# Brandeis Online Class Analytics (BOCA)

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# Brandeis Online Class Analytics (BOCA) Team

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Cole Tucci, MA '23

**Klodeta Janaqi, MBA '19** is a senior analyst at Google and a visiting Brandeis scholar. A graduate of Brandeis International Business School, she is the co-inventor of core technologies and prototypes

**Jiawei Fan, PhD International Economics '27**
Data analysis and natural language processing

**Sonny George, MS Computational Linguistcs ' 26**
Software development and architecture

**Glenn Gomes-Casseres, MBA** (Columbia)
Product management, customer discovery

**Rezarta Myrtollari, MSBA '21**
Database management, data visualization, dashboard

**Andrew Mukurazita, MBA/MSBA ,25**
Data analysis and customer discovery

**Maxwell Pickering, MS Computational Linguistics '26**
Software development

**Participating Brandeis Faculty**

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Aldo Musacchio
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Dave Shaby
Philippe Wells
Grace Zimmerman

**COSI**
Tim Hickey
Pito Salas
Bill Wittenberg

# What is BOCA?

- **Toolset and software to measure speech in online classes**
  - Dashboards to visualize participation activity and balance
  - Feedback and benchmarks for students and instructors
  - Differential privacy and secure implementation

- ***BOCA Demo 2*** (free, limited) runs locally on your computer
- ***BOCA Enterprise*** (full featured) is in beta test at Brandeis

- **Unique database** of multiple courses, 2020-2024

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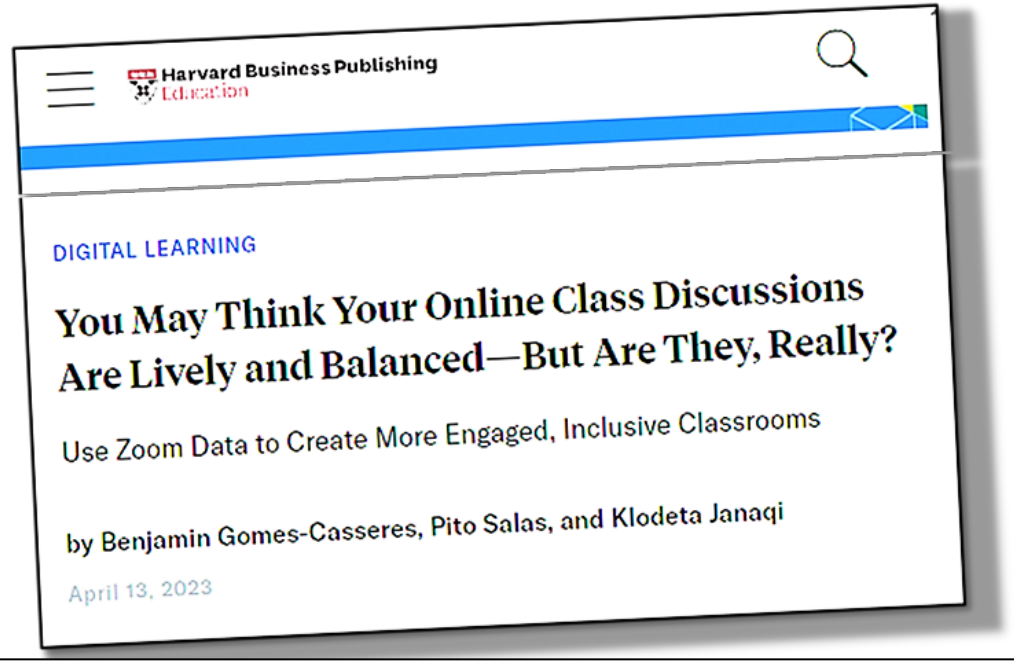


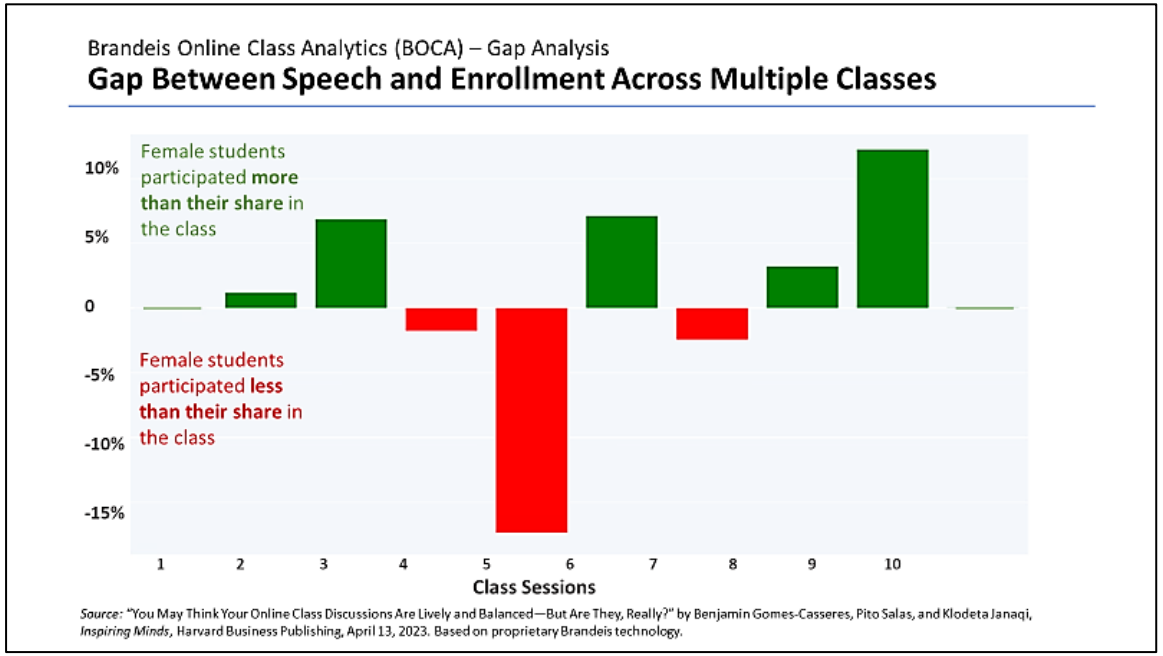


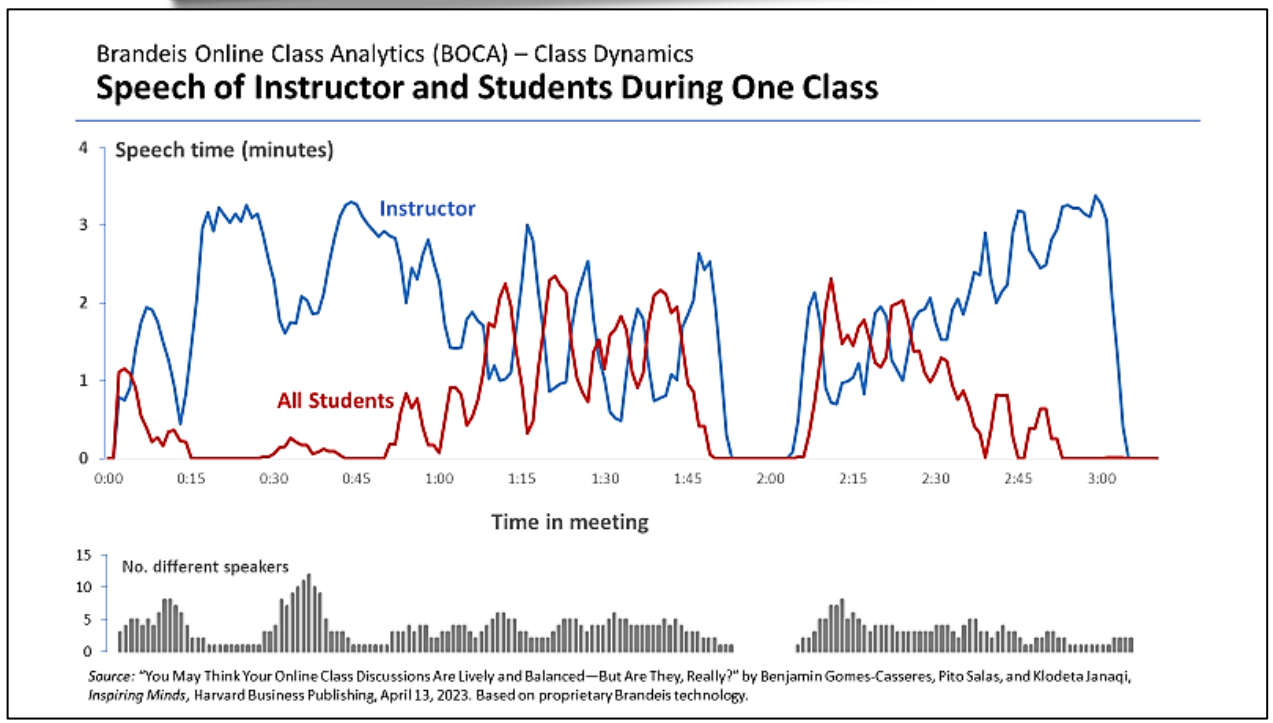


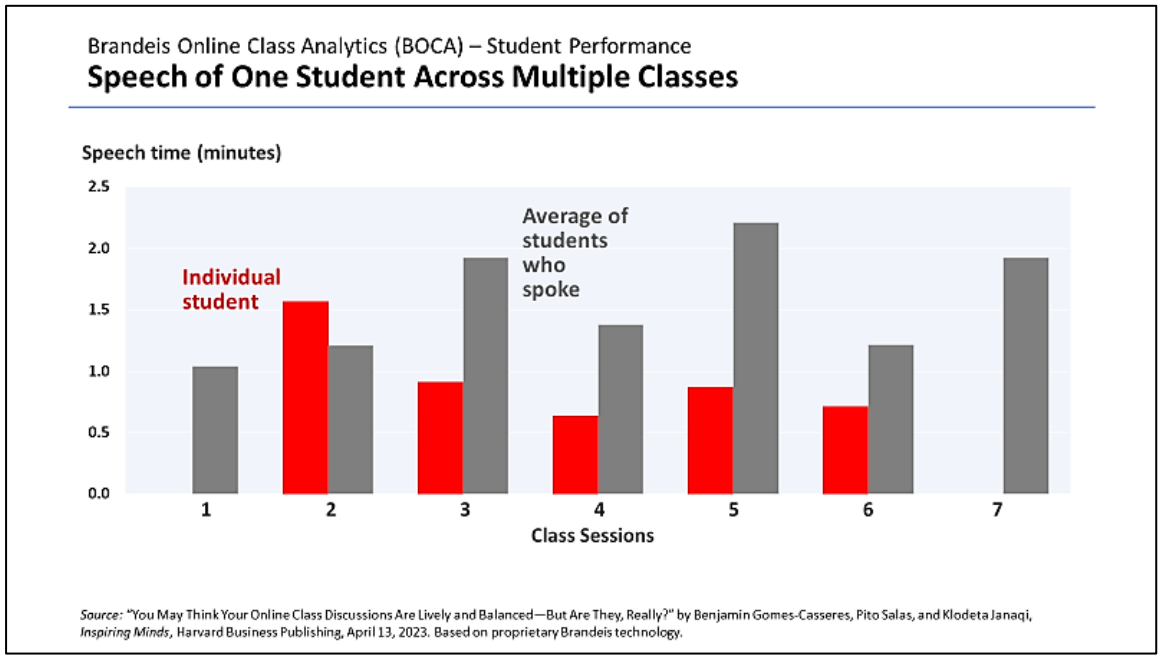


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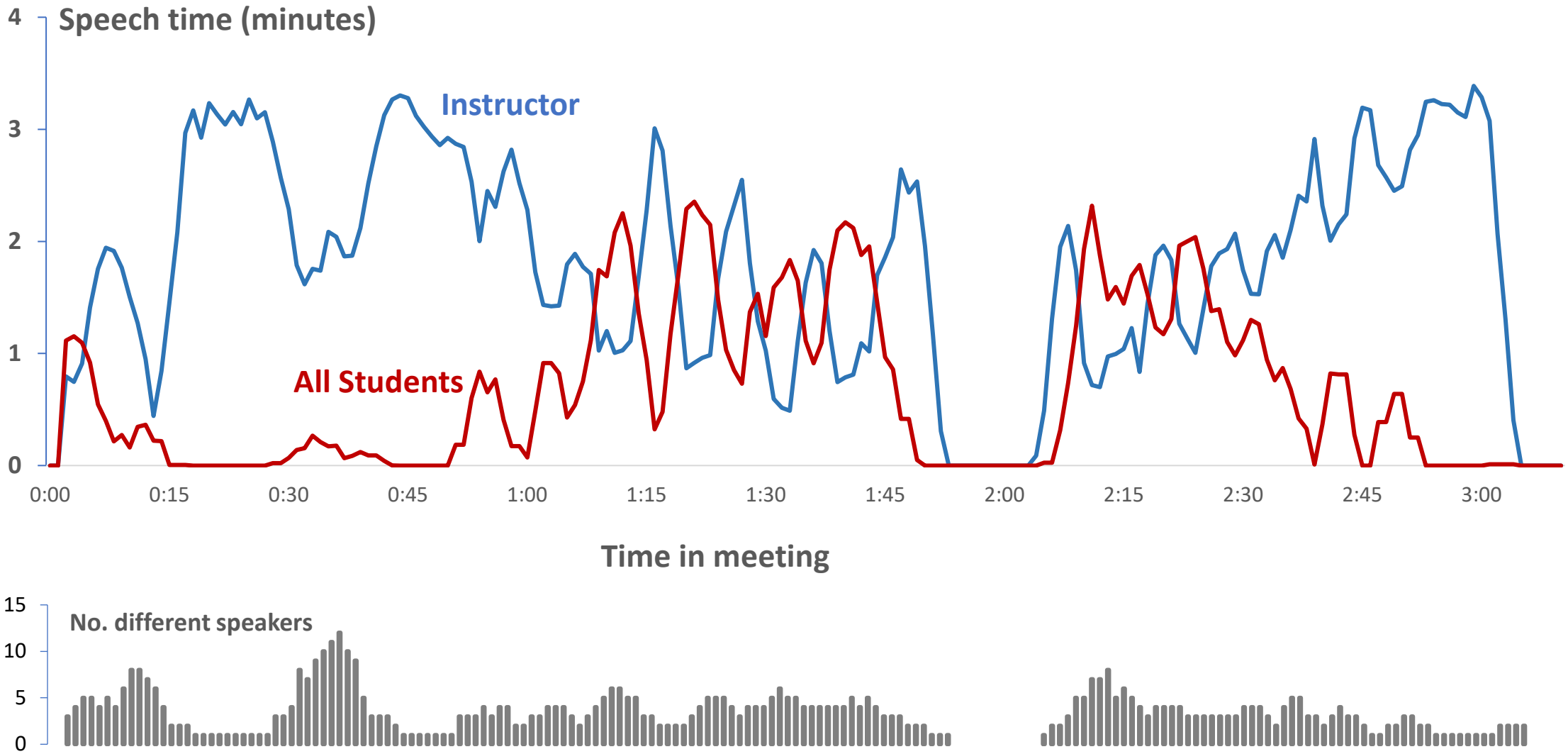
Brandeis Online Class Analytics (BOCA) – Class Dynamics

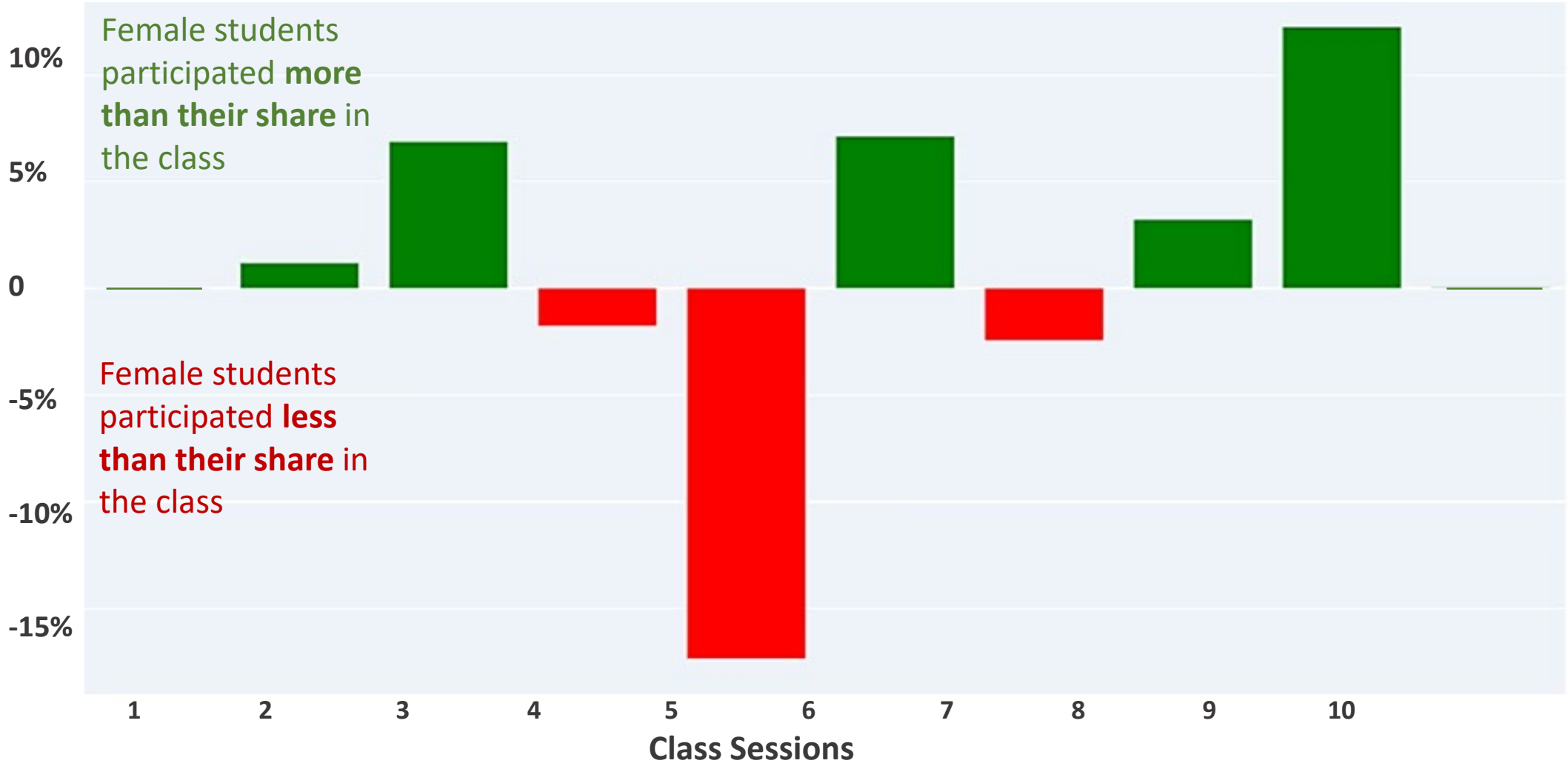
# Speech of Instructor and Students During One Class




*Source:* "You May Think Your Online Class Discussions Are Lively and Balanced—But Are They, Really?" by Benjamin Gomes-Casseres, Pito Salas, and Klodeta Janaqi, *Inspiring Minds*, Harvard Business Publishing, April 13, 2024. Based on proprietary Brandeis technology.

Brandeis Online Class Analytics (BOCA) – Gap Analysis

# Gap Between Speech and Enrollment Across Multiple Classes

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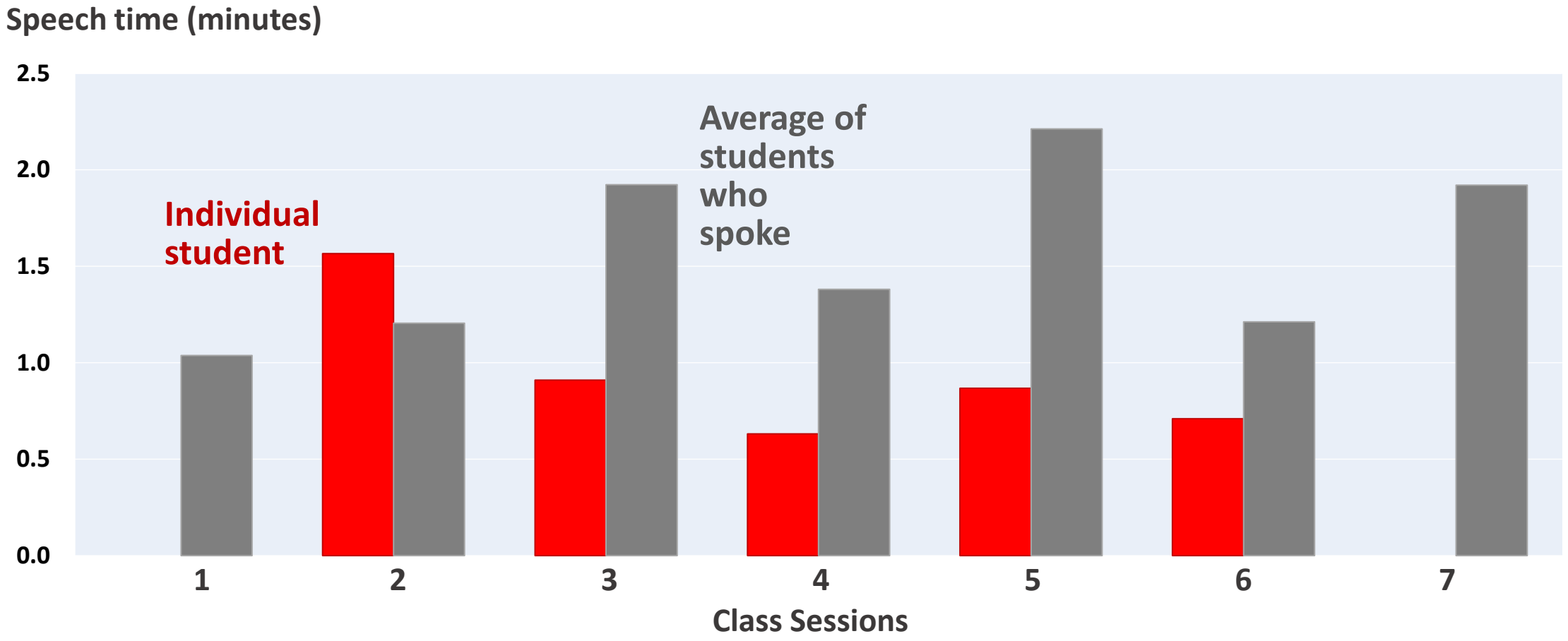
Brandeis Online Class Analytics (BOCA) – Student Performance

# Speech of One Student Across Multiple Classes of One Course

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# What BOCA helps you do

## 1. Assess student engagement

- Learning effectiveness
- Advising, early warnings
- Inclusiveness of classroom speech

## 2. Give feedback to students

- Consistent, frequent feedback
- Grading assistance

## 3. Assess conversation dynamics

- Performance of discussion protocols
- Compare across courses and styles

➢ How it works:

- Instructor authorization
- API access to Zoom data
- Secure server and user web portal
- Daily reporting
- Student PII secure; instructor access
- Comparisons of encrypted data

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# Brandeis Online Learning Lab

The Brandeis Online Learning Lab (BOLL) is developing cutting-edge analytic tools to measure student engagement in online classrooms.

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## BOCA Demo Request

Brandeis Online Class Analytics (BOCA) is an integrated set of modules and tools to analyze speech patterns in online synchronous discussions. To request a demo of this tool set, please complete and submit this form. The demo will be emailed to you immediately.

BOCA Demo runs locally on your computer. Your data do not leave your computer and we don't have access to any of it. You will need to have the latest version of Microsoft Excel (on Windows or Mac) and have access to Zoom recordings of your meeting. (It does not run on online spreadsheet programs.)