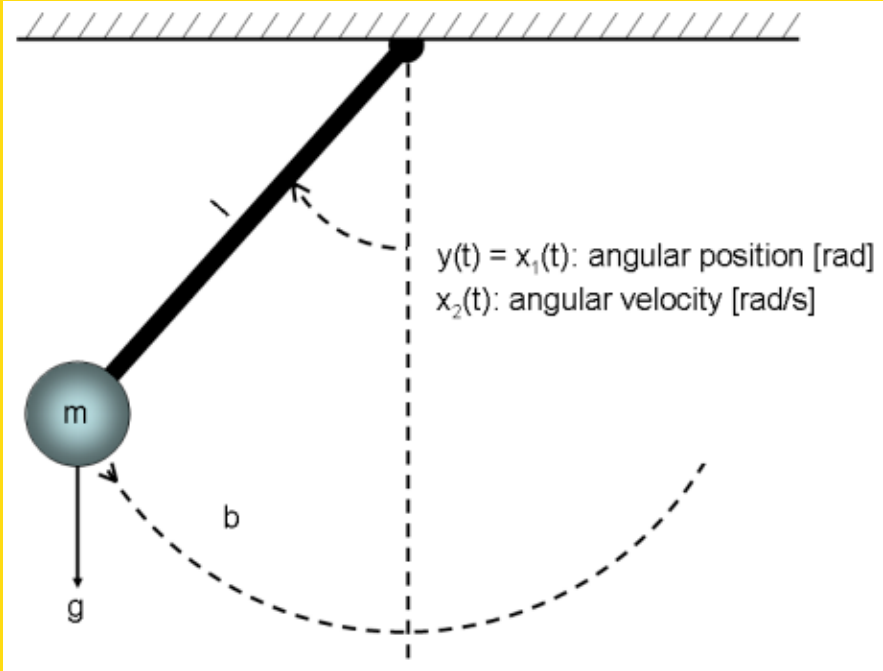
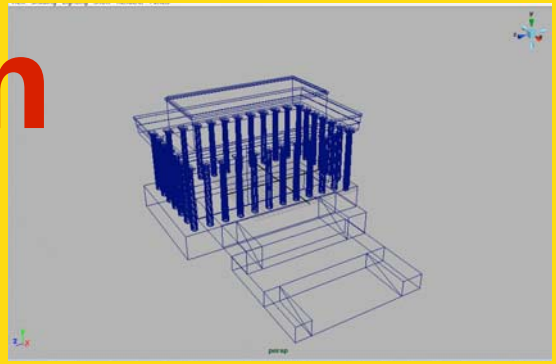
The Sword and the Pendulum



Studio Thinking and Game Design



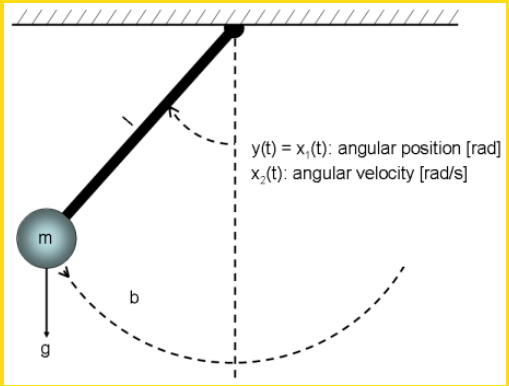
Dr. Kimberly Sheridan
Assistant Professor
Educational Psychology/Art and Visual Technology
Dr. Kevin Clark
Associate Professor
Director of Instructional Technology and Education
George Mason University

Game Design through Mentoring and Collaboration

- 3 year NSF ITEST project
- Collaboration with McKinley Technology High School in Washington, DC
- Year-round (Saturdays and summer sessions)about 150 students (primarily African-American aged 9-19)
- 3-D modeling, animation and game design (using Maya, Alice, Virtools, Gamemaker etc.)
- Advanced students serve as mentors to beginning students
- Goals around connecting to STEM education, engaging traditionally underserved students, building a pathway to college and careers

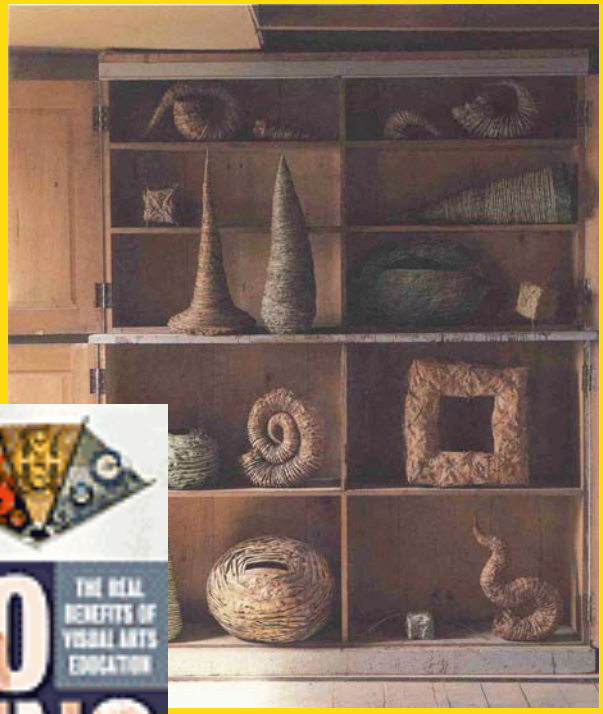
How can we characterize and assess learning in game design?

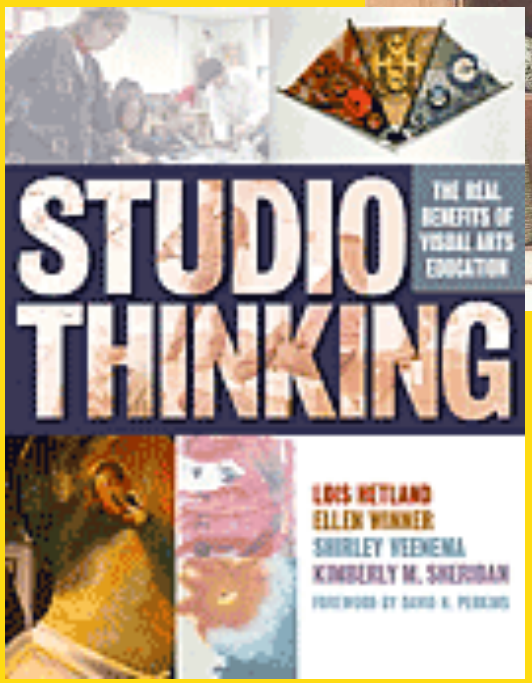
Narrative and logical
Imaginative and technical
Art and engineering



Harvard Project Zero

STUDIO THINKING PROJECT





Hetland, L., Winner, E., Veenema, S. & Sheridan, K. (2007). Studio Thinking: The real benefits of visual arts education.

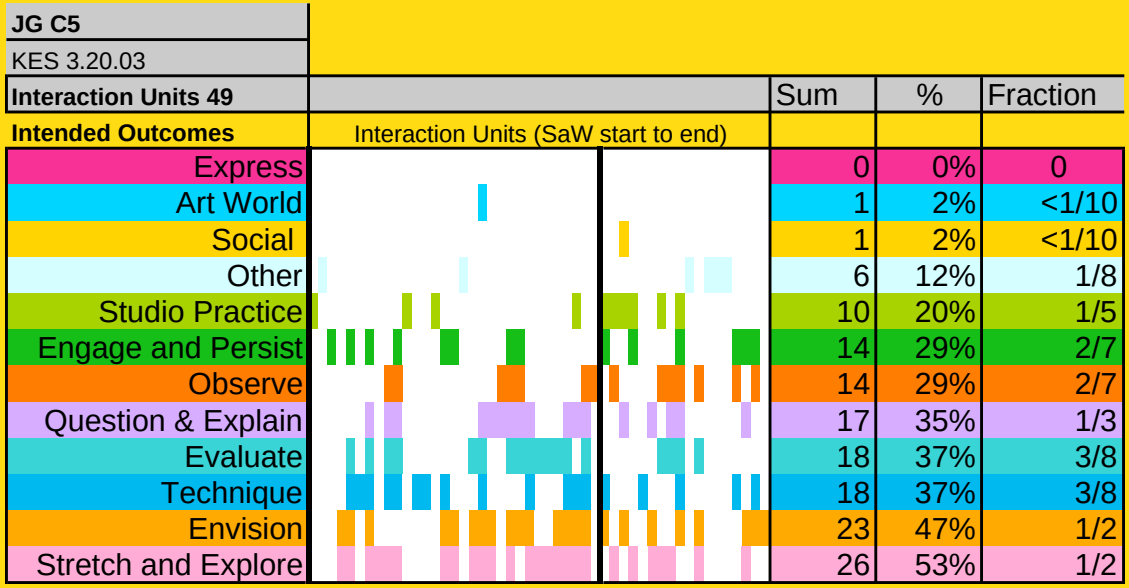
Studio Thinking Project

What is taught/learned in studio arts classrooms?
How and why is this done?

- Repeated interviews with teachers in different contexts
- Observation of studio classes (app. 100 hours)
- Repeated portfolio interviews with students (ranging from 1 semester to 4 years)
- Close analysis of student-teacher interactions in video-recorded classes

Close analysis of video-recorded classroom interactions

- Focused on informal "Students at Work" time
- Analysis of each interaction between teacher and student(s) for the habits of mind intended to be taught
- Blind inter-rater reliability in coding (Cohen's Kappa .70-.95)
- Look for patterns and how they connect to concepts emerging in the interviews



3 Studio Structures

Students-at-Work

Demonstration-Lecture

Critique

Studio Transitions

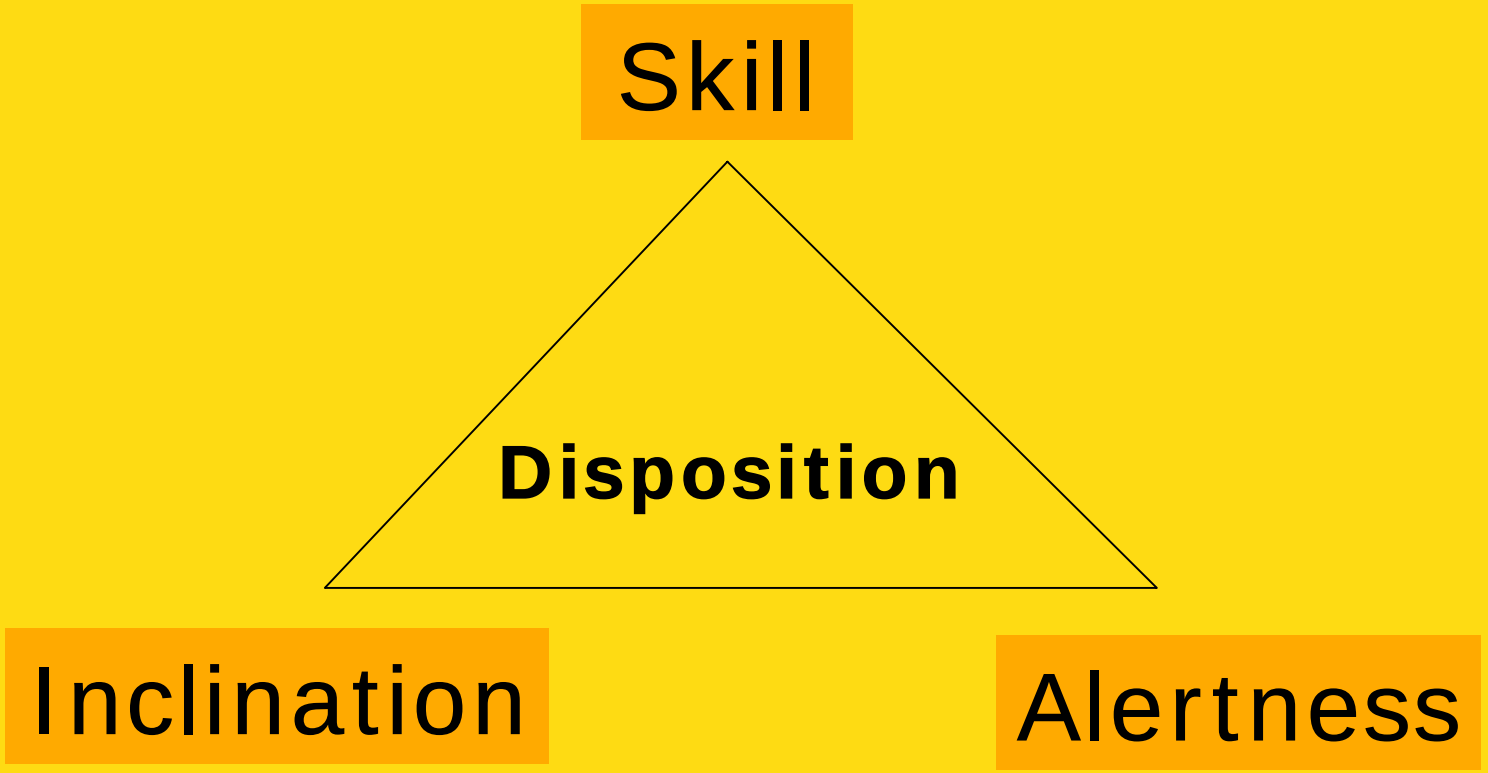
Lecture/Demonstration

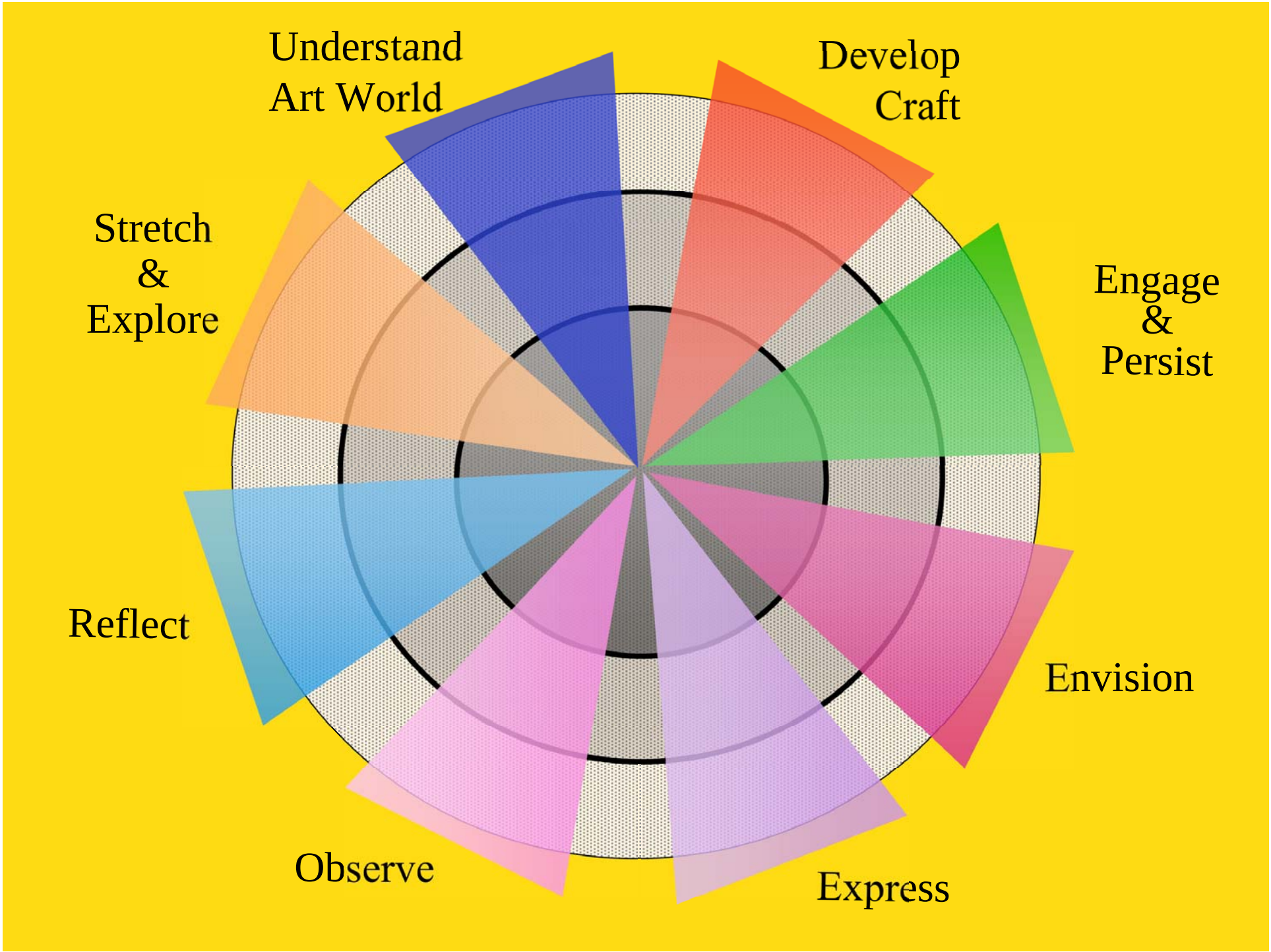
Students at Work

Critique

8 Studio Habits of Mind

8 habits of mind that teachers, across different art media, educational visions, and contexts, intend to help their students develop through working in the visual arts.




Understand
Art World
Develop
Craft
Stretch
&
Explore
Engage
&
Persist
Reflect
Envision
Observe
Express

Observe and Develop Craft

“Observational Problem-solving”

Observe, Envision, Stretch & Explore and Develop Craft

“Observational Problem-finding”

Growth in studio habits of mind

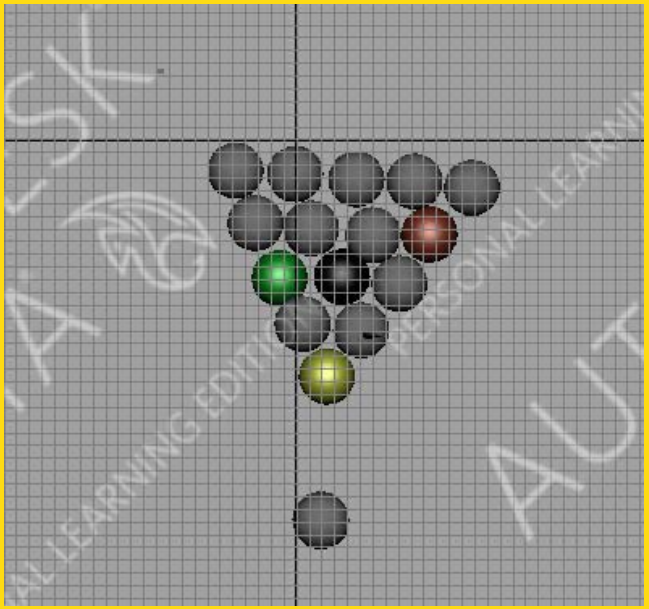
Using the Studio Thinking Approach in Game Design

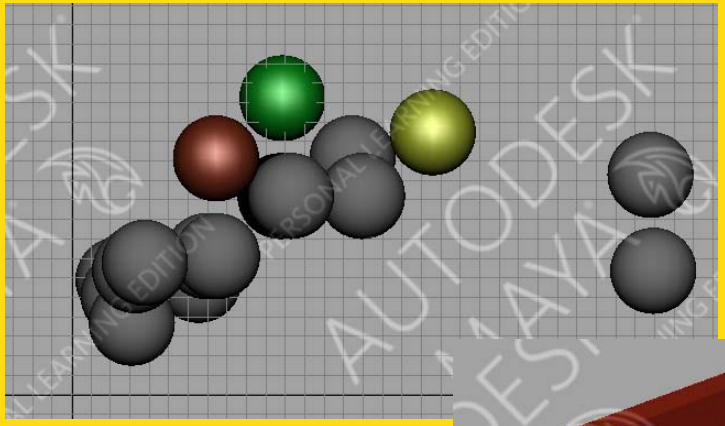
Framework for teaching: Particularly helpful for teachers coming from technology/computer science backgrounds to create studio environments and understand artistic learning process

Characterizing and assessing learning: 8 Studio Habits of Mind important aspects of game design, good at characterizing the “sword”—the artistic aspects of game design

Describing Studio Habits of Mind in new context

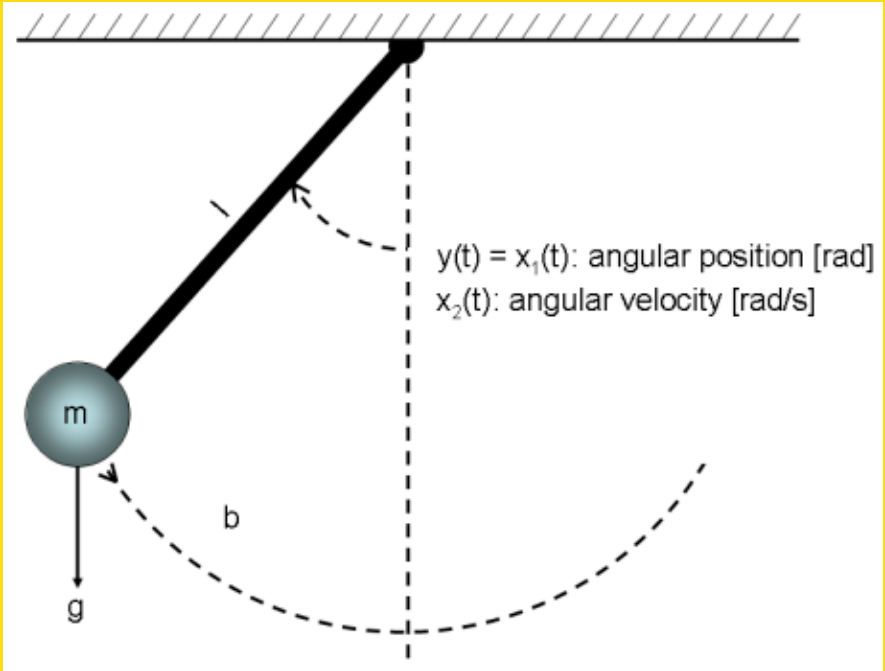
Envision in simple 3D modeling





The Sword and the Pendulum

Research methodology: Use the Studio Thinking research methods to build a model that captures the integration of “the sword and the pendulum”



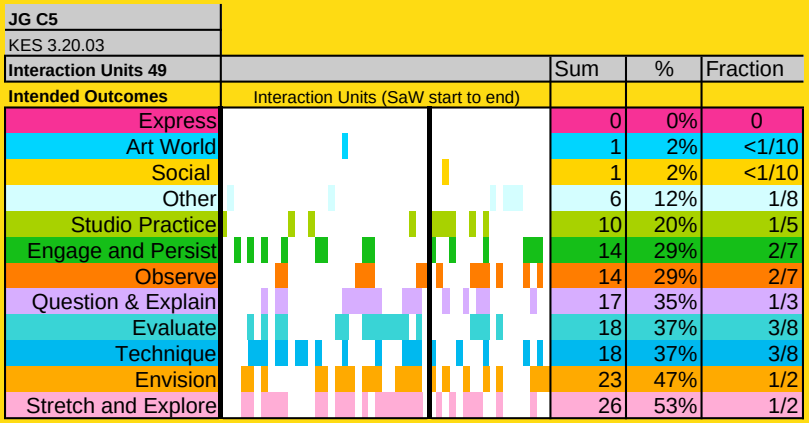
Studio Thinking methods and the learning in game design/simulations/modeling

Big Picture:

Look in multiple diverse contexts
Interview teachers about their goals/intentions
Field observers responses to the class as a whole
Repeated interviews with students

Building Blocks:

Close analysis of the intended learning in the moment-to-moment interactions looking for building blocks of learning and different ways they combine



The Sword and the Pendulum: Understanding the Potential in Game Design Education