

Explanatory note for the Relationships and Convergences Venn Diagram

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Updated November 17, 2014

Background

This Venn diagram is a synthesis of the student practices (and student capacities) from four sets of documents, the *Common Core State Standards (CCSS) in English language arts and literacy in history/social studies, science, and technical subjects*, *CCSS in Mathematics*, *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*, and the *Framework for English Language Proficiency Development (ELPD) Standards corresponding to the CCSS and Next Generation Science Standards (NGSS)*.

I examined the idea of student practices that were salient across the three content areas and grouped them loosely according to the description provided within each of the key documents. For example in mathematics, math practices 1 to 8 (denoted as MP1 to MP8) can be described on pages 6-8 of CCSS in Mathematics. Science and engineering practices 1-8 (denoted as SP1 to SP8) can be described in chapter 4 (pages 41-82) in the *Science Framework*. Lastly, on page 7 the CCSS for ELA & Literacy, the authors, Coleman and Pimentel (co-writers), describe a set of seven descriptions that "offer a portrait of students" ... [who] "are able to exhibit with increasing fullness and regularity these capacities of the literacy individual." These descriptions are as follows (unnumbered):

- They demonstrate independence.
- They build strong content knowledge.
- They respond to the varying demands of audience, task, purpose, and discipline.
- They comprehend as well as critique.
- They value evidence.
- They use technology and digital media strategically and capably.
- They come to understand other perspectives and cultures.

The CCSS for ELA & Literacy do not explicitly state the above statement as "practices." However, in the *Framework for English Language Proficiency Development (ELPD) Standards corresponding to the CCSS and NGSS*, the authors, Pimentel et al., analyzed the priorities contained within the ELA/Literacy standards and summarized them as "Key CCSS ELA Practices" which describe the following (page 11):

1. Support analyses of a range of grade level complex texts with evidence.
2. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
3. Construct valid arguments from evidence and critique the reasoning of others.
4. Build and present knowledge through research by integrating, comparing, and synthesizing ideas from texts.
5. Build upon the ideas of others and articulate their own when working collaboratively.
6. Use English structures to communicate context specific messages.

The Relationships and Convergences Venn Diagram was developed in consultation with members of the ELPD Framework team and the ELPA-21 (www.elpa21.org) standards writing team. The first six practices, EP1 to EP6, are from the table on page 11 of the ELPD Framework. EP7, "Use technology and digital media strategically and capably" has been added as part of the full list as it wasn't captured on page 11 of the ELPD Framework, but is specified on page 7 of the CCSS for ELA/Literacy.

Relationships

The grouping of these "practices" draws from the corresponding descriptions found in each of the seminal documents. For example, the overlap between mathematics and science (SP2, MP4, and SP5) contains the similar and overlapping idea of modeling (SP2 & MP4) and using mathematics and computational thinking (SP5). The overlap between science and ELA (SP8 & EP2) are related in the practice of communicating knowledge in a clear, coherent way. Likewise, the overlap in math and ELA focuses on this idea of using explicit tools to aid in learning the discipline (MP5 & EP7).

What remains independent in each of the discipline was left out of the overlaps. A common practice that remained across all three disciplines was the idea of argumentation and reasoning with evidence (EP1, MP3, EP3, & SP7). Hence, these practices were grouped together at the center of the Venn diagram.

Implications

This diagram is intended to highlight some of the similarities of what students are expected to do (practices) across the disciplines. It is not necessarily a perfect model of how the priorities of the three disciplines (ELA, Math, Science) are mapped out. That is, the discussions and debate that arise from unpacking this diagram can help educators make sense of the standards and spotlight the literacy/language implications these new standards have on their student populations.

References:

Council of Chief State School Officers. (2012). *Framework for English Language Proficiency Development Standards corresponding to the Common Core State Standards and the Next Generation Science Standards*. Washington, DC: CCSSO.

National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards for English language arts and literacy in history/social studies, science, and technical subjects*. Washington, DC: Authors.

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Schweingruber, H., Keller, T., & Quinn, H. (Eds.). (2012). *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. National Academies Press.