

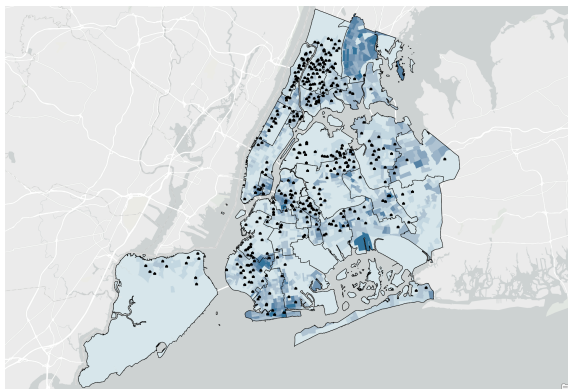
Lab 1

Dual language programs in public schools, and languages spoken at home in NYC

The map created aimed to answer the question: "How many non-native English speakers are served by each dual language school program in their respective languages?" The assignment served as a starting point for exploring data on languages spoken at home other than English in NYC homes and their relations with the offer of dual language programs in the city's public schools.

The selected datasets provide information about New York City residents who do not speak English at home, including the language they speak, from the Census. They also list NYC public schools that offer either dual language or transitional bilingual education programs across all educational levels, along with their addresses. In addition, the school district's spatial data was used to determine the availability of these schools for each tract. According to this dataset, there are 566 schools in the second language program.

To simplify the information and draw relations among the datasets, it was necessary to make assumptions, such as that all schools serve their entire district, rather than just their immediate zone. Additionally, a few languages were grouped to meet the Census population dataset. However, an Italian bilingual school does not necessarily meet the needs of a Yiddish-speaking household. Further refinement of the map could include more specific details about the language variety and its boundaries.



After cleaning, standardizing, and merging the datasets, some statistics were analyzed to reveal interesting information. An initial map did not distinguish the languages. Instead, a variable was created to identify the primary language spoken in each tract and to locate

the number of schools teaching that language within each district. This version of the map allowed for visual analysis. For example, wealthy and central areas, such as Soho and Chelsea, which generally have a lower proportion of bilingual households, also have fewer non-native English speakers per dual-language school proportion. In contrast, areas with high concentrations of non-native English speakers have lower dual-language school offerings, considering the proportion of the population that demands them.

The final resulting map displays the locations of NYC public schools offering dual language programs, color-coded by the language of instruction and outlined by their respective school district limits. The gradient of colors represents the ratio between the number of non-native English speakers and the number of dual-language programs offered in that language within each district. Darker tones indicate a smaller ratio, meaning that, on average, each school serves a larger population of speakers of that same language. This approach enables a visual comparison, such as whether certain languages are more or less frequently offered than others.