BABSON COLLEGE
Babson Academy for the Advancement of Global Entrepreneurial Learning

THE ONE HOUR ENTREPRENEURSHIP EDUCATOR

What is Data Analytics?



Five Ways Data Analytics Can Transform Entrepreneurship Education

Based on research conducted by Babson College Assistant Professor **Nada Hashmi**

As business and entrepreneurship faculty see a need for data analytics within their courses and projects, Babson College Assistant Professor Nada Hashmi details how to best engage students in this work. Through breaking down the five steps of data analytics and exploring coding languages, Dr. Hashmi identifies how data analytics are necessary in entrepreneurial education.

1 Build the confidence of your novice students and engage them with experienced students.

» Keep your skilled students engaged by enabling them to learn and teach.

When teaching data analytics, professors have students across a wide range of backgrounds and knowledge levels. In order to create successful entrepreneurs, they need to adjust their teaching methods and projects based on the skill level of their students. Allowing highly skilled students to serve as unofficial teaching assistants creates learning opportunities and collaboration across the classroom.

Continue on page 2 »

With the novice students, it's vital to create learning opportunities outside of the classroom, through activities like hackathons and online practice ressources, such as DataCamp or HackerRank. Try not to dismiss or single them out and instead, help build up their confidence. Engage highly skilled students by offering them projects outside of class or having them participate in difficult hackathons. These opportunities should discourage students from getting bored or disengaging with course material.

2 Understand the importance of data analytics in business.

» Accept the data and learn how to use it to your advantage.

It's a common myth that data analytics can be avoided in the business world, but the truth of the matter is that one can never avoid data. Looking at the past decade alone, there has been an explosion of data, making it extremely important across a range of companies, from small startups to major global brands. In considering why it's necessary to look at the data, just start by thinking about how every minute of the day, there are 5.7 million Google searches, 575 thousand tweets, and 240 thousand Facebook photo uploads.

Based on this, students must consider how data will impact both them and their business, which can be done by using real world problems through project-based learning. In keeping the COVID-19 pandemic in mind, one group of Babson students created an algorithm, allowing them to predict passenger habits around air travel during COVID by utilizing data from flight cancellations.

This creative tactic enabled students to develop a model that can train AI to show and predict how passengers will react about air travel in the future when faced with a pandemic. These projects demonstrate how important and useful it is for students to use real data, as well as the role data plays within business. Let students unleash their creativity with these types of projects, which can be completed on a variety of topics by using data from different sources.

3 Prepare students for success with Structured Query Language

» A strong working knowledge in SQL remains one of the most popular requirements on the job market.

Educators should encourage students to work in SQL (structured data language) database management as they begin engaging with data analytics. SQL allows students to easily work with databases, which is integral for their entrepreneurial growth. SQL is also a programming language that will enable growth toward other coding languages, like Tableau and Python.

Azure Data Studio is the best editor for teaching and using SQL in the classroom. Azure Data Studio is free and simple to install and works across platforms with little technical difficulty. It also conveniently uses Microsoft SQL, the most commonly used SQL server. Although it's recommended to keep your databases in your web services, Azure Data Studio also comes with a free in-built server. Even though SQL is one of the oldest programming languages, it remains the most in demand on the job market today.

Continue on page 3 »

4 Tableau is no longer a tool only used for data visualization.

» Take advantage of Tableau's many features, which students and teachers can access for free.

A longstanding misconception is that Tableau is only helpful when performing data visualization. However, Tableau can process, clean, analyze, and visualize data, which is why educators believe it's an incredible (and useful) all-in-one tool. While Tableau is limited in how much analysis it can do, rest assured that it's usually up for the job. When describing Tableau to students, it can be helpful to say it's like if Excel and PowerPoint had a child prodigy.

Since Tableau doesn't require any programming and can create detailed, interactive visualizations and dashboards, it really highlights the importance of Tableau in business. At Babson, we offer students an entire semester dedicated to Tableau because there's so much one can do with this tool in entrepreneurial learning. Given that Tableau is becoming an authority in data visualization, ensure that students embark on learning it prior to graduation.

5 Python remains king of the programming languages.

» Teach entrepreneurial students the tools they'll need to thrive in the business world.

While every programming language has its own advantages, Python remains the most powerful tool. Many educators believe that Python is set to overtake all other coding languages for data analytics, since it can perform the same tasks as SQL and Tableau—and even more. Based on its versatility, Python is the most popular tool for advanced data analytics, making it invaluable to entrepreneurs of the future.

Jupyter is the recommended editor for Python, as it's free, light, and easy to install using Anaconda Navigator across Windows and Mac. Students who master Python can replicate and share code, all while using their web browser. Given that Python remains so popular for data analytics, students can use it to not only capture and process data, but to truly analyze and model data.



EM2-4027-07/2022