

# EPPS 6354 Information Management: Database Project Proposal

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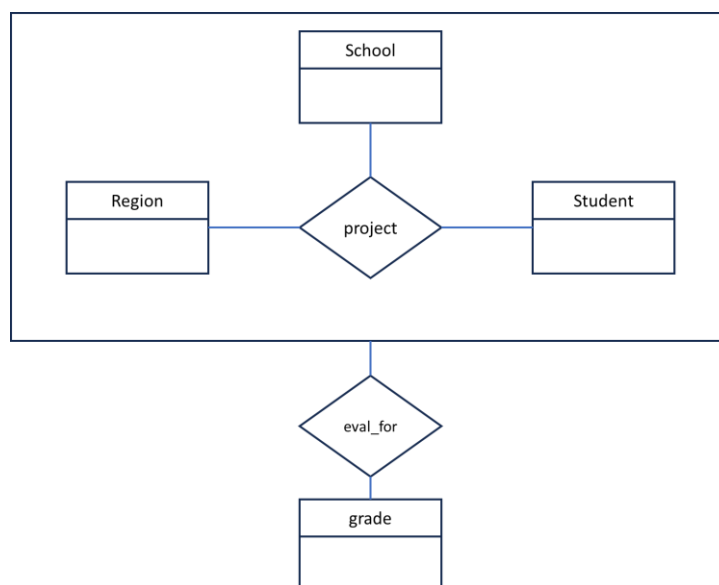
## Database Purpose

Did the transition to online classes due to the pandemic have a varied impact on high school students' grades based on regional characteristics? The sudden transition in teaching modules led to changes in students' academic performance, which varied according to the financial, organizational, and characteristic features of the schools they attended. Moreover, the impact also varied between regions based on their financial ability to support schools, with some regions providing more support than others.

How can policymakers, school administrators, parents, and students access this information and compare it across schools? The Ministry of Education already provides information on schools and students' grades in Korea. However, the current data is provided on an individual school basis, making comparisons challenging. Additionally, while data on regional characteristics is available, it operates independently from the school dataset. Therefore, this research aims to create a dataset that allows for an easy comparison of how the transition to online classes during the pandemic has affected students' grades based on regional and school characteristics.

## Schema

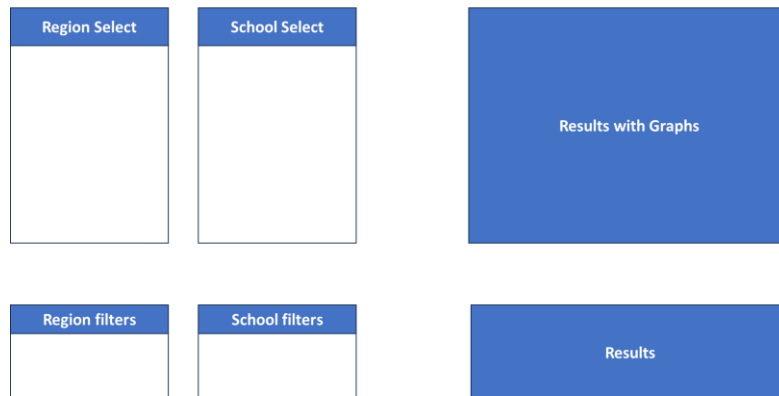
To compare students' grades before and after the pandemic based on regional and school characteristics, this study will utilize datasets on student grades, school information, and regional information. These datasets will allow for the final comparison and confirmation of students' grades.



## Interface

The interface allows users to select a school's location and the schools within that region as the main feature. Users can set specific criteria based on regional and school characteristics through a filtering session to check students' grades. Additionally, there will be a session to select the timeframe before and after the pandemic. Finally, a screen will be generated reporting students' grades, reflecting the selected characteristics.

Example Interface



## Method

### 1) Data Insertion (INSERT)

Purpose: To insert new data into the student grade dataset, school information dataset, and regional information dataset.

### 2) Data Retrieval (SELECT)

Purpose: To retrieve data that meets specific conditions. For example, one could look up the average grades of schools in a particular region or compare grade changes before and after the pandemic.

### 3) Conditional Retrieval (WHERE)

Purpose: To filter data according to certain conditions, such as comparing grades before and after the pandemic or querying the grades of schools in a specific region.

### 4) Joining (JOIN)

Purpose: To combine school information and student grade data to analyze grades by school or by region.

### 5) Subqueries and Aggregate Functions (SUBQUERY & AGGREGATE FUNCTIONS)

Purpose: For complex analyses, to use the results of another query within a query or to perform calculations such as average, maximum, and minimum using aggregate functions.