

Standards-Based Grading: A Better Kind of Assessment

Ruth Farmery
rfarmery@phacs.org
Prospect Hill Academy Charter School
Cambridge, MA, USA

David Petty
david_petty@psbma.org
Brookline High School
Brookline, MA, USA



ABSTRACT

The authors are implementing and evaluating the impact of standards-based grading (SBG) on student outcomes in courses involving computing for secondary-school students. SBG is an assessment system where students are evaluated only for their proficiency against agreed course standards at levels of emerging, developing, meeting proficiency, and exceeding proficiency, as opposed to traditional 0-100 point scales. SBG can provide clearer feedback on what students know and can do for teachers, students, and families. We are two K-12 educators implementing SBG at our middle and high schools in computer science and are at different stages in this implementation timeline. To evaluate the impact, we will analyze data from multiple school years including, but not limited to, standardized test scores, grade-point averages, recruitment and retention, and student performance in soft skills. We expect to present the methods of our implementation and the results of our evaluation after the 2021-2022 academic year.

CCS CONCEPTS

• **Social and professional topics** → **K-12 education; Student assessment.**

KEYWORDS

standards-based grading, K-12 education, assessment, equity

ACM Reference Format:

Ruth Farmery and David Petty. 2022. Standards-Based Grading: A Better Kind of Assessment. In *Providence '22: 53rd AMC Technical Symposium on Computer Science Education*, March 2–5, 2022, Providence, RI. ACM, New York, NY, USA, 1 page. <https://doi.org/10.1145/nmnnnnnn.nmnnnnnn>

1 STANDARDS-BASED GRADING

Standards-based grading (SBG)[1][2] is a system of grading where students are evaluated *only* for their proficiency against agreed course standards, and is often adopted for its perceived benefits of equity and providing more detailed information about what

students know and can do. Rather than a traditional 0-100 point scale, students are evaluated on each standard independently, often using a proficiency scale such as emerging, developing, meeting proficiency, exceeding proficiency. SBG aims to eliminate inequities in grading by removing compliance from assessment, e.g. did students complete all classwork as required, did students complete homework, did students complete extra credit assignments *etc.*

2 THE WORK

We will implement and evaluate SBG in computer science at the middle and high school level at multiple institutions. This will include the process of preparing teachers and systems, implementation with students, and measurement of impact on student outcomes.

Prospect Hill Academy, a college-prep charter school in Cambridge MA, has moved to adopt SBG in all classes across grade 7-12 in a multi-year process. The 2021-2022 academic year is the first year that SBG and reporting has been fully adopted.

Brookline High School, an urban high school in Brookline MA, is evaluating and piloting SBG in some project-based elective classes in the 2021-2022 academic year.

3 EVALUATION

We plan to measure student outcomes quantitatively and qualitatively. Quantitative measures could include standardized-test scores, grade-point averages, recruitment and retention numbers within and across courses — including demographic correlations. In addition, for collaborative, project-based courses we plan to independently measure the practices as well as the content standards. We are looking for input and collaborators to help define meaningful qualitative measures and how best to define and collect data to support them.

ACKNOWLEDGMENTS

The authors would like to acknowledge members of the CSTA Greater Boston chapter for their support.

REFERENCES

- [1] Joe Feldman. 2018. *Grading for Equity: What It Is, Why It Matters, and How It Can Transform Schools and Classrooms*. SAGE Publications. <https://isbn.nu/9781506391571>
- [2] Tom Schimmer, Garnet Hillman, and Mandy Stalets. 2018. *Standards-Based Learning in Action: Moving from Theory to Practice (A Guide to Implementing Standards-Based Grading, Instruction, and Learning)*. Solution Tree. <https://isbn.nu/9781945349010>

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

Providence '22, March 2–5, 2022, Providence, RI

© 2022 Association for Computing Machinery.

ACM ISBN 978-x-xxxx-xxxx-x/YY/MM...\$0.02

<https://doi.org/10.1145/nmnnnnnn.nmnnnnnn>