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PHYSICAL REVIEW PHYSICS EDUCATION RESEARCH **18,** 020109 (2022)

Editors' Suggestion

Students' perspectives on computational challenges in physics class

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PHYSICAL REVIEW PHYSICS EDUCATION RESEARCH **18,** 020106 (2022)

Development and illustration of a framework for computational thinking practices in introductory physics

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COMPUTER SCIENCE EDUCATION
2020, VOL. 30, NO. 3, 254–278
https://doi.org/10.1080/08993408.2020.1805285

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Racial hierarchy and masculine space: Participatory in/equity in computational physics classrooms

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ABSTRACT

Background and Context: Computing is being integrated into a range of STEM disciplines. Still, computing remains inaccessible to many minoritized groups, especially girls and certain people of color. In this mixed methods study, we investigated racial and

ARTICLE HISTORY
Received 31 October 2019
Accepted 31 July 2020

KEYWORDS

Tracking Inequity: An Actionable Approach to Addressing Inequities in Physics Classrooms

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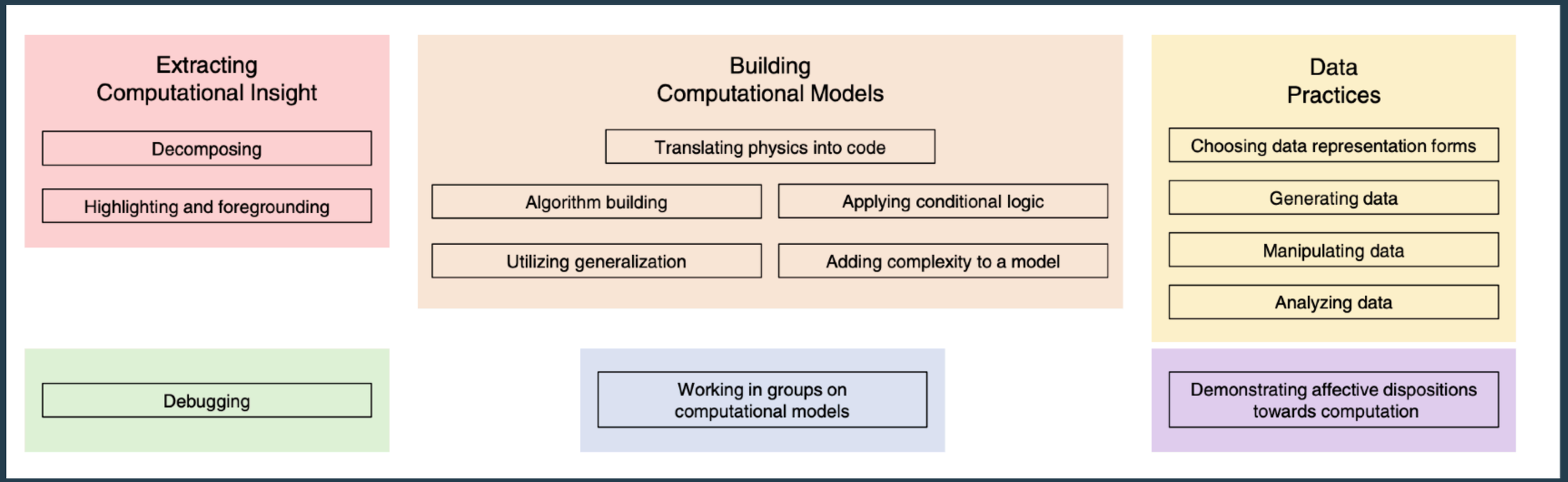
Recent studies reveal people from marginalized groups (e.g., people of color and women) continue to earn physics degrees at alarmingly low rates.[1-3] This phenomenon is not surprising given reports of the continued perception of physics as a masculine space[4,5] and the discrimination faced by people of color and women within the field.[6-8] To realize the vision of an equitable physics education, fully open to and supportive of marginalized groups, teachers need ways of seeing equity as something that is concrete and actionable on an everyday basis. In our work, teachers have found value in intentionally reflecting on their instruction and their students explicitly in terms of race, gender, and other social markers. We find they are then better positioned to build equitable physics classrooms. Without a focus on specific social markers, common obstacles such as color-evasiveness emerge, which obstruct the pursuit of equity in classrooms.[9]

learners.[12,13] Therefore, we encourage teachers to consider past and contemporary forms of marginalization when determining standards of fairness. In other words, we recommend a "reparations-type" view when defining equity.

In this article, we present a three-step process involving a classroom observation tool called EQUIP (https://www.equip.ninja/), which teachers can use to identify and attenuate patterns of discourse inequity. We begin by describing EQUIP and how its design supports physics teachers in thinking about equity in terms of social marker patterns in [illegible] teaching and learning situations. Then, we illu[illegible] our partner teachers used EQUIP in actio[illegible] sought to build equitable spaces for collabo[illegible] computation-based high school physics.

EQUIP: Equity QUantified In Part[illegible]

Analysis Framework for Computing Practices



Weller, Bott, et al, Phys Rev PER, 2022