Christine Pfund; University of Wisconsin-Madison (Moderator)

Question for the Audience

What contextual factor can block effective mentoring

(think at both the individual level and the environmental level)? Please type 1-3 words

textual factors can block effective mentoring
individual level and the environmental level,
type 1-3 words

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Elizabeth Boylan; Sloan Foundation

NASEM Workshop on Effective Mentoring in STEMM
Panel on Mentoring Practices
February 9-10, 2017

Elizabeth S. Boylan, Ph.D.

Program Director, STEM Higher Education

boylan@sloan.org

ALFRED P. SLOAN FOUNDATION

To advance scientific knowledge through the support of research, education, and public engagement in science, technology, and economics

Sloan Strategies for Diversifying STEM Graduate Programs and the STEM Professoriate

- 1950's-60's: Investment in **institutions,** mainly HBCU's
- 1970's-80's: Providing **financial aid,** mostly through scholarships
- 1990's-00's: Identify **successful faculty mentors, fund their students**
- 2012-now: Synthesis, fund University Centers of Exemplary Mentoring

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MPHD UNIVERSITY CENTERS OF EXEMPLARY MENTORING

Mentoring + Money + Community + Institutional Support

Connecting to Sloan Scholar Alumni

SLOAN SCHOLARS MENTORING NETWORK

AN INITIATIVE OF THE ALFRED P. SLOAN FOUNDATION
IN PARTNERSHIP WITH THE SOCIAL SCIENCE RESEARCH COUNCIL

SLOAN INDIGENOUS GRADUATE PARTNERSHIP

SUPPORTING NATIVE AMERICAN AND ALASKA NATIVE MS AND PHD STUDENTS
IN STEM SINCE 2003

PURDUE UNIVERSITY®

THE UNIVERSITY OF ARIZONA

UNIVERSITY of ALASKA
Many Traditions One Alaska

Key Mentoring Strategies

- Sloan faculty mentor in addition to thesis sponsor/advisor
- Training of faculty advisors (URMs and Indigenous knowledge)
- Roles of diversity/multi-cultural advisors (mentor/coach/nudge)
- Near-peer mentors
- Alumni mentors

Thank You!

Anne Marie Weber-Main; University of Minnesota—School of Medicine

Kirsten Busch Johnson; The College Board

AP Mentoring

The National Academy of Sciences, Engineering and Medicine
February 2017

What is AP Mentoring?

- AP Mentoring is an **online teacher-to-teacher support program** for teachers of all experience levels.
- The program **connects AP teachers looking to develop their practice with expert AP teachers** who get great results in the classroom.
- In 2016-17 we have offered AP Mentoring to teachers of AP English Literature & Composition and AP United States History
- For the 2017-18 school year, AP Mentoring will be offered in:
  - AP Computer Science Principles
  - AP English Literature & Composition
  - AP United States History

Why Is AP Mentoring important?

- Research shows that coaching or mentorship can be a powerful form of sustained professional development for increasing teacher effectiveness*
- Multiple data on AP teachers highlights the need for sustained forms of professional development not currently offered by the College Board:
  - One-third of AP teachers have been teaching AP for 3 years or less
  - 35% learn they will be teaching AP less than three months before the school year starts
  - 73% of AP teachers currently attend an AP Summer Institute, which provides induction without any follow-up
- Online mentoring provides opportunities for teachers across the country to receive feedback and coaching, including teachers in remote or rural areas who may not have access to face-to-face professional development

*See Knowles, Holton, and Swanson. 2005. *The Adult Learner,* and Ingersoll and Kralik. 2004. *The Impact of Mentoring on Retention: What the Research Says.*

How is the AP Mentoring program structured?

- Mentees choose an available AP mentor in their subject and join one of that mentor's groups of up to four mentees.
- Each group meets online monthly through video chat, completing 12 hour-long sessions over the course of the school year.
- Mentees are active participants. They work with their mentors to set goals and to analyze and modify their own teaching practices.
- In between sessions mentees complete a reflection assignment designed to help them apply what they're learning in the classroom.
- The group uses an online platform to share documents and schedule sessions.

What are the benefits of AP Mentoring?

- **Professional development support** no matter where teachers live and work. The online format makes the program especially useful for those who can't make it to on-site trainings.
- **Meaningful collaboration** with other educators who teach the same AP subject.
- **Personalized feedback** that can be applied in the classroom right away.
- Mentees receive **2.2 continuing education units** for successful completion of the program and may also meet district-mandated professional development requirements.
- Schools and districts can **strengthen and/or expand their AP programs** by building the capacity of their current AP teachers and supporting the addition of AP CSP, AP English Lit, and/or AP U.S. History.

2016-17 AP Mentoring, by the numbers

$778
Average price per mentoring seat (ranged from $716-$895)

635
Number of participating mentees

35
Number of seats sold in the largest district purchase – DC Public Schools

171
Number of mentoring groups

2
Number of state-level sales (NC and IN)

783
Number of mentoring sessions held to date

Why are teachers choosing to participate in AP Mentoring?

This is now my 2nd year teaching AP English Lit. I still struggle with teaching MC and I keep getting a kid or two that will get the score of a "2". How do I teach that kid?

This is my first year teaching and have two different AP classes. The prep alone is killing me much less the administrative duties that come with it.

I am most interested in getting myself organized and looking for a way to structure my program. I have TOO MANY ideas and desires! I need help working with that.

Am looking forward to the process of becoming a better AP teacher!

CollegeBoard

What have we heard from mentees and mentors so far?

"I think I learned as much from my mentees as they did from me."

- AP U.S. History mentor

"I truly feel that I have helped my mentee's students perform better on the AP exam."

- AP U.S. History mentor

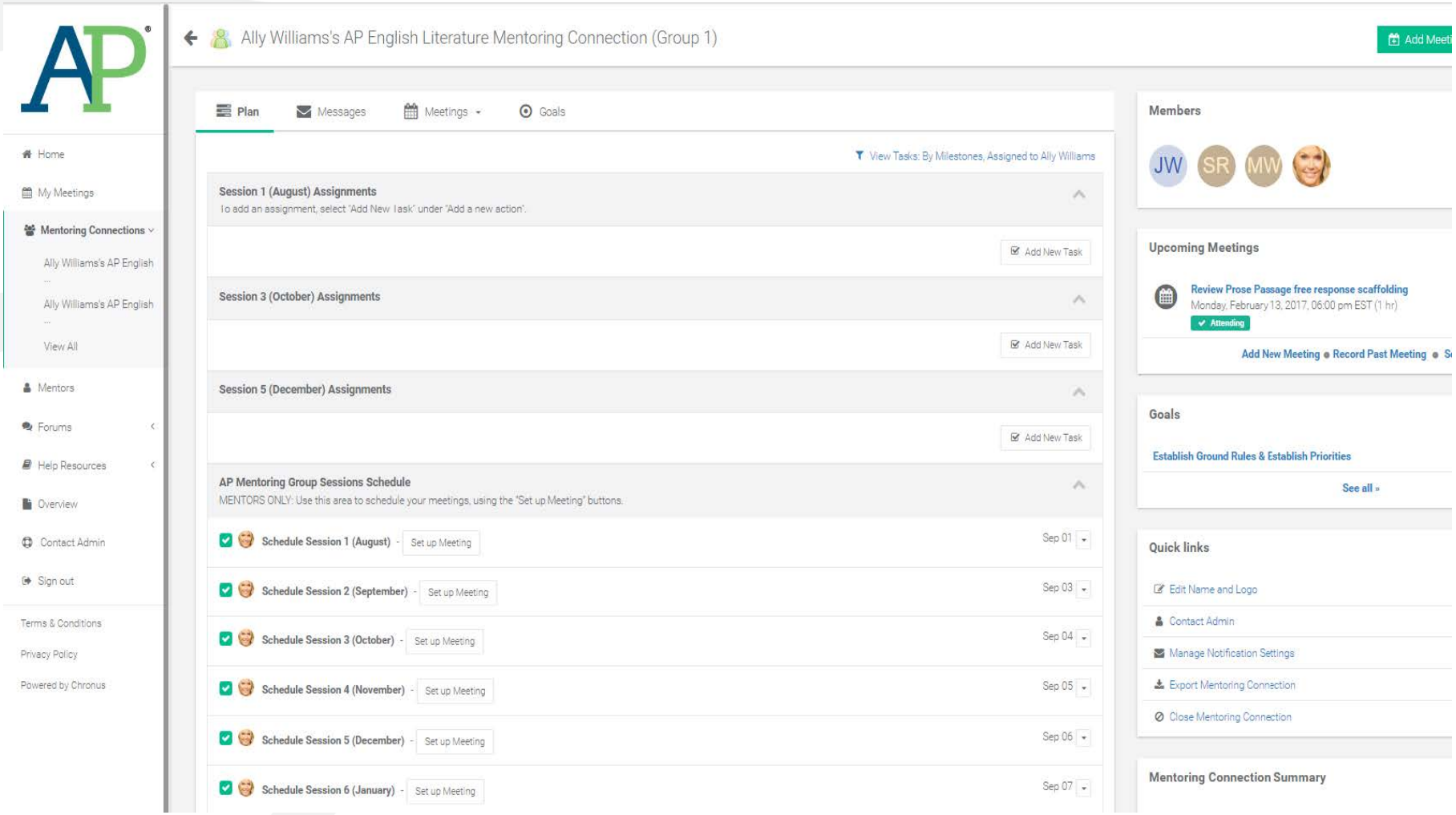
"I appreciate our mentor for his genuine desire to assist us and all of the resources that have been shared from him and the other mentees with the group."

- AP U.S. History mentee

"I am really enjoying the opportunity to exchange ideas, resources, and challenges with a community of AP teachers. I think my teaching has benefited from it."

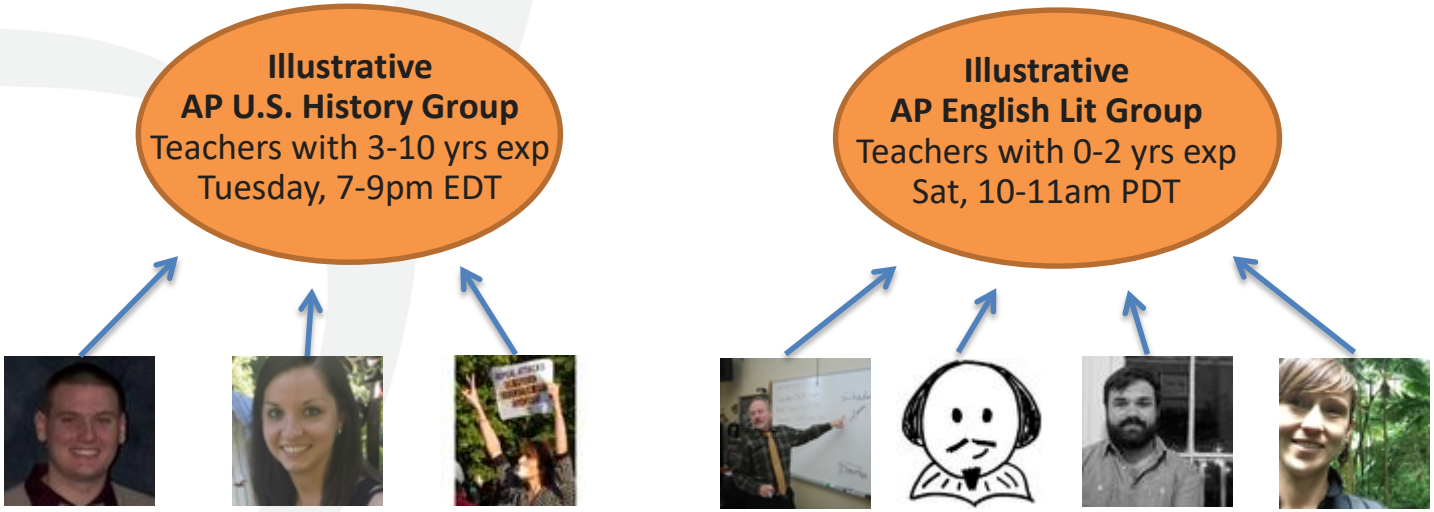
- AP English Lit mentee

Chronus: The AP Mentoring platform



The Mentor-Mentee Matching Process

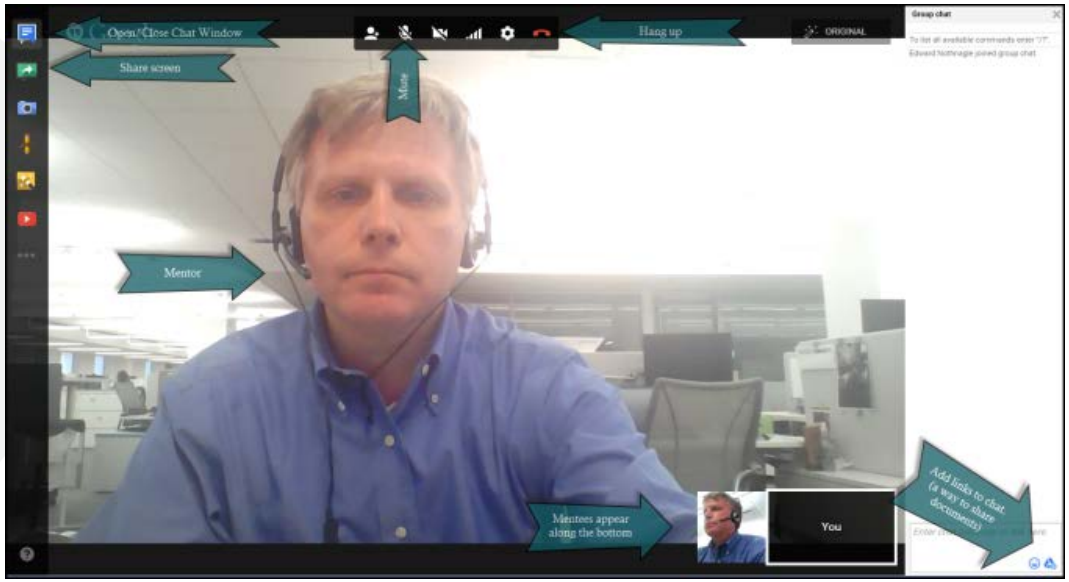
- In 2016-17, APM staff matched mentees and mentors based on time zone, schedule, experience, and area of interest
- For 2017-18, mentees will choose their own mentoring group based on time zone, meeting time, experience, and mentor statement



Technology platform: Video chat tool

Goal of a video chat tool

- Allows mentors and mentees to chat in “real time”
- Video component allows for a personal connection



Tech requirements:

- Web cam
- Microphone
- Access to Google Hangouts/Skype (not blocked by firewall)

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Overall number of AP teachers by subject and region

Region	AP CSP	AP English Lit	AP US History	Total
MRO	445	2,650	2,331	5,426
MSRO	319	3,077	2,482	5,878
NERO	151	1,090	918	2,159
SRO	495	3,372	3,104	6,971
SWRO	195	1,807	1,631	3,633
WRO	496	3,217	2,787	6,500
Totals	2,101	15,213	13,253	**30,567**

Contact

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kijohnson@collegeboard.org
646-767-8810

www.collegeboard.org/apmentoring

Questions?

CollegeBoard

Question for the Audience

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Please type 1-3 words

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SCIENCE

- Deep Carbon Observatory
- Microbiology of the Built Environment
- Sloan Digital Sky Survey

ECONOMICS

- Economic Institutions, Behavior & Performance
- Working Longer

TECHNOLOGY

- Data & Computational Research
- Scholarly Communication
- Universal Access to Knowledge

EDUCATION

- Minority Ph.D. Program (MPHD)
- Sloan Indigenous Graduate Partnership (SIGP)

PUBLIC UNDERSTANDING

- Books
- Film
- Radio
- Television
- Theater
- New Media

CROSS-CUTTING

- Sloan Research Fellowships
- Energy & Environment
- Civic Initiatives

Illustrative AP Computer Science Principles Focus Areas

- Scaffolding the computational thinking practices to build proficiency
- Sequencing the performance tasks to build student understanding
- Using instructional strategies to develop students' collaboration skills
- Engaging students in an iterative development process when creating computational artifacts

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Illustrative AP English Literature Focus Areas

- Sequencing skills and scaffolding texts to engage students and build proficiency
- Recognizing how text organization and structure contribute to a text's overall meaning
- Analyzing how writers use literary devices and techniques to convey thematic ideas
- Constructing analytical arguments about literary texts

35

Illustrative AP U.S. History Focus Areas

- Sequencing the historical thinking skills and scaffolding instruction to engage students and build proficiency
- Analyzing primary sources to explain their significance to a historical question
- Creating and supporting a historical argument
- Using rubrics to improve student performance