

Effective Practices for Physics Programs (EP3) Breakout Session #4

High School Physics Teacher Preparation

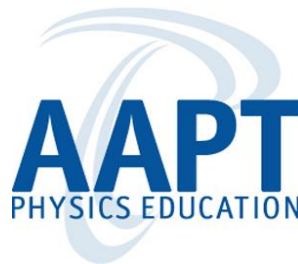
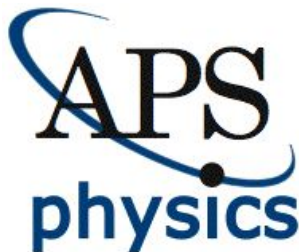
Contributors

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Session Presenters

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For this session:

- What is this section about?
- Where is it at in the development process?
- Some tips on how to read and use the section.
- Take some time to look at this content.
- Q&A

Please type your questions, feedback, and information in the Google Doc. **The link can be found in the agenda.**

We will compile your feedback to populate our FAQ, providing a summary of the EP3 sessions to participants through our mailing list.

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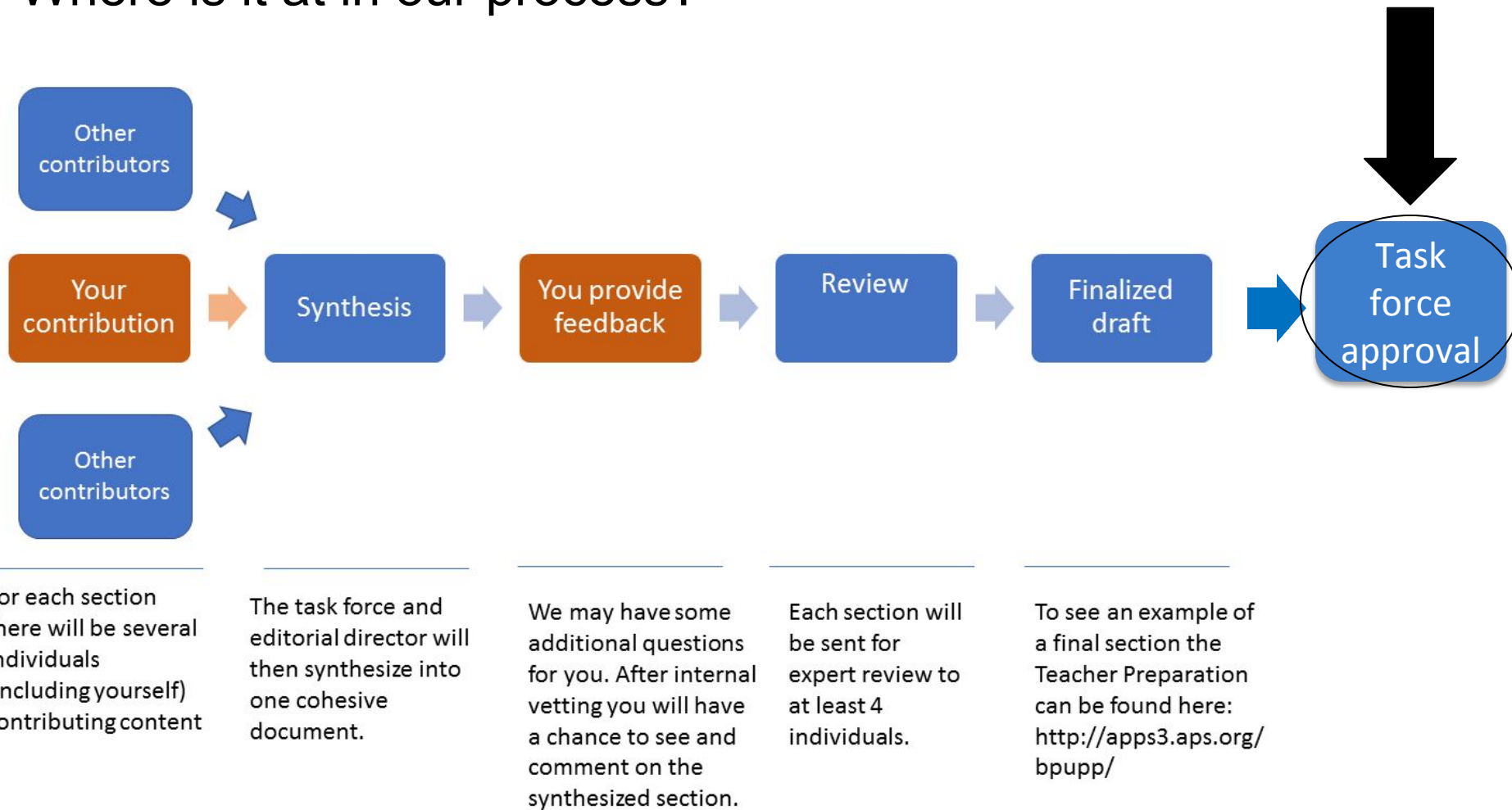
- Ted Hodapp (American Physical Society),
- Michael Jackson (Millersville University of PA),
- Ramon Lopez (University of Texas at Arlington), and GS (WVU)

Description:

An APS statement calls upon local, state and federal policy makers, educators and schools to provide every student access to high-quality science instruction at all grade levels and the opportunity to take at least one year of high-quality high school physics. They recognize that undergraduate physics programs are the primary academic unit preparing future physics teachers.

This section provides practices that will help a department implement and promote a robust teacher preparation pathway, including elements that support a strong undergraduate physics program.

Where is it at in our process?



What will a section look like?

High School Physics Teacher Preparation

Description

Physics programs are encouraged to implement, document, publicize, and support pathways to recruit and educate future high school teachers. This includes creating an environment within the program that promotes high school teaching as a valid and desirable career option for students.

⊕ Benefits to the Program

Effective Practices

1. Implement a teacher preparation pathway

⊕ Establish a degree track for high school teacher education within the major

⊕ Understand alternate pathways to teacher certification

⊕ Support recent graduates during their transition into the classroom

Always present

Click to expand

Engaging in effective practices to support high school physics teacher preparation improves learning for undergraduate students within and outside the major. Additional benefits include improving recruitment and retention initiatives within the program, increasing program graduation rates, increasing the program's eligibility for funding opportunities, and increasing the number of careers for which students are prepared, particularly in the field of education where physics students have near-certain employment upon graduation.

3-6 effective practices, with some “how-to’s”

2. Provide students opportunities to learn physics in ways teachers are expected to teach

⊕ Incorporate evidence-based, active-engagement pedagogies into courses

Provide opportunities for future (pre-service) teachers to participate in existing courses or workshops for practicing (in-service) teachers

3. Provide early teaching experiences for students interested in teaching as a career

⊕ Provide departmental and university opportunities for students to experience and practice teaching

⊕ Provide physics degree credit for students to take “introduction to teaching” courses

4. Understand and communicate paths to and requirements for teacher licensure

⊕ Identify and support appropriate individual(s) to advise students

⊕ Cultivate active relationships with School of Education faculty responsible for science teacher licensure (individually or in collaboration with other STEM departments)

1. Implement a teacher preparation pathway

⊕ Establish a degree track for high school teacher education within the major

1. In programs with one track, modify the existing degree to allow certification requirements
2. In programs with multiple tracks, design a teaching track to allow students to smoothly transition among degree options (should be perceived as on par with other career options)
3. Collaborate with School of Education or its equivalent to accurately communicate required components for licensure (curriculum, field experiences, testing, etc.) to students
4. Design the program (individually or with other science departments) in collaboration with the College of Education to meet licensure requirements
5. Learn from existing models, e.g., PhysTEC and UTeach employ practices and strategies for recruiting, preparing, and supporting teachers that begin within the physics program
6. Be mindful not to add extra expense or time to graduation

5. Communicate the value of teaching as a career path

Faculty should use language that is supportive of teaching as a career in their courses, department activities, and when advising or mentoring students

⊕ Sponsor regular faculty discussions on promoting teacher education in the department

⊕ Share data on teacher salaries and employment opportunities with faculty and students

Include practicing teachers from your program when highlighting accomplishments of graduates/alumni

Each section also includes:

6. Promote the program and actively recruit students

⊕ Advertise the program through posters, flyers, and department website

⊕ Intentionally recruit promising students to teaching

⊕ Bring practicing high school teachers to campus to speak with students

⊕ Programmatic Assessments

⊕ Evidence & Resources

Please remember that the EP3 Guide

- Is **NOT** a checklist of required actions.
- It IS a list of possible actions departments may consider if appropriate and applicable to their local situation.
- Chapters and sections are written and reviewed by individuals from a range of institution-types (to have something for each type of institution to consider).
- This is **NOT** every possible idea for what to do (e.g., the 'kitchen sink').
- This does **NOT** contain the smallest level of detail outlining the specifics of implementing an idea.
- There will be opportunities to discuss specifics applicable to your local context that may include: EP3 workshops, Departmental Action Leadership Institutes (DALI, year-long commitment), and online forum (immediate feedback).

You can find the draft section here:

<https://ep3preview.netlify.app/sections/high-school-physics-teacher-preparation>

Read/peruse the content prior to our discussion. Please be sure to include your questions in the Google Doc (link is listed in your agenda).

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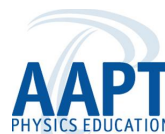
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