

Curriculum Model for Mastery-Based Learning By Caroline Gordon Messenger, Ph.M.

We had begun a short unit of study on Greek heroes, immediately following an introductory unit on Greek mythology and the gods and goddesses of Mount Olympus. My students had read more than 14 myths where they extracted information about each god as well as what the myth revealed to them about Greek culture.

For instance, one student had observed that the Greeks believed in arranged marriage because when Hades kidnapped Persephone from her mother Demeter, goddess of the harvest, no one intervened. He inferred that women must not have had the same rights as men, and therefore were treated more like property than a person.

My students completed a summative project where they created a guidebook to the gods and goddesses, including a map of the Underworld. Then we began an authentic learning task around six important heroes – or demigods. In this task, students were in groups of three with defined roles – the researcher, the organizer, and the poet. They had to research the famous stories of their hero, his family tree, and information they determined to be important. They had to create a poster with illustrations, summaries of the stories they uncovered in their research, a family tree including his parents and his children, and a poem celebrating his great deeds and mourning his downfall.

As we began the work and they determined their roles, one student said, “We usually just learn some stuff and take a test. It never comes up again. This is hard!”

This is rigor. This is challenge and opportunity. This is the heart of mastery-based learning.

A new model for developing curriculum in a mastery-based environment

The long-standing question – and the stumbling block I have come up against – is what curriculum for mastery-based learning looks like. It shouldn't mirror traditional units of study and traditional models of curriculum. It should provide a guide for how students can demonstrate mastery because the knowledge and skills never disappear. Opportunities for continuous growth and improvement should be present throughout the curriculum, and they should be integrated and organic.

A traditional curriculum model is linear – students learn selected skills and study a particular knowledge set, complete an assessment, and move forward. A linear model does not allow for students to revisit concepts or vary the pace. Knowledge and skills are taught and assessed, and the next unit of study may or may not build on those skills. It may or may not offer multiple and flexible pathways to mastery within an environment where time is not the constant. A linear curriculum model pushes students forward, whether they are ready for the push or not.

A mastery-based curriculum model is concentric: knowledge and skills are presented as foundational and become the prior knowledge all students share. Mastery and proficiency aren't necessarily required to move forward as – like a

stone thrown into a pond – the core ripples and widens, allowing multiple opportunities to practice, refine and grow skills by building on their knowledge base.

The end of a unit of study shouldn't be the last word on a subject or skill set. Future units should require the use of those skills to move forward in order to build understanding.

The constant comparative method (Glaser & Strauss, 1967) was developed for researchers taking in data. Rather than wait until all data were collected, Glaser and Strauss suggested that data should be continually compared while it is being collected so that the researcher can better understand what she has and where she might want to direct her data collection. It allows researchers to engage in the research process with questions that can be fluid and changeable – dependent on the data as they are collected – not as a finite data set at the end of the collection process.

This model for research methodology is well-suited to the educational process of curriculum development and pedagogy. When teachers are constantly comparing student work, they can make better instructional decisions. When students are constantly comparing their performance on specific standards, they can make more informed decisions about where to focus their efforts. To support this constant comparative method, a new model of curriculum development and design that supports mastery-based learning must emerge.

This model – called The Core (fig. 1) – embraces at its heart a small set of skills of knowledge. The First Core should not assume prior knowledge. Instead, the first core unit(s) of study should build background knowledge or elaborate on it. When students don't have prior knowledge of content or skills, they know it. They know they are behind others, and they struggle to keep up, rather than forge ahead. (Krashen, 2004) Rather than assume knowledge, instructors can choose to build it, and this carefully chosen, artfully crafted beginning forms the basis of the work that will be established in the curriculum.

For example, the ninth grade English/Language Arts curriculum in my district focuses on Greek mythology and builds students' prior knowledge of the Greek gods and goddesses, specific literary devices associated with theme, characterization and author's purpose, and connections between literature and culture. In the first core, students would create a foundation upon which they can then use their knowledge and skills to deepen their understanding of these curricular elements.

The Second Core, then, would take this newly forged prior knowledge and apply it. The application of this prior knowledge would build new skills and knowledge that are firmly rooted in the foundation created in the First Core. Connections are created that link what students have learned with what they will learn. And they could not achieve a deeper understanding without first creating a foundation. For example, once students had achieved an understanding of Greek gods and goddesses and attempted connections between myths and culture, students were engaged in guided inquiry about the Greek heroes. As explained above, students engaged in research and evaluating sources in order to create their own knowledge of the Greek hero's life. Provided with a brief summary and a few web addresses, students have to plan, organize, research, evaluate and create a poster that other

students could examine in order to learn about their hero. They could not successfully achieve new knowledge about Greek heroes without a foundation of Greek mythology. They could not wrestle with why this culture created these myths and glorified these men for a particular purpose. Students in the Second Core of learning deepened their understanding as they built their skills and knowledge.

By the Second Core, students should be aware of the pattern – that previous studies inform new studies, and connections are firmly established for students to use and rely upon as they begin the work of achieving deeper understandings.

Units of study contained within the Third Core begin the process of the constant comparative method. Students take their skills and knowledge and begin to analyze how it connects and drives their learning process. Student voice and choice become the focus of the Third Core as instructors begin a gradual release of control over the content. Students engaging in curriculum contained in this core compare what they know and are able to do with what they want to know and be able to do with their skills and knowledge. For example, my students are entering the Third Core, and are faced with choices about what they want to read and how they want to study what they read. The initial unit in this core is titled “Perception and Identity,” and student choice is funneled into literature that addresses issues of perception and identity, like Mark Twain’s *Tom Sawyer*, Laurie Halse Anderson’s *Speak*, Suzanne Collins’ *Hunger Games* or Veronica Roth’s *Divergent*. Students can self-select literature that has captured their interest. Teachers can offer literature at a variety of levels to meet the needs of students and personalize the learning.

Activities do not have to be about a particular book. They can focus on a concept, skill or knowledge set that will inform their reading and their learning. Third Core curricular units should foster independence and student voice as they begin the process, with teacher facilitation and guidance, of designing their own assessments and understanding the graduation standards and performance indicators well enough to self-select how they want to be assessed and even rationalize *why* they want to be assessed in this way.

Fourth Core curriculum units foster independence in concepts, research, project design and assessment. While students will be ready for different levels of independence at different times, teacher facilitation is critical as it takes the form of student-teacher conferences, student pairings for feedback and collaboration, and personalized, one-on-one organizers and assistance. The Fourth Core is an excellent curricular opportunity for teachers and librarians to collaborate and cooperate on how best to help students develop research skills and engage in independent learning. For example, students develop Fourth Core learning plans. Plans can be scaffolded with sentence starters or clear and concise graphic organizers students can choose to use should they need the assistance in developing their plan. Library/media specialists and teachers can use the stages of the Information Search Process (Kuhlthau, n.d.) to identify when students need assistance getting past information overload or confusion about their topic. The ISP can act as a diagnostic tool for both teachers and library/media specialists to guide students through their inquiry and toward successful completion.

In my curriculum document for ninth grade ELA, students end their year with a four- to six-week unit that is completely driven by their own interests. Skills in

interpreting, analyzing and evaluating text become critical to how they seek and acquire information. Skills and knowledge about mythology, identity, culture and society will be essential to how they begin to interpret and analyze information in order to draw conclusions and create new knowledge. Self-efficacy and agency will be critical components to how students select the standards by which they will be assessed. (Messenger, 2013)

The Core model of curriculum design

At the heart of The Core model is knowledge-building that resonates outward into all subsequent units of study. Students aren't following a line of inquiry because, quite simply, there is no line. Instead, students follow a ripple that starts small and radiates outward. (Fig. 1) The concentric nature of the model lends itself to knowledge and skills that are revisited, built upon, expanded and, ultimately released into the hands of the students as they shape it into something new and of their own design. Think of it as a glass you slowly fill with water. At first, you may be hesitant to fill it too quickly or too much. But as you become more comfortable with the weight of the glass, the speed of the water as it pours from the faucet, and your desire to acquire it, it becomes quickly and comfortably full.

New skills and knowledge are always intimidating, and not everyone will learn in the same way at the same time. Pacing is critical in a mastery-based environment, and current models of curriculum design do not allow for flexible time management. The Core model encourages flexibility by its structure. Start with a small, essential core of knowledge and skills and offer multiple, flexible and leveled opportunities to achieve mastery.

References

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Mastery-based learning: theory of curriculum development

The fourth core unit(s) of study asks students to use foundational, prior knowledge to acquire new information through research, guided inquiry and authentic learning tasks to create their own understanding of how knowledge and skills build on each other.

Fourth core: **Create** new knowledge and **evaluate** skills

First core unit(s) of study introduces knowledge and skills: **building prior knowledge**

Second core: **applying** prior knowledge and skills

Third core: **Analysis** of multiple sources of information or data sets

First unit(s) of study should build prior knowledge and never assume understanding or skill sets. This core becomes foundational for the learning plan.

The third core unit(s) of study uses acquired knowledge and skills to obtain new knowledge and skills that constantly compare what they know and are able to do with what they want to know and what they want to be able to do.

Subsequent unit(s) of study applies knowledge and skills acquired to new knowledge and skills. Connections are solidly aligned to prior knowledge and form the basis for future learning.