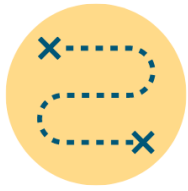


## TECHNOLOGY-INFUSED TOOL



## Using a Hyperdoc to Create a Flexible Learning Environment

by Jenn Fredo

### TOOL DESCRIPTION

An exemplar “hyperdoc” unit and accompanying rubrics, both to demonstrate the successful use of hyperdocs and as a guide for students in practicing and learning about the variety of technologies available to them in a tech-rich classroom.

### CRITICAL CONTEXT INFORMATION

These exemplars were developed for a public middle school computer science classroom in a large suburban district.

### TOOL & LINKS

- [Computer Science Stations \(Exemplar Hyperdoc\)](#)
- [Final Project Templates and Rubrics](#) for the above hyperdoc unit

## About This Tool & Guidance for Adaptation

A “hyperdoc” is a Google Doc with many video links, visuals, and response areas to facilitate an individualized learning environment. The purpose of the hyperdoc is to conveniently house and collate all the relevant materials, resources, and mini learning modules for students to learn at their own pace. For a tech-heavy class, such as in a computer science class, students often get overwhelmed by the amount of information and materials they have to digitally track. By organizing these all together in a hyperdoc, we can remove the inconvenience and challenge of organization so that students can focus on their learning. Thus, having many resources available allows students to work independently. This frees up the teacher to work with students one on one or in small groups to target reluctant independent learners and guide and encourage students who need it.

### Guidance for Exploring this Resource

- Think of what technology tools are available to your students (Google Translate, Text-To-Speech, different digital versions of an assignment for different levels, synchronous collaboration, etc.). Embed the instructions for these capabilities somewhere in your hyperdoc.

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- Add resources, videos, etc. to foster learning content, but make sure to have an answer section for each resource where students can be responsible for the content presented.
- Have students create a sample of the content learned to upload to the document as evidence of learning. This is where your students who are confused will lean on their classmates as they have to produce something.

## Teacher Narrative

When thinking about the best way to teach computer science to reluctant students, my colleagues and I created a hyperdoc [see the tool linked above].

We had four platforms for students to discover, and separated each part of the hyperdoc to correlate with each station: Creating a Virtual Reality Tour, Programming a Micro:bit, Coding an App and Programming a Robot. Students were put in groups and rotated around the room, learning each platform with support from the well-organized resources in the hyperdoc as well as the other students in their group. Students could work at their own pace and use technological aids, such as text-to-speech, Google Translate, etc.; but the proximity to their group of classmates also fostered a learning community where they could rely on one another to troubleshoot and answer questions as they learned together. The hyperdoc, then, was designed for students to not only learn from the resources, but also to collaborate as a team. Students turned into leaders and paced themselves according to their ability.

The benefit of students working asynchronously at each station allows the teacher flexibility to check in with students who need additional support. Some students with an IEP may need more direct instructional support, and so I was able to create a small group and lead instruction step by step. Other students just needed a check-in to ensure they were staying on task. By having the resources available and by holding students accountable to upload evidence and document their work at each station, I knew that students learned within each content area.

Students had to ask questions in order to complete tasks. If I was unavailable, then they knew to turn to a classmate, helping to foster a true student-centered environment. Some students emerged as leaders as they grasped concepts quickly. This was not always the student I expected, and it empowered them as they gained confidence in their learning.

At the end of this four-station rotation<sup>5</sup> learning computer science, students were then asked to choose their favorite platform and code a program that would help someone in a real-world situation. This deeper project choice puts students in the driver's seat to their own learning and interests. Some stations were

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<sup>5</sup> **Station Rotation** is another example of a Flexible Structure. In it, students rotate around the room to different learning experiences at various "stations," some of which may be hands-on or interactive, some of which may be independent, and others may involve direct instruction or discussion facilitated by the teacher.

naturally more engaging to others and some stations were more understood by the students themselves. The power of choice of content also engaged students. Some students programmed an app to learn English while others programmed a robot to do soccer drills. Allowing students to tailor the project to their interests while utilizing their newly-learned content was a double win.

Creating a hyperdoc where students are held accountable for their learning, and then given the choice to show their learning, allows for a flexible and individualized environment for the student and for the teacher. This practice and pedagogy takes work to set up, but once in place it is invaluable as a teacher to be given the flexibility to meet the needs of your students. Grouping students to work at stations fosters a natural collaboration as they are purposefully placed around the room to support each other. These two practices together create a rigorous, student-centered atmosphere.

## MEET THE AUTHOR

My name is Jenn Fredo, and I am a 6th and 7th grade technology teacher at Barnstable Intermediate School. I create student-centered lessons to give students opportunities to show their understanding of the new technologies presented as well as the chance to collaborate with peers to share ideas and inspire each other.

