

Report for the Top Three Locations of English Learning Center Among 27 locations in Hong Kong

Introduction/Business Problem

background

Hong Kong is the city in which people mainly have their mother tongue of Chinese. However, English is equally important as Chinese in Hong Kong. Therefore, parents in Hong Kong pay lots of attention to build up the English ability of their kids. Many of them send their kids to English Center to learn English when their kids reach as early as three years old. The number of English learning center for early age students have been growing for the last decade.

Business Problem

Babington Education has been established for 11 years and have opened 26 English learning centers around different part of Hong Kong. Now they are planning to open their 27th English learning center and want to use a quantitative approach to come up with the top three area locations in Hong Kong among the 27 options provided by Babington Education.

Data

Description of the data

To find the best locations, we need to have some locations data, therefore, location data is obtained from <https://data.gov.hk/>. We will use *2015 District Council Ordinary Election Constituency Boundaries (JSON)*. This 2015 District Council Ordinary Election Constituency Boundaries dataset contains the boundary geo data in Json format. (<https://geodata.gov.hk/gs/view-dataset?fromIndex=0&sindex=0&searchable1=&lang=ENG&filter=1&uuid=7469970b-9124-418f-9880-500d51ce483a>)

Also, we need to obtain the statistic for each district council constituency area. Therefore, we use *2016 Population By-census Statistics (By District Council Constituency Area)*.

This 2016 Population By-census dataset contains statistics relevant to demographic, household, educational, economic, housing, and internal migration characteristics of the Hong Kong population residing in the 431 District Council Constituency Areas in 2016. It is an established practice from 1961 for Hong Kong to conduct a population census once every 10 years and a by-census in the middle of the intercensal period. The 2016 Population By-census, which was conducted in June to August 2016, provides benchmark statistics on the socio-economic characteristics of the Hong Kong population vital to the planning and policy formulation of the government.

Of course, we will use *Foursquare* to obtain the existing English learning center information.

How to use the data to solve the business problem.

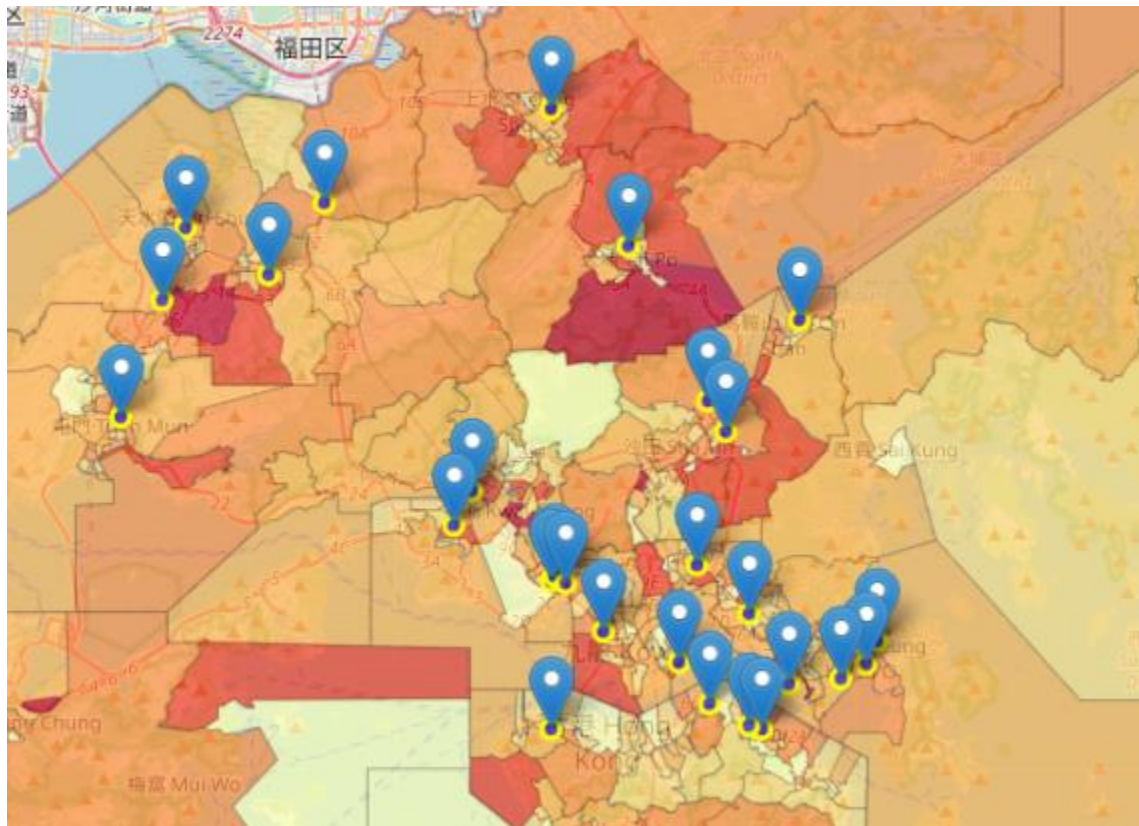
We will use 2015 District Council Ordinary Election Constituency Boundaries (JSON) helps to define the boundaries of the 431 District Council Constituency Area in Hong Kong.

Using the number of nursery school for a specific location may not be sufficient to determine the best area for the new English Center. We also need to use 2016 Population By-census Statistics (By District Council Constituency Area) to incorporate population data and socio-economic characteristics of the Hong Kong population data into our analysis in determine the new center area.

Methodology

According to the Babington Education, the best location should have more the greatest number of nursery schools within the 500 meters of the locations. If the locations obtain the same number of nursery schools, the better locations should be determined by the population under age 15 of the location.

The following shows the 27 locations provided by Babington Education



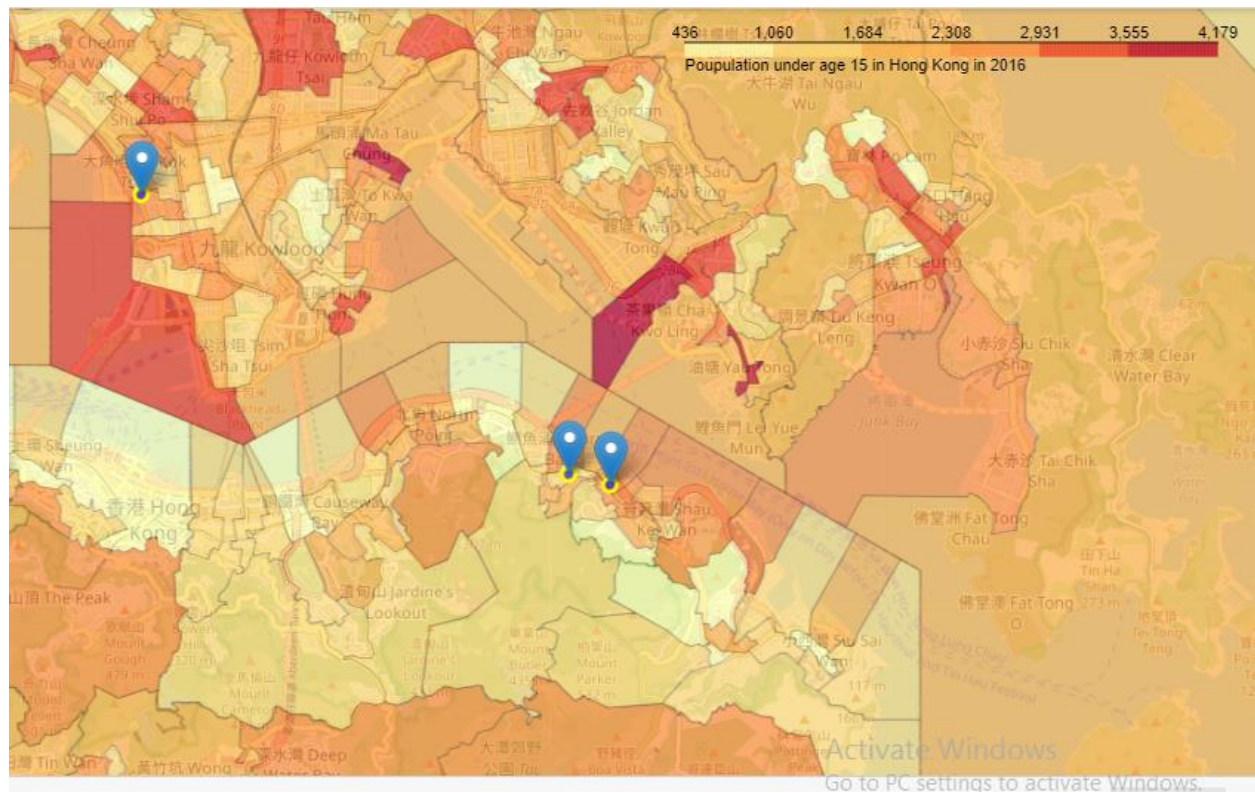
With this in mind, we first find the number of nursey schools for all the locations using foursquare API. Please see table #1.

We also plot the map in choropleth map in terms of population under 15.

Table #1

	Code	Nursery_School_Count
22	BE23	7
17	BE18	6
0	BE1	5
7	BE8	5
3	BE4	4
21	BE22	4
1	BE2	4
11	BE12	3
16	BE17	3
15	BE16	3
13	BE14	3
10	BE11	3
6	BE7	3
5	BE6	3
26	BE27	3
14	BE15	2
8	BE9	2
23	BE24	2
25	BE26	2
12	BE13	1
18	BE19	1
4	BE5	1
2	BE3	1
24	BE25	1
9	BE10	0
19	BE20	0
20	BE21	0

Result



Discussion

Based on our analysis, we recommend that among the 27 locations, the top three location is BE23, BE18, and BE8. We suggest Babington Education should choose BE23 as their next English center location since it has the greatest number of nursery school around 500 meters of the location.

Conclusion

In conclusion, based on the existing criteria from Babington Education, we suggest that BE23 should be chosen for next English Center location. However, we suggest including some criteria such as the number of coffee shops, or the number of shopping center around the specific area. Because it could be great for the parents to have a coffee shop around while waiting for the kids to finish their classes. We would suggest to do the survey to collect more data to include more criteria into this analysis.