

## Process Paper

With this year's theme of "Communication in History," we knew that we wanted to look for a topic that would grant us access to a wealth of information and provide the opportunity to conduct interviews. As we navigated topics in hopes of finding one we were passionate about, I reached out to my father, an Aviation Accident Investigator for the National Transportation Safety Board. We began to talk about black box technology. We initially discussed the relationship between digital flight recorders and how they may embody both communication itself as well as understanding. This topic not only interested each of us, but it would also grant us access to primary sources, so we quickly committed to it and began extensive research.

We began our research through generalized internet searches. By conducting independent research, we were able to gain an understanding of the history of flight recorders as well as the technology that has made them possible. From there, we narrowed our focus more on the functions of flight recorders and their connection to this year's theme. With a solid foundational knowledge, we scheduled and conducted a Zoom interview with Doug Brazy, an Accident Investigator of the NTSB. As Mr. Brazy answered our questions, we gained additional understanding from a unique, experienced perspective. After our interview, we conducted further research to cover topics we may have missed including maintenance and trainee pilot debriefings.

Having each participated in Maryland History Day three times before, Hanna and I knew that we could effectively create a website to display our information. We began by independently creating a spreadsheet which outlined each component of our project that must be completed. Initially, we conducted independent research and recorded necessary information and sources in a shared Google document. At this point, we each had a general understanding of how we

wanted to layout our website, so we began creating the skeleton of our website including overarching questions and layout. After rewriting our research into coherent, detailed paragraphs, we added the text to our website, which was supplemented by quotes, graphics and images, and the interview. Prior to submission, we made aesthetic improvements to our website to ensure that it looked both professional and engaging.

Our topic of black boxes relates to the theme of communication in a few major ways. These recorders capture verbal conversations among flight crew in the cockpit, as well as quantitative data in regards to cabin pressure, temperature, velocity, and more. Whether flight recorders are taken from accident sites or simply removed for analysis after a successful landing, they promote communication. The aircraft indirectly communicates with the flight crew during a flight, the flight crew communicates with one another, and analysis of flight data encourages conversation between trainee and veteran pilots as well as communication to improve aviation practices such as training and landing procedures. Digital flight recorders are the key to understanding mechanical errors and aviation accidents and they promote communication to improve efficiency and safety of air travel.