INEQUALITY IN

EDUCATION IN VIETNAM

YOUNG LIVES STUDY (2016 – 2017)

(REPORTED IN MAY 2022)

ABSTRACT

The Young lives study carried out in Vietnam aims to measure inequality in education to help the children from the low income category.

The result of the reports created indicated that out of the 8,740 children surveyed 147are in the category termed the best education with access to all educational needs. 97 out of this category are from the urban locality while 50 are from the rural locality. No child was found in the category of worst education with access to no educational needs.

An analysis of the count of children per province showed Da Nang has the highest number of children (1101) in terms of access to information technology, Phu Yen has the highest number of children with access to 3 or more meals daily while Ben Tre has the highest number of children in terms of bad daily meals of less than 3 or none.

A total number of children 1,114 have no books, 1,334 take 20 hours to get to school and 2,149 take 15hours to get to school.

This report shows there is a high level of inequality in terms of education in the various regions of Vietnam.

INTRODUCTION

In Ethiopia, India (Andhra Pradesh and Telangana), Peru, and Vietnam, Young Lives has been following the lives of 12,000 children since 2001 in a unique longitudinal study of poverty and inequality A diverse range of contexts were considered during the selection of the four research countries. The survey aims to improve and understand education inequality.

Consequently, this coursework provides a detailed report with suggested schema and working with T-SQL statement with meaningful comments. Table creation, filtering, sorting, and grouping with various search facilities are also added.

RELATIONAL **SCHEMA**

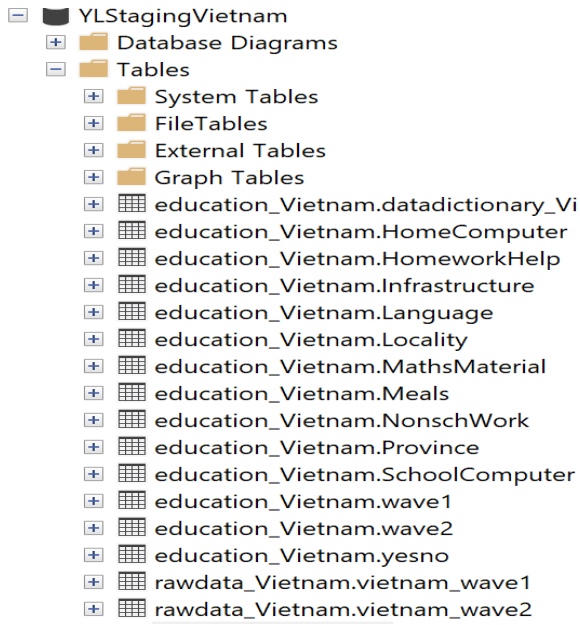
Identify Tables

A database called YLStagingVietnam was created for the analysis of inequality in education sector in Vietnam. Two schemas were created named rawdata_vietnam and education_vietnam

Schema rawdata_vietnam contains the tables for wave 1 and wave 2 while schema education_vietnam contains all the base tables. The base tables are the labels for the variables in the data dictionary and they are shown below;

Identify Tables

Staging Process was used in the outline for table creation. A database called YLStagingVietnam was created for the analysis of inequality in the education sector in Vietnam.



Summary of the base tables [education_Vietnam].[datadictionary_Vietnam

Results Messages

	id	field	description	datatype	Wave1	Wave2
1	1	UniqueID	ID Student unique Id	integer	1	1
2	2	STUDENTID	ST Student Id	integer	1	1
3	3	SCHOOLID	Sc school id	integer	1	1
4	4	Province	ID Province	integer	1	0
5	5	Locality	ID School location	integer	1	0
6	6	ABSENT Days	ST Number of days the student has been absent	integer	1	0
7	7	STDLNGHM	ST Do you speak Vietnamese at home	integer	1	0
8	8	STDMEAL	How many meals a day do you normally eat	integer	1	0
9	9	STNMBOOK	ST How many books are there in your home	integer	1	0
10	10	STPLSTDY	Do you have your own place to study at home	integer	1	0
11	11	STHVCOMP	ST Which types of these things do you have in ur hom...	integer	1	0
12	12	STHVINTR	ST Which types of these things do you have in ur hom...	integer	1	0
13	13	STTMSCH	ST How long does it usually take to get to school	integer	1	0
14	14	STITMOW1	Do you have -full set of compulsory Grade 10 maths tex...	integer	1	0
15	15	STITMOW2	Do you have -full set of compulsory Grade 10 english t...	integer	1	0
16	16	STITMOW7	ST g) Do you have a mobile phone	integer	1	0
17	17	STPLHLRD	ST Do you have people at home who can help you wit...	integer	1	0
18	18	STNONSCL	ST How many hours per day do you spend on non-sc...	integer	1	0
19	19	GRLENRL	CL What is the total enrolment in this class by gender? ...	integer	1	0
20	20	BOYENRL	CL What is the total enrolment in this class by gender? ...	integer	1	0
21	21	SCAVLB2	CL blackboard or whiteboard	integer	1	0
22	22	SCHFACO3	SC SFO - is there an electricity supply at the school	integer	1	0
23	23	SCHFACO4	SC SFO - is there a functional library(i.e a collection of ...	integer	1	0
24	24	SCHFACO5	Does the school have connected and working internet	integer	1	0

Creation of the Tables:

Base Tables

Below represents one of the base tables created with the sql command ‘CREATE’.

The contents of the data dictionary was loaded with ‘INSERT’ and ‘VALUES’ statements with id as the primary key as shown below

```
CREATE TABLE education_Vietnam.SchoolComputer
(
       id float primary key
       ,name nvarchar(50)
)
GO
INSERT INTO education_Vietnam.SchoolComputer(id,name) VALUES (1,'Never or almost
never')
INSERT INTO education_Vietnam.SchoolComputer(id,name) VALUES (2,'Oce or twice a
month')
INSERT INTO education_Vietnam.SchoolComputer(id,name) VALUES (3,'Once or twice a
week')
INSEET INTO education_Vietnam.SchoolComputer(id,name) VALUES (4,'Everyday or almost
every day')
INSERT INTO education_Vietnam.SchoolComputer(id,name) VALUES (5,'NA')
INSERT INTO education_Vietnam.SchoolComputer(id,name) VALUES (6,'Missing')
```

DESIGN RATIONALE

A. Vietnam's Young Life Survey was carried out in waves 1 and 2, because their variables differ, two separate tables were created.

B. There are two schemas, raw_Vietnam and education_Vietnam, created for ease of navigation since all values in the tables are indexed in a table dictionary.

C. Creation of various views for the Vietnam report.

DESIGN CONSIDERATIONS

A. Distinguishing frequently queried data from raw data by separation with views

B. The naming convention camelCase names was adopted which involves the separation of words with underscore and case(starting each new word with an upper case)

C. Avoidance of spaces in object names to avoid errors in SQL queries

• **Database Normalisation**

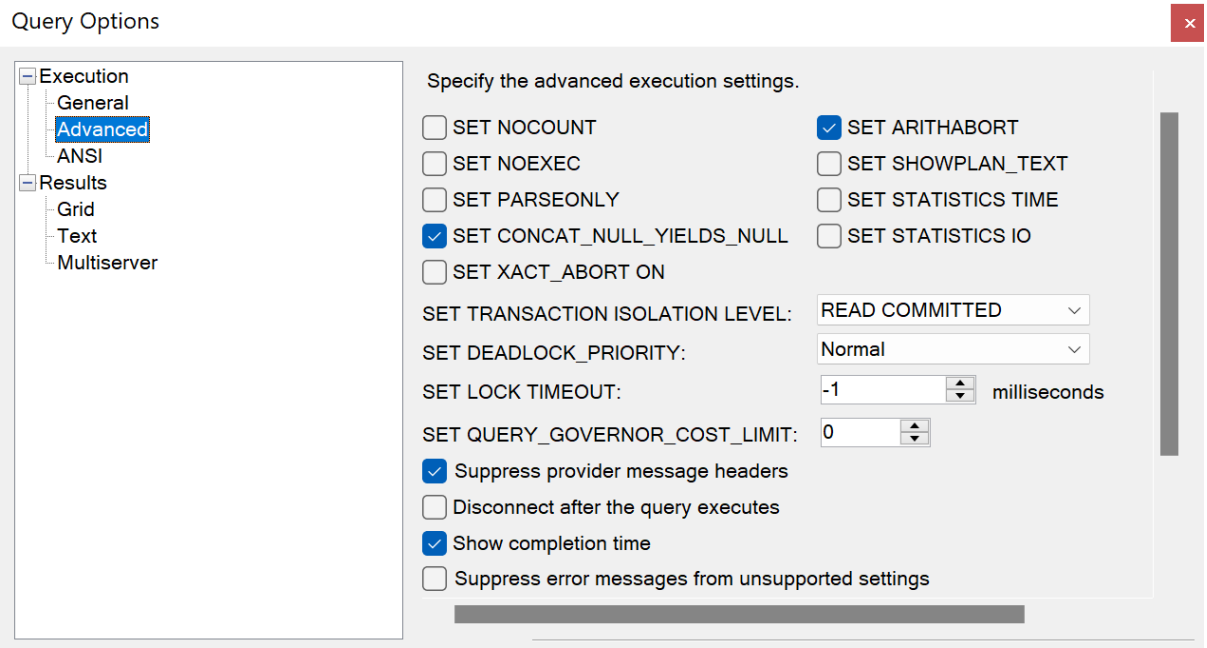
All rules under normalisation were observed

• **Constraints**

The base tables are primary keys while the transaction table has several primary keys.

• **Transaction concurrency and contol**

Default



• **Error Handling**

A. Avoidance of variables and tables names similar to SQL statements.

B. Establishment of naming conventions to name database objects as indexes, constraints and foreign keys.

C. Keeping names in databases short and descriptive according to what they represent.

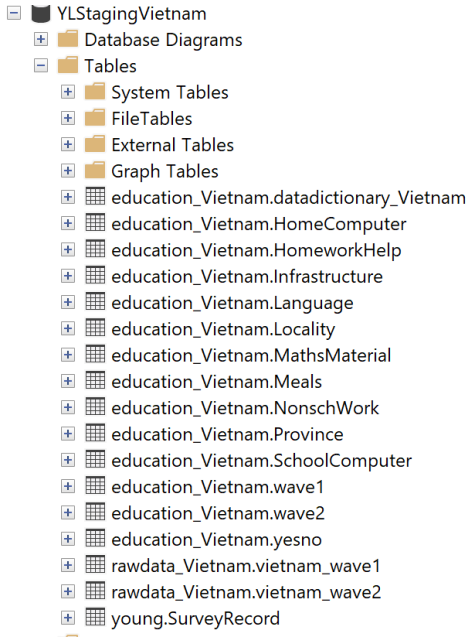
D. setting sufficient text limits- varchars etc

• **Comments**

The Comments in the T-SQl queries shed more light on the meaning and explanation of the codes

T-SQL STATEMENTS

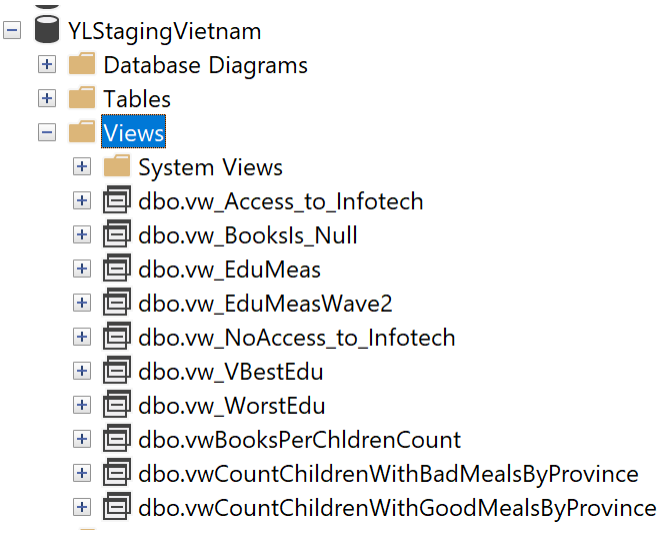
• Tables : the following tables were created for the measurement of educational inequality in Vietnam



• Views

The following views were created.

vw_EduMeasure is the mainview that generated the other views



REPORT DESIGN

a. Count of all the children in the survey for wave 1= 8740

```
SELECT  COUNT(*) Chld_in_Wave_1
FROM [rawdata_Vietnam].[vietnam_wave1]
```

Results Messages

	Chld_in_Wave_1
1	8740

b. Count of the No of children that have the best Education in Vietnam according to Locality

```
SELECT [Locality],COUNT(*) No_in_Locality
FROM vw_VBestEdu
WHERE [No of meals a day]='3 or more meals'
       AND [Place to std at home]= 'yes'
       AND [Have computer at home]='yes'
       AND [Have internet at home]='yes'
       AND [Have maths txtbk]= 'yes'
       AND [Have mobile phone]= 'yes'
       AND [help with homework]= 'Always'
       AND [Have blackboard or white board]= 'yes'
GROUP BY [Locality]
--ORDER BY COUNT(1) DESC--ORDER BY not used with view
```

Results Messages

	Locality	No_in_Locality
1	Urban	97
2	Rural	50

c. Count of the No of children that have the worst Education in Vietnam according to Locality

```
SELECT *
   FROM vw_EduMeas
       WHERE[No of meals a day]='1 meals'
       AND [Place to std at home]= 'no'
       AND [Have computer at home]='no'
       AND [Have internet at home]='no'
```

```
        AND [Have maths txtbk]= 'no'
        AND [Have mobile phone]= 'no'
        AND [help with homework]= 'never'
        AND [Have blackboard or white board]= 'no'
GO
```

Above view shows none of the children fall in the worst category of no access to all

d. Count of children that have access to Information technology per Province

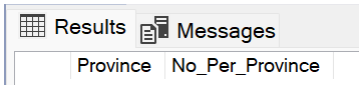
```
SELECT [Province],COUNT(*) No_Per_Province
 FROM vw_EduMeas
        WHERE [Have computer at home]='yes'
        AND [Have internet at home]='yes'
        AND [Have blackboard or white board]= 'yes'
        GROUP BY [Province]
        ORDER BY COUNT(1) DESC
```

Results Messages

	Province	No_Per_Province
1	Da Nang	1101
2	Lao Cai	272
3	Phu Yen	645
4	Ben Tre	555
5	Hung Yen	503

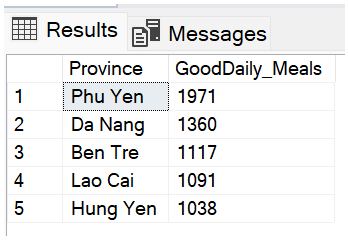
e. Count of children that have no access to Information technology per Province=Nil

```
SELECT [Province],COUNT(*) No_Per_Province
        FROM vw_EduMeas
        WHERE [Have computer at home]='no'
        AND [Have internet at home]='no'
        AND [Have blackboard or white board]= 'no'
        GROUP BY [Province]
        --ORDER BY count(1) DESC-- ORDER BY not used with view
GO
```



f. Count of children that have access to More than 3 meals daily

```
SELECT [Province],COUNT(*) GoodDaily_Meals
FROM vw_EduMeas
       WHERE [No of meals a day] ='3 or more meals'
       GROUP BY [Province]
       ORDER BY COUNT(1) DESC
GO
```



	Province	GoodDaily_Meals
1	Phu Yen	1971
2	Da Nang	1360
3	Ben Tre	1117
4	Lao Cai	1091
5	Hung Yen	1038

g. Count of children that have access to less than 3 meals daily

```
SELECT [Province],COUNT(*) BadDaily_Meals
FROM vw_EduMeas
       WHERE [No of meals a day] <>'3 or more meals'
       GROUP BY [Province]
       ORDER BY COUNT(1) DESC
GO
```

Results Messages

	Province	BadDaily_Meals
1	Ben Tre	554
2	Lao Cai	496
3	Phu Yen	317
4	Da Nang	230
5	Hung Yen	208

h. Total count of books per child

```
SELECT [No of books at home],count(*) Coun_of_Books
       FROM vw_EduMeas
       GROUP BY [No of books at home]
       ORDER BY [No of books at home] ASC
GO
```

Results Messages

	No of books at home	Coun_of_Books
1	NULL	365
2	0	1114
3	1	2399
4	2	1997
5	3	2025
6	4	840

I. Hours to get to school Per children count

```
SELECT [Hrs to get to sch],COUNT(*) Count_Per_children
FROM vw_EduMeas
GROUP BY [Hrs to get to sch]
ORDER BY [Hrs to get to sch] asc
GO
```

Results Messages

	Hrs to get to sch	Count_Per_children
1	NULL	347
2	0	4
3	1	13
4	2	31
5	3	45
6	4	8
7	5	838
8	6	19
9	7	76
10	8	28
11	9	6
12	10	1367
13	11	1
14	12	18
15	13	10
16	14	3
17	15	2149
18	16	4
19	17	14
20	18	10
21	19	7
22	20	1334
23	21	1

DATA SCIENCE AND BUSINESS INTELLIGENCE TECHNIQUES

A business intelligence tool is a method that enables raw data to be converted into information that can be used to make decisions. Through analysis, business intelligence provides users with useful information which is presented in an easier way through visualization.

With Business Intelligence tools, you can identify, analyze, make comparisons, track performance, enhance operations, and uncover problems.

For tasks 2 and 3, Microsoft Excel was used as the business intelligence tool for the visualization of the reports created

Visualisation - Measurement of Inequality in Education in Vietnam under Young life survey