**BIS 605 - Communication in Professional Contexts**

To: **Dr. Emma Lozon**

From: **Rama Surya Sai Kiran, Gundu**

Date: February 25, 2022

Re: *Memo 2: Public Elementary-Secondary School System Finances by State: Fiscal Year 2020*

**Introduction:**

In the United States, the New York state has the most fall enrolled Elementary -Secondary school students, either public independent or dependent, among the other states, with 5,632,696 in 2020. The District of Columbia, on the other hand, had a low enrollment of 50,971 Elementary - Secondary school students in the same year. And, year after year, the number of people interested in pursuing an education grows, which is a positive aspect for a country's economic development. The number of educated people is directly proportional to the higher the standard of living.

To be more specific, the memo discusses the Public Elementary-Secondary School System Finances by State in FY2020. Using this memo, I want to convey he statistics of the states based upon their fall enrollment, federal funding received by states, current spending per pupil, and overall secondary-elementary expenditure of the state. The revenue and spending of each state are two of the most important points found here. And, you can know about the statistics of the states which get funds from different sources and how they spend accordingly. So, as we move deeper into the memo in the first section, I'll talk about the data visualization I created, followed by the approach and method I used here. The memo's later section discusses the targeted audience, followed by the conclusion and where you may get my overview, and finally the references.

**Description of Data Visualization Dashboard:**

To begin with, I obtained raw data from a government website on the United States Public Elementary-Secondary School System Finances by State. It was in the xlsx format when I downloaded it, which is the format used to display data from an excel sheet. To continue, I wanted to divide the overall raw data, which is quite huge and takes a little time to understand, into three parts that should be small so that the audience can easily understand it by making an infographic with it while also being relevant with all necessary data.

In addition, my intention is to design the infographic in a specific way, so that the audience won’t have to spend a lot of time to grasp the critical data from it. Instead of cramming the entire graphs, charts with several points into a single chart, graph or table. To make things simpler, I took important data and represented it in various ways to make sure the audience understands it well.

As previously said, I divided the data into three parts, each of which was divided into three separate excel sheets. The data on sheet one was for Fall enrolment in elementary and secondary schools in the United States for the year 2020. I used this set to figure out how many students were enrolled in the fall, even in the COVID pandemic. So, for this set, I chose a heat-map because it is one of the greatest ways to portray data in a way that the audience can easily grasp, where they can see the intensity of color and the numbers on the state geographically. The bar chart was used on page two to display the top 5 states getting funds from federal sources, but instead of showing all of them, I just showed the top 5. The 3D bar chart on the last sheet depicts the state's current expenditures per pupil as well as the total expenditure on the x-axis and the amount in dollars on y-axis.

**Challenges Faced and Processes used to build Infographic:**

To begin with the process, I have faced few difficulties. Major one is understanding the overall raw data, which took a lot of time in processing it. After processing all the data, the data was divided based on their fall enrollment of each states, in the first sheet and followed by the second sheet with top 5 states receiving funds from federal sources. And the final sheet containing the data of top 5 states with current spending per pupil and their total expenditure on elementary-secondary schools.

The next challenge I've faced is deciding what kind of charts and graphs to use to represent the three data sets. Because the three data sets contain three different types of information, it is clear that one type of representation is not enough. Using the same type of graphs and charts to represent the infographic makes it less appealing to the intended audience. So, to overcome this challenge, I imagined myself as an end audience and experimented with various types of charts and graphs based on the data, and I began to wonder if I am easily able to assess the graphs or charts, and if the data contained within the representations is adequate. If not, what adjustments should I make? As a result, I was able to overcome all of the obstacles that I encountered.

**Targeted Audience:**

It is obvious to choose the audience in the initial stage when working, so that we can plan our work accordingly, the way we would wish to present. The main aspect is to convey the information to the audience as simple as possible and effectively too. The state and central government officials, especially in the department of education, and various higher officials of different educational institutions. The representation should be quite effective and should be in formal way, and the fancy way of representation needs to be avoided.

**Designing Process:**

I invested a lot of time in designing the Infographic. PowerPoint, a designing tool is important in creating the infographic attractively. To be specific about my design process, the first thing is, I chose appropriate colors for the data representing. I want the dashboard to look simple yet with an effective color combination in contrast with dark background and easy to understand visualization tools. Icons have been chosen based on the key word from the headings and the screenshot of the tools in the PowerPoint slide are arranged. Importing the data into the PowerPoint, and you can do that easily by copying. The next important step is organizing the imported charts and graphs in the slide in way that makes the infographic meaningful. So, I organized the graph based upon the data that must be represented first followed by next piece of information.

To separate from the backdrop color, the infographic title is in bold letter format with white color, and the citations of each graph and chart are also in white color. Also included icons for books, currencies, and the dollar. To express the topic, I used images of a boy and children in a classroom. I added the data source details for each graphical representation here.

**The Conclusion:**

In my professional experience, I worked as a Business Analyst: SAP Security & GRC, where I was responsible for day-to-day risk management and SAP system security. I have a basic understanding of Microsoft Excel and PowerPoint, but I've never had the opportunity to create performance dashboards based on raw statistics. This assignment has allowed me to get experience with new visualization elements (charts, maps), as well as formatting styles in MS Excel and PowerPoint. The important take-aways for me is the decision-making skill that I learnt and the assessment of raw data and most importantly the way to use excel most productively which is quite needed in my area of expertise. I want to specialize on Business Analytics as part of my Information System course work, and working on the performance dashboard given me an idea of what goes into converting raw data into a meaningful information. I want to explore more data visualization tools like Tableau, Power BI and SAP BI/BW during my summer break.

**References:**

U.S. Census Bureau, Current Population Survey, 2020 Annual Survey of School System Finances.