A curriculum map for a year-long, fifth-grade, multidisciplinary project takes a performance view of understanding from Harvard University Project Zero's Research Center. Throughout the project and in each assessment of understanding, learners show what they know about human evolution. This guide to deep disciplinary understanding of the big idea "human evolution" extends the School District of Philadelphia 2001 English Language Arts (ELA) curriculum to multiple intelligences (MI) as its primary theoretical base. The map, which uses Howard Gardner's new paradigm MI approach as its specific instructional design theory to provide all children with an education for power and consequence, connects science, ELA, social studies, and the arts. (NKA)
The Human Story
From Hominids to Homo Intelligens
A Curriculum Map for 5th Grade

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Inside: A curriculum map for a year long, 5th grade, multidisciplinary project takes a performance view of understanding from Harvard University Project Zero's Research Center. Thus, throughout the project and in each assessment of understanding, learners show what they know about human evolution.

More so, this guide to deep disciplinary understanding of the big idea human evolution extends the School District of Philadelphia 2001 English Language Arts (ELA) curriculum to multiple intelligences as its primary theoretical base. The map uses Howard Gardner's new paradigm MI approach as its specific instructional design theory to provide all children with an education for power and consequence.
Understanding goals

1. How will students understand human evolution?
2. How will students understand the 21st century basic skills thinking, learning, and creating (TLC)?

Note. This curriculum map connects science, ELA, social studies and the arts. In addition, it addresses the questions that Sharon Stone Wiske from Harvard Project Zero poses.

1. What topics are worth understanding?
2. What about these topics needs to be understood?
3. How can we foster understanding?
4. How can we tell what students understand?

Note. Four assessment tools shape ongoing assessments of understanding.

These tell what students understand:

1. Observations, (searching for evidence of understanding; searching for evidence of each child’s Ml profile)
2. Documents (selected written documents that demonstrate understanding and build new understanding)
3. Performances of understanding (both paper and non paper and pencil works that demonstrate understanding)
4. Portfolios (best works in hard copy and/or electronic storage)
Note. David Perkins defines understanding from a performance view. "People can act and think flexibly with what they know." Howard Gardner adds, "understanding is the capacity to "transfer knowledge to a situation for which that knowledge is appropriate."

Each performance of understanding assessed in this curriculum map requires students to show what they know. Each one also helps students to build new understanding as well.
**MI approach**

Point of entry

Human life span images

Powerful metaphor

Human Zygote

Multiple representations of core ideas

Note: Howard Gardner’s MI approach is the specific instructional design theory used to achieve deep disciplinary understanding (of evolution). Gardner’s multiple intelligences theory and Harvard University Project Zero’s teaching for understanding framework serve as theoretical supports for this curriculum map.

Note. In this project, depth of understanding takes center stage. The suggested assessments that comprise the multiple representations leading to deep disciplinary understanding have several activities each. Thus, each of the 15 assessments cited in the curriculum has many other assessments within it. The teacher using this curriculum has the freedom to adapt it to his or her situation, creating as many activities as needed to assure depth of understanding in all learners.
However, the key writing experiences are non negotiable. In order to practice the 21st century basis skills, students must write an information piece, a narrative piece, a persuasive piece, a research paper, and a set of scenarios. These become items in a hard copy and/or electronic portfolio. Each can be assessed with a public rubric to describe the quality of writing. For example, for the persuasive essay. Heidi Ardrade Goodrich’s rubric for persuasive writing is one of the best available.

In all, the multiple representations (activities and assessments) suggested shape a year long, multidisciplinary project with a lot of room for the Arts and additional materials that deepen students' understanding of human evolution.

Note. For additional depth, the following subject area projects may be added:

- Science: study of human cells and a set of individual science fair projects about the growth stages of a living thing under controlled conditions
- Social Studies: study of a city such as New Orleans to see how it evolved as a result of human migration
- Theater: study of changes in a character during the time span of a play
- Literature: study of changes in a character or idea during the time span of a fiction or non fiction story
• Music: study of changes in a single song, opera, jazz composition or a single body of work in a great composer (Duke Ellington, Mozart, Sting, Bob Marley, Lauren Hill etc.) or study of how a single instrument evolved

• Art: study of paintings with Harvard Project Zero's QUEST games; study of changes in a single artist over time
Ongoing assessments

1. Creating a montage of pictures of human beings at all ages
2. Creating a visual timeline representing the stages of a single human being's life span and other thought demanding tasks such as creating a photo album of three or more generations in a family
3. Creating a knowledge as design slide show about growth of the human zygote from single cell to newborn child and other thought demanding tasks such as growing a classroom ecosystem to observe the life cycle of at least one living thing
4. Creating a personal narrative
5. Studying Maya Angelou's "On the pulse of morning" and creating a knowledge as design analysis
6. Studying Yves Coppen's "East Side Story" (Scientific American) and writing both a knowledge as design analysis and an informational essay as well as other thought demanding tasks
7. Studying *Time* magazine's essay on human evolution and writing both a knowledge as design analysis and a short story as well as other thought demanding tasks
8. Studying the film series "Roots" and "Next Generations" as extended metaphors for evolution; writing a series of knowledge as design analyses for critical viewing, creating other thought demanding tasks such as doing a family tree and writing a persuasive essay
9. Conducting an Internet search on human evolution and other thought demanding tasks
10. Writing a research paper as well as other thought demanding tasks
11. Conducting a Science fair project about evolution as well as other thought demanding tasks
12. Presenting the research paper and science fair project
13. Writing best, worst, and probable scenarios about how humans might evolve over the next 10,000 years as well as other thought demanding tasks
14. Presenting scenarios in a video taped mini conference for parents and peers
15. Finally, creating a service learning project that helps other people to evolve

Note. Harvard Project Zero's Critical Squares Games may be used to deepen critical thinking about any core readings on human evolution. These games include ones that help learners to understand cause-and-effect relationships. They can be played strategically many times in a given year. They yield informal (non graded) performances of understanding.
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