERATIONS

Zoom level — 100%.

- User can drag the slider and observe the changes of enrolment ratio over time

States

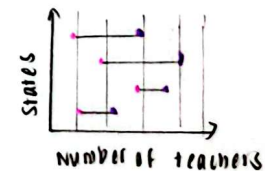
- State 1 - Click!
- User can click and focus on the trend for that particular state



- Brusher for more interaction, user can highlight and drag to see the trend for a specific year

Select Year:

- User can select a specific year



- User can scroll to zoom in and out

DETAILS

- Vega-lite and maybe vega for cartogram and sankey diagram, dataset in csv file
- Needs around 20 hours to build all idioms & 6 hours to research by understanding the html, css and json code
- Do data cleaning before implementation