

FIT3179 Data Visualisation 2 Proposal

DOMAIN:

The domain of this visualisation is socioeconomic development in Malaysia, focusing on the relationship between education completion and household income from 2016 to 2022. The visualisation will explore how education attainment levels have changed over time across different states, highlight the connection between rising education completion and income growth, and compare the progress and disparities among states. By examining completion rates across education stages and linking them to household income trends, the charts will reveal temporal and spatial inequalities, provide insights into regional development gaps, and illustrate how educational advancement may influence economic outcomes for Malaysian households. This visualisation will be useful for policymakers, educators, economists, and social researchers to identify areas with lower educational attainment or income stagnation, as well as for the public and students to better understand how education impacts economic well-being in Malaysia.

WHY:

Education and income are two of the most critical indicators of a nation's social and economic development. In Malaysia, differences in education completion rates and household income levels across states reflect broader issues of inequality and access to opportunity. Understanding how education attainment relates to income growth is essential for assessing whether improvements in education translate into better economic outcomes for households.

By visualising the relationship between education completion and household income over time, this project aims to uncover patterns of disparity and progress among states. This analysis is significant because it provides a data-driven perspective on how education influences socioeconomic mobility, workforce potential, and regional equity. Policymakers can use these insights to design targeted education and income support programs, while researchers and the public can better understand the interplay between learning opportunities and economic well-being in Malaysia.

DATASETS:

Source:

Data.gov.my: https://data.gov.my/data-catalogue/completion_school_state

OpenDOSM: https://open.dosm.gov.my/data-catalogue/hh_income_state

World Bank Group: <https://data.worldbank.org/topic/education?locations=MY>

Author of datasets: Department of Statistics Malaysia, Ministry of Education Malaysia, and World Bank Data.

DESIGN IDEAS:

To effectively communicate the relationship between education completion and household income across Malaysian states and over time, several visualisation idioms are suitable to be used:

- **Line Chart:**

To show trends in education completion and household income from 2016–2022, highlighting how changes in education align with income growth.

- **Choropleth Map:**

To illustrate spatial patterns of education completion and household income across states, revealing regional disparities and inequality.

- **Dumbbell Chart:**

To compare the gap between education completion and household income across states, showing where educational gains do not match income growth.

- **Bump Chart:**

To track how state rankings in education completion and income shift over time, highlighting progress or decline in relative performance.

- **Butterfly Chart:**

To compare male and female education completion rates by state or stage, visualising gender disparities in educational attainment.