

Deeper Learning: A Practitioner's Synopsis for the Hatboro-Horsham Community

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What is Deeper Learning?

Beginning in 2015-16, Hatboro-Horsham school district teachers have been asked to engage in transforming their teaching practices to align with deeper learning. This shift was initiated partially in response to mounting public discourse asking schools to reconsider how students are prepared for citizenship and the workplace, and partially in preparation for a multi-year technology initiative that will provide most students with a personal computer for learning. With the planned introduction of student technology, we sought to define a pedagogical course compelling enough to transform learning while keeping technology in the service, and not at the center, of that transformation. "Deeper learning" is the shorthand we use to describe that pedagogy.

Deeper learning is *"the mastery of core academic content, including foundational domain knowledge, concepts, and modes of inquiry in the humanities, mathematics, sciences, and arts that form the building blocks for further study and skill specialization. [It is]The academic ability and predilection to continue to learn and to apply and transfer knowledge effectively through higher-order skills, such as critical thinking, problem solving, communication, collaboration, and self-directed learning."*¹ It is the prioritization of the development of these latter higher-order skills, students' ability to transfer knowledge, and the predilection for continuous learning that marks the key shift between traditional models of schooling and deeper learning.

Much of the literature on deeper learning discusses "the 4 Cs" of communication, collaboration, critical thinking, and creativity. Some sources identify additional "Cs" of citizenship, character, and content mastery. Common to all is the development of student capacity to plan and engage in learning independently, having agency in determining how learning will occur and be demonstrated. This sets the table for a future where the ongoing acquisition of new knowledge and skills will define long-term success in any work or career.

The literature also stresses student engagement in identifying and solving authentic "real world" problems, that is, problems grounded in the community, novel problems, or other work that requires consideration of characteristics common to actual workplace settings. Solving such problems requires students to engage with wider audiences than within the school, reaching out to experts and others with knowledge or a stake in problem outcomes as well as preparing to present their learning to others beyond teachers and fellow students and in spaces beyond the classroom. Finally, several sources position technology resources as necessary for students to acquire real world-skills and fully engage in both collaboration and self-directed learning. For some noteworthy definitions from noted deeper learning proponents, see Appendix A.

Instructional Implications of Deeper Learning

During 2016-17, teachers were introduced to a framework for instructional design known as Trudacot: Technology Rich Unit Design and Classroom Observation Template, and in 2017-18, HHSD administrators began using this template to provide walkthrough feedback to teachers. The authors of the framework,

¹ Jobs for the Future,, Students at the Center Initiative. (2014). *Students at the Center Initiative Overview: Engaging All Students for College, Career, and Civic Success*. Retrieved from <https://www.ewa.org/sites/main/files/file-attachments/satc-one-pager-050817.pdf>

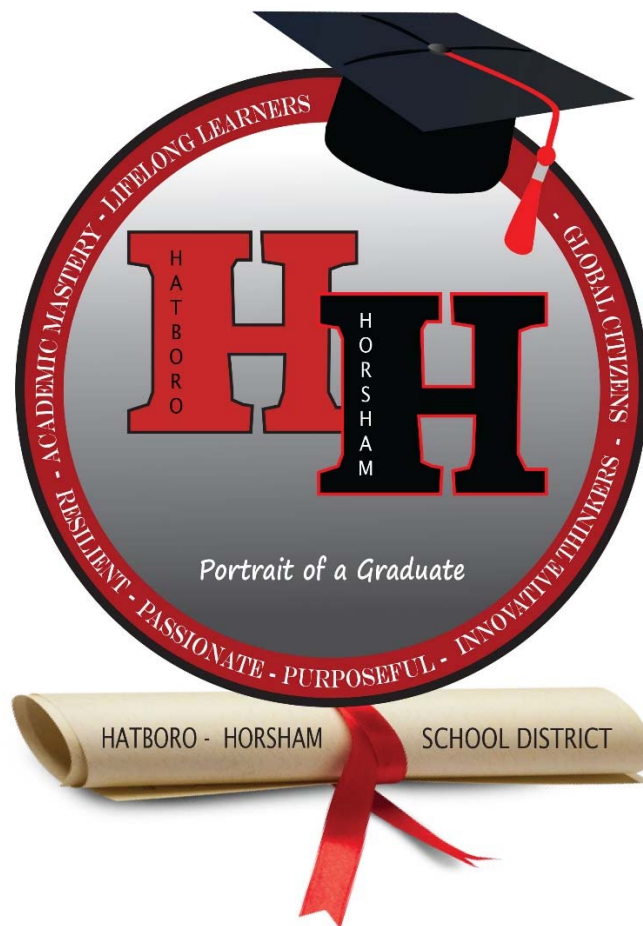
Scott McLeod and Julie Graber, recently renamed the framework the “4 Shifts” framework, reorganizing the areas for feedback around four shifts that define school transformation and deeper learning. The most current version of the framework can be found in appendix B.

The four shifts are described as:

1. Higher-level thinking
2. Authentic work
3. Student agency
4. Technology infusion

Hatboro-Horsham School District’s Portrait of a Graduate

During the 2016-17 school year, Hatboro-Horsham educators engaged in the work of deeper learning by taking time as a building to craft a “portrait of a graduate,” a process of beginning with the end in mind where the desired characteristics of our students are positioned as the outcomes of the scope of the time in our schools. All schools’ work was combined into one common district portrait. Deeper learning can be viewed as the path to developing these characteristics, and there exists substantial overlap between the way these are described and the processes commonly attributed to deeper learning. For a full description of each element of the HHSD portrait of a graduate, see appendix C.



Appendix A: Definitions of Deeper Learning from Leading Proponents

"Teaching Differently, Learning Deeply" (Jal Mehta & Sarah Fine, in Kappan, 2012) offers the following definition of Deeper Learning (p. 33 & 35):

"Students are treated as active meaning makers with the capacity to do interesting and valuable work now. To engage with a subject, in this view, is not simply to receive knowledge but also to create it, mirroring the adult world of historians, movie producers, and other creative professionals. Accordingly, the purpose of school is not so much to prepare students for a hypothetical future as to support them in engaging with the complex challenges that professional work at its best entails. The approach is rooted in a profound respect for who students are and what they can do...[Deeper learning is] a shorthand term for the skills, understandings, and dispositions that develop as a result of engaging in cognitively ambitious tasks."

Here is another definition to consider, from Deeper Learning by Monica R. Martinez and Dennis McGrath (2014):

[Deeper Learning] fully encompasses the educational goals that, taken together, constitute the foundation for developing the single most important ability students should possess: the capacity for learning how to learn. In an ever-changing world-one in which knowledge and its applications have the potential to shift almost daily-nothing is more valuable. More specifically, deeper learning is the process of preparing and empowering students to master essential academic content, think critically and solve complex problems, work collaboratively, communicate effectively, have an academic mindset, and be self-directed in their education. While all of these are vital components of deeper learning we cannot emphasize enough the importance of the final element on this list: self-direction. Students are empowered to be the leaders of their own educational lives are capable of embodying a desire to learn unmatched by any that could be instilled by a parent or teacher" (pp. 3-4).

Michael Fullan and Maria Langworthy offer the following in "A Rich Seam: How New Pedagogies Find Deep Learning" (2014, p. 22):

"Deep learning tasks redesign learning activities to:

1. Restructure students' learning of curricular content (such as national curriculum goals or standards) in more challenging and engaging ways made possible by digital tools and resources.
2. Give students real experiences in creating and using new knowledge in the world beyond the classroom.
3. Develop and assess key future skills, what Michael has called the 6 Cs:
 - **Character education** - honesty, self-regulation and responsibility, hard work, perseverance, empathy for contributing to the safety and benefit of others, self-confidence, personal health and well-being, career and life skills.
 - **Citizenship** - Global knowledge, sensitivity to and respect for other cultures, active involvement in addressing issues of human and environmental sustainability.
 - **Communication** - communicate effectively orally, in writing and with a variety of digital tools; listening skills.

- **Critical thinking and problem solving** - think critically to design and manage projects, solve problems, make effective decisions using a variety of digital tools and resources.
- **Collaboration** - work in teams, learn from and contribute to the learning of others, social networking skills, empathy in working with diverse others.
- **Creativity and imagination** - economic and social entrepreneurialism, considering and pursuing novel ideas, and leadership for action."

Most Likely to Succeed by Tony Wagner and Ted Dintersmith (2015) offers the following characteristics common to successful school programs (p. 205):

"Students:

- attack meaningful, engaging challenges
- have open access to resources
- struggle, often for days, and learn how to recover from failure
- form their own points of view
- engage in frequent debate
- learn to ask good questions
- collaborate
- display accomplishments publicly
- work hard because they are intrinsically motivated"

Appendix B: 4 Shifts Framework (Formerly the Trudacot Framework)

From McLeod & Graber (2018), <https://docs.google.com/document/d/1COUR5p1E1gi-r8Hk0WXfywzVX3Fw6fSNdvHvvgVBJMc/edit>

Higher-level thinking. Deeper learning schools are moving from an overwhelming emphasis on students mostly doing lower-level thinking tasks - factual recall and procedural regurgitation - to students more often engaging in tasks of greater cognitive complexity - creativity, critical thinking, problem-solving, and effective communication and collaboration. In other words, students are living more often on the upper levels of Bloom's taxonomy (or Webb's Depth of Knowledge wheel) than the lower ones.

A. Deeper Thinking and Learning

- **Domain Knowledge.** Is student work deeply rooted in discipline-specific and -relevant knowledge, skills, and dispositions?
 - Yes / No / Somewhat
 - **Deeper Learning.** If yes, is student work focused around big, important themes and concepts that are central to the discipline rather than isolated topics, trivia, or minutiae?
 - Yes / No / Somewhat
- **Critical Thinking.** Do learning activities and assessments allow students to engage in deep critical thinking and analysis?
 - Yes / No / Somewhat
- **Problem Solving.** Do learning activities and assessments allow students to engage in complex and messy (not simple) problem solving?
 - Yes / No / Somewhat
- **Creativity.** Do students have the opportunity to design, create, make, or otherwise add value that is unique to them?
 - Yes / No / Somewhat
- **Metacognition.** Do students have the opportunity to reflect on their planning, thinking, work, and/or progress?
 - Yes / No / Somewhat
 - If yes, can students identify what they're learning, not just what they're doing?
 - Yes / No / Somewhat
- **Assessment Alignment.** Are all assessments aligned cognitively with standards, learning goals, instruction, and learning activities?
 - Yes / No / Somewhat

Authentic work. Deeper learning schools are moving from isolated, siloed academic work to environments that provide students more opportunities to engage with and contribute to relevant local, national, and international interdisciplinary communities. Students begin fostering active networks with individuals and organizations for mutual benefit.

B. Authentic Work

- **Real or Fake.** Is student work authentic and reflective of that done by experts outside of school?
 - Yes / No / Somewhat
- **Authentic Role.** Are students asked to take on an authentic societal role as part of their learning?
 - Yes / No / Somewhat

- *Domain Practices.* Are students utilizing authentic, discipline-specific, practices and processes?
 - Yes / No / Somewhat
- *Domain Technologies.* Are students utilizing authentic, discipline-specific tools and technologies?
 - Yes / No / Somewhat
- *Research and Information Literacy Strategies.* Are students utilizing authentic, discipline-specific research, inquiry, and information literacy strategies?
 - Yes / No / Somewhat
- *Authentic Assessment.* Are students creating real-world products or performances for authentic audiences?
 - Yes / No / Somewhat
 - *Contribution.* If yes, does student work make a contribution to an audience beyond the classroom walls to the outside world?
 - Yes / No / Somewhat
- *Assessment Technology.* Are digital technologies being used in authentic ways to facilitate the assessment process?
 - Yes / No / Somewhat

Student agency. Deeper learning schools are moving from classrooms that are overwhelmingly teacher-controlled to learning environments that enable greater student agency - ownership and control of what, how, when, where, who with, and why they learn. Student agency allows for greater personalization, individualization, and differentiation of the learning process.

C. Student Agency and Personalization

- *Learning Goals.* Who selected what is being learned?
 - Students / Teachers / Both
- *Learning Activity.* Who selected how it is being learned?
 - Students / Teachers / Both
- *Assessment of Learning.* Who selected how students demonstrate their knowledge and skills and how that will be assessed?
 - Students / Teachers / Both
- *Talk Time.* During the lesson/unit, who is the primary driver of the talk time?
 - Students / Teachers / Both
- *Work Time.* During the lesson/unit, who is the primary driver of the work time?
 - Students / Teachers / Both
- *Interest-Based.* Is student work reflective of their interests or passions?
 - Yes / No / Somewhat
- *Initiative.* Do students have the opportunity to initiate, be entrepreneurial, be self-directed, and/or go beyond given parameters of the learning task or environment?
 - Yes / No / Somewhat
- *Technology Selection.* Who selected which technologies are being used?
 - Students / Teachers / Both
- *Technology Usage.* Who is the primary user of the technology?
 - Students / Teachers / Both

Technology infusion. Deeper learning schools are moving from local classrooms that are largely based on pens/pencils, notebook paper, ring binders, and printed textbooks to globally-connected learning spaces that are deeply and richly technology-infused. The new affordances

of mobile computing devices and online environments allow the first three shifts mentioned here to move into high gear.

D. Technology Infusion

- *Communication*. How are students communicating?
 - Alone / In pairs / In triads / In groups larger than 3
 - If with others, with whom? (circle all that apply)
 - Students in this school / Students in another school / Adults in this school / Adults outside of this school
- *Communication Technologies*. Are digital technologies being used to facilitate the communication processes?
 - Yes / No
 - If yes, in which ways? (circle all that apply)
 - Writing, photos and images, charts and graphs, infographics, audio, video, multimedia, transmedia
- *Collaboration*. How are students working?
 - Alone / In pairs / In triads / In groups larger than 3
 - If with others, with whom? (circle all that apply)
 - Students in this school / Students in another school / Adults in this school / Adults outside of this school
 - If with others, who is managing collaborative processes (planning, management, monitoring, etc.)?
 - Students / teachers / both
- *Collaboration Technologies*. Are digital technologies being used to facilitate collaborative processes?
 - Yes / No / Somewhat
 - If yes, in which ways? (circle all that apply)
 - Online office suites, email, texting, wikis, blogs, videoconferencing, mind mapping, curation tools, project planning tools, other
- *Technology Adds Value*. Does technology add value so that students can do their work in better or different ways than are possible without the technology?
 - Yes / No / Somewhat
- *Technology as Means, Not End*. When digital technologies are utilized, do the tools overshadow, mask, or otherwise draw the focus away from important learning?
 - Yes / No / Somewhat
- *Digital Citizenship*. Are digital technologies utilized by students in both appropriate and empowering ways?
 - Yes / No / Somewhat

Appendix C: HHSD Portrait of a Graduate Descriptors

1. Lifelong Learners

Lifelong learners have the desire to learn and the capacity to be self-directed in their learning. They are diligent learners who manage their time effectively in the pursuit of their ongoing educational needs. They are proactive in anticipating the need for new learning as well as identifying data and information needed for thoroughly exploring solutions. They have the capacity to select appropriate resources for their learning and capably identify credible sources of information.

2. Global Citizens

Global citizens effectively communicate across media to meet specific needs of a variety of audiences. They demonstrate cultural awareness and appreciate diversity. They exhibit social responsibility within their various communities and are conscientiousness in their actions. They are effective advocates for others. They possess strong collaboration and teamwork skills. They are aware of the impact of their words and actions in both digital and traditional modes of communication. They are open-minded and good listeners. They balance these qualities with the abilities to compromise and advocate for their own needs.

3. Resilient

Resilient students exhibit emotional health, confidence, self-reliance, and are intrinsically satisfied with their circumstances, grounded in the belief that they can positively effect change for their own betterment. They take steps to be happy in their lives. They adapt as circumstances change and are flexible in their pursuit of solutions. When faced with adversity or failure, they possess persistence, grit, and determination in their ongoing push to resolve problems and find success.

4. Purposeful and Passionate

Purposeful and passionate individuals exhibit strong character and leadership skills. They are compassionate and exhibit empathy in their interactions with others. They are mindful, self-aware, reflective, and possess emotional intelligence. They set goals and plan effectively to meet those goals. They take ownership of projects and problems and are reliable in their work. They deeply engage in tasks and are empowered to advocate for change. They are able to motivate themselves and others. They are characterized by sincerity in their deeds and actions. They are attuned to their own strengths and desires, and engage in work that is meaningful to them.

5. Academic Mastery

Students who exhibit academic mastery have a grasp of the essential disciplinary knowledge and skills that comprise a well-rounded intellectual. They adeptly discern the essential information needed to understand a problem. They are skillful at identifying credible sources of information and observant of standards for fair use and citation when using the work of others. Their work and interactions are guided by highly evident literacy and numeracy.

6. Divergent and Innovative Thinkers

Divergent and Innovative thinking applies critical thinking and creativity toward problem solving. Students are observant, ask questions, and actively seek improvement to existing strategies and solutions. They are curious about the rules, systems, and processes that frame a problem. They are capable and resourceful in leveraging technologies to manage information and solutions. They are able to perceive the systems that drive processes and identify components for improvement when solving systemic problems. They value unusual and diverse viewpoints in seeking solutions and are comfortable with challenging the status quo.