Louisiana Department of Education
Mentor Teacher Training

Module 5:
Facilitating Disciplinary Literacy

Secondary Universal Cohort

Facilitated by Learning Forward

Mentor Training Goals

1. Build strong relationships with their new and resident teachers.
2. Use quantitative data (i.e. student achievement results from summative and formative assessments) and qualitative data (i.e. student work and feedback, classroom observations, peer and supervisor feedback) to identify and prioritize new and resident teacher's strengths and areas for growth based on teacher **certification competencies and performance expectations**.
3. Implement a continuum of support and coaching techniques to build new and resident teacher knowledge and skill in content and content-specific pedagogy and self-analysis and reflection skills.
    - Set short- and long-term professional growth goals based on student results.
    - Create a logical sequence of coaching opportunities to build new/resident teacher's skill over time to reach goals.
    - Identify and leverage high-quality, evidence-based resources to support new and resident teachers' specific needs.
    - Lead effective feedback/coaching conversations grounded in student evidence (includes difficult conversations).
    - Track new and resident teacher progress.
    - Model and facilitate resident self-reflection and improvement.
4. Deepen content knowledge and content-specific pedagogy to support continued development of teacher competencies in the respective content areas.
5. Assess and develop mentor competencies in their discipline to identify strengths and gaps and to develop areas of need. These assessments are based on competencies and student results.

Module 5 Outcomes

Mentor teachers will:

- Review and reflect on assignments and their contribution to the mentor distinction criteria.
- Compare and contract two approaches to literacy instruction and their impact on classroom instruction in disciplinary literacy.
- Understand the shifts in and components of literacy instruction and explain how these components work together in support of Louisiana's goal of all students reading, understanding, and expressing their understanding of complex texts and academic success in all disciplines.
- Describe the relationship between content knowledge and reading comprehension.
- Distinguish between volume of reading and close reading.
- Apply strategies for integrating disciplinary literacy within your content area.

Module 5 Key Points

- We must make the following "instructional shifts" in order to reach our ELA goal:
    - Give students regular practice with complex text
    - Ground all reading, writing, and speaking in textual evidence
    - Build knowledge through content-rich nonfiction
- The shifts describe the key shifts in practice that are necessary to meet standards and prepare students for college and career.
- Teachers from all disciplines should build reading, writing, and speaking skills grounded in evidence from text, both literary and informational.

Module 5 Agenda

8:30-12:00

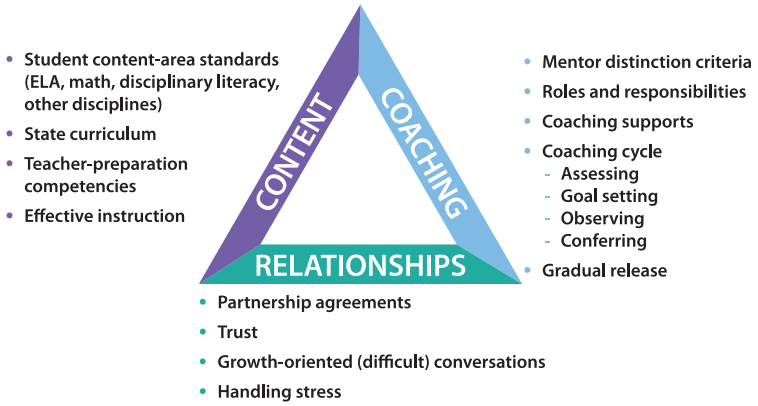
- Revisit Modules 3 & 4 - reflection on assignments
- Understanding the instructional shifts in literacy
- Text complexity

12:45-4:00

- Building conceptual coherence
- Application to content areas
- Session wrap-up and next steps

Agreements

- **M**ake the learning meaningful
- **E**ngage mentally and physically
- **N**otice opportunities to support the learning of others
- **T**ake responsibility for your own learning
- **O**wn the outcomes
- **R**espect the learning environment and the use of personal technology



Reflections on Module 3-4 assignments

Co-teaching reflection

1. What agreements did you establish prior to co-teaching? How did you decide those were the most important ones to establish?
2. What were the learning goals for you and your co-teacher for this co-teaching experience? How did you assess your success?
3. Which co-teaching method(s) did you use? Describe the factors you and your resident teacher/colleague considered to choose the co-teaching method you did.
4. What unanticipated surprises, issues, or challenges did you encounter and how did you and your co-teacher handle them? If you didn't have any, what might have contributed to the absence of them?
5. What will you do in future co-teaching situations, particularly with resident teachers, that will strength the opportunity for both teacher and student learning?

Culturally responsive teaching

1. I am more aware of my students' culture because I [describe actions you are more conscious of taking now in relation to one or two specific students in your classroom and how those actions are affecting the students] . . .
2. I am striving to apply [which principle of culturally responsive teaching] by [describe actions you are intentionally taking and their effects on students' opportunity to learn].
3. What I understand now about the significance of culturally responsive teaching is. . .
4. I can help resident teachers become more culturally responsive in their teaching practices by . . .

Reflection conversation

1. Describe briefly the reflection conversation. With whom did you hold the conversation? What was the teacher's learning goal? What was the student learning goal?
2. Which stance (consult, collaborate, mediate) did you intend to take? Explain your reason for selecting this stance?
3. What were some prompts or questions you prepared/selected for the conversation? Analyze how two of those prompts or questions aligned with your selected stance.
4. What did you learn about your use of communication skills (listening, pausing, paraphrasing, and positive presuppositions) during the reflection conversation?
5. What did the teacher learn as a result from this reflection conversation?
6. What did you learn as a mentor from this reflection conversation?

Successes	Challenges	Insights

Defining literacy in the 21st century:

Louisiana's Student Goal

All of Louisiana's students will be able to:

Read complex texts
Understand complex texts
Express their understanding of complex texts

By 2020, 65% of all jobs will require postsecondary education or training.

-"Recovery Report: Job Growth and Education Requirements through 2020"
Georgetown University Public Policy Institute, Center on Education and the Workforce

To ensure future economic sustainability, we must prepare all students to access postsecondary opportunities.

Video: Why literacy? Scholastic Conference, 2013. Speakers: *David Liben* and *Meredith Liben.*

What resonates with you?

What surprises you?

What questions do you have?

Disciplinary Literacy Competencies

INTRODUCTION

Disciplinary Literacy Competencies identify what a teacher candidate must know and be able to do to teach reading and literacy effectively in the context of certification areas other than English Language Arts (e.g., middle grades and secondary science or social studies). These competencies are applicable to teacher candidates who are pursuing certification for grades 4-8 or 6-12 in any content area other than English Language Arts.

A. The teacher candidate applies knowledge of the theoretical and evidence-based foundations of reading and writing processes and specific disciplinary literacy expectations as described in academic standards to select or design and implement an integrated and comprehensive curriculum that develops students' understanding of content.

1. The teacher candidate explains the research and theory of disciplinary literacy and demonstrates discipline-specific reading and writing skills.
2. The teacher candidate explains how disciplinary literacy skills are necessary for learning content and expressing understanding of content through writing and speaking based on the academic standards for their certification content area.
3. The teacher candidate selects or designs and implements discipline-specific curriculum and instructional materials which incorporate technology to support instructional goals and objectives for the disciplinary literacy demands of the certification content area and differentiates the materials for the range of literacy needs of adolescent readers.
4. The teacher candidate selects, assesses the accuracy and credibility of, and uses a range and volume of print, digital, visual, and oral discipline-specific texts (e.g., primary and secondary sources in social studies or current research, informational journals, and experimental data and results in science) as instructional tools.

B. The teacher candidate applies knowledge of disciplinary literacy to select and use appropriate and varied instructional approaches to build all students' ability to understand and express their understanding of discipline-specific content through reading, writing, speaking, and language.

1. The teacher candidate provides opportunities for students to learn and use vocabulary and language specific to the certification content area, practice discipline-specific reading and writing strategies, and gain and express understanding of content by exploring key questions through grade-level print, digital, visual, and oral discipline-specific texts.

C. The teacher candidate applies knowledge of disciplinary literacy to select or design and use a range of ongoing classroom assessments (e.g., diagnostic, formal and informal, formative and summative, oral and written) which measure students' mastery of grade-level standards in order to inform and adjust planning and instruction.

1. The teacher candidate assesses students' ability to understand and use discipline-specific vocabulary and language; gain knowledge and understanding of content through grade-level, discipline-specific texts; and express their knowledge and understanding through speaking and writing.
2. The teacher candidate uses trends in assessment results to plan lessons, make adjustments to instruction, and provide remediation and enrichment opportunities for students.

Experiential #1: Pre-Shifts

Directions: As you read, make at least one meaningful connection (to self, text, or world).

The Story of Prometheus

Once upon a time, a long time ago, the gods ruled the people of the earth. For a while the people had been happy, but now they were not. Their lives were hard.

Jupiter was the head of the gods, and he was not happy with the people. He thought they complained a lot about their hard lives. He thought they did not respect the gods as they should.

One of the other gods was named Prometheus. Prometheus was different from Jupiter. He felt sorry for the people of the earth. He could see that they were very unhappy. “I will help these poor people,” said Prometheus to himself. “I will bring fire to these people, and this will make their lives better and happier.”

So, Prometheus stole some lightning from Jupiter and brought fire to the people. He was delighted to see that people’s lives got better. They could cook their food and keep warm in winter.

But, Jupiter was furious! He decided to punish Prometheus for stealing his lightning and bringing fire to the people of earth. Jupiter chained Prometheus to a huge rock. He sent an eagle to nibble at poor Prometheus. He sent ocean storms to wash up against Prometheus on the rock. Prometheus knew he had done the right thing by bringing fire to the people of the earth. But he had to suffer forever.

Comprehension Questions

Directions: Independently complete the questions. Remember to answer in complete sentences and to explain your thinking.

1. Why did Jupiter decide not to give fire to humans?

2. How did Jupiter punish Prometheus?

3. How would you have felt if you were Prometheus at the end of the story?

4. What do you think Prometheus will do next?

5. Whom do you like better, Prometheus or Jupiter?

Stop and Jot: Experiential #1 (Pre-shifts)	
What did you notice about this experience?	What did you wonder about this experience?

Experiential #2: Post-Shifts

Ancient Greek Myths: Stories of the Gods

What does it mean to "open a Pandora's box?" Why is one of our planets called Jupiter?

Why do we call someone "as strong as Hercules"? What is a person with a "narcissistic personality" like? What is a "hero's journey"?

All of these terms – and many more - come from Greek myths. The myths were stories that were told and re-told, for many hundreds of years, by the ancient Greek people. They were all stories of Greek gods, and many of them told how those Greek gods connected with the people of earth. Later, as the Greek cities were taken over by others, the Greek gods and goddesses acquired Roman names.

Who were the Greek gods?

In the ancient Greek view of the world, there were many gods and goddesses. Each one had a different role in the universe, and different powers. For example, there was a head god (named Zeus by the Greeks, then later changed to Jupiter by the Romans). He had power over the other gods. There was a goddess of wisdom, Athena, and a god of war, Ares. Cupid was the god of love, Apollo was the god of the sun, Aphrodite was the goddess of beauty, Hermes was the messenger of god – and there were many others. The ancient Greeks, and later the Romans, built temples to their gods, and honored them in many ways.

The gods were powerful, but they were not always good or wise. The Greeks thought of their gods as being much like human beings themselves, with all of their strengths and weaknesses. However, one huge difference between the gods and the people of the earth was mortality. The gods and goddesses were immortal – they could not die. People, on the other hand – no matter how good and wise they might be – would eventually suffer and die.

What were the Greek myths?

People have always tried, hard, to understand the world they live in. That effort to understand the world led to the development of myths. Myths are stories that people tell to explain to themselves and their children how the world works. All of the Greek myths involve the gods and goddesses, and many of them also involve people. Some Greek myths are stories of nature itself; for example, why we have seasons. Others are stories of people's behavior; for example, how people learn from their mistakes not to be too proud or arrogant.

Why do myths matter?

Today, the stories of these ancient gods and goddesses still appear in our own culture. Maybe even more importantly, the questions that they addressed – why is the world the way it is? What does it mean to be heroic? How do we humans need to behave? - are all questions that human beings of any age, including our own, need to grapple with. Reading the ancient Greek myths can help us in our own time.

The Story of Prometheus: I. How Fire Was Given to Men from Old Greek Stories

James Baldwin

In those old, old times, there lived two brothers who were not like other men, nor ye like those Mighty Ones who lived upon the mountain top. They were the sons of one of those Titans who had fought against Jupiter1 and been sent in chains to the strong prison-house of the Lower World. (1)

The name of the elder of these brothers was Prometheus, or Forethought; for he was always thinking of the future and making things ready for what might happen tomorrow, or next week, or next year, or it may be in a hundred years to come. The younger was called Epimetheus, or Afterthought; for he was always so busy thinking of yesterday, or last year, or a hundred years ago, that he had no care at all for what might come to pass after a while.

For some cause Jupiter had not sent these brothers to prison with the rest of the Titans. Prometheus did not care to live amid the clouds on the mountain top. He was too busy for that. While the Mighty Folk were spending their time in idleness, drinking nectar and eating ambrosia, he was intent upon plans for making the world wiser and better than it had ever been before.

He went out amongst men to live with them and help them; for his heart was filled with sadness when he found that they were no longer happy as they had been during the golden days when Saturn2 was king. Ah, how very poor and wretched they were! He found them living in caves and in holes of the earth, shivering with the cold because there was no fire, dying of starvation, hunted by wild beasts and by one another—the most miserable of all living creatures. (5)

“If they only had fire,” said Prometheus to himself, “they could at least warm themselves and cook their food; and after a while they could learn to make tools and build themselves houses. Without fire, they are worse off than the beasts.” Then he went boldly to Jupiter and begged him to give fire to men, so that they might have a little comfort through the long, dreary months of winter.

“Not a spark will I give,” said Jupiter. “No, indeed! Why, if men had fire they might become strong and wise like ourselves, and after a while they would drive us out of our kingdom. Let them shiver with cold, and let them live like the beasts. It is best for them to be poor and ignorant, so that we Mighty Ones may thrive and be happy.”

1 Jupiter (Roman) is the same as Zeus (Greek).

2 Saturn (Roman) is the same as Cronus (Greek).

“Not a spark will I give,” said Jupiter. “No, indeed! Why, if men had fire they might become strong and wise like ourselves, and after a while they would drive us out of our kingdom. Let them shiver with cold, and let them live like the beasts. It is best for them to be poor and ignorant, so that we Mighty Ones may thrive and be happy.”

Prometheus made no answer; but he had set his heart on helping mankind, and he did not give up. He turned away, and left Jupiter and his mighty company forever.

As he was walking by the shore of the sea he found a reed, or, as some say, a tall stalk of fennel, growing; and when he had broken it off he saw that its hollow center was filled with a dry, soft pith3 which would burn slowly and keep on fire a long time. He took the long stalk in his hands, and started with it towards the dwelling4 of the sun in the far east.

"Mankind shall have fire in spite of the tyrant who sits on the mountaintop," he said. (10)

He reached the place of the sun in the early morning just as the glowing, golden orb was rising from the earth and beginning his daily journey through the sky. He touched the end of the long reed to the flames, and the dry pith caught on fire and burned slowly. Then he turned and hastened back to his own land, carrying with him the precious spark hidden in the hollow center of the plant.

He called some of the shivering men from their caves and built a fire for them, and showed them how to warm themselves by it and how to build other fires from the coals. Soon there was a cheerful blaze in every rude home in the land, and men and women gathered round it and were warm and happy, and thankful to Prometheus for the wonderful gift which he had brought to them from the sun.

It was not long until they learned to cook their food and so to eat like men instead of like beasts. They began at once to leave off their wild and savage habits; and instead of lurking in the dark places of the world, they came out into the open air and the bright sunlight, and were glad because life had been given to them.

After that, Prometheus taught them, little by little, a thousand things. He showed them how to build houses of wood and stone, and how to tame sheep and cattle and make them useful, and how to plow and sow and reap,5 and how to protect themselves from the storms of winter and the beasts of the woods. Then he showed them how to dig in the earth for copper and iron, and how to melt the ore, and how to hammer it into shape and fashion from it the tools and weapons which they needed in peace and war; and when he saw how happy the world was becoming he cried out: "A new Golden Age shall come, brighter and better by far than the old!" (15)

3 pith: soft, spongy tissue inside a plant

4 dwelling: home, place to live or stay

5 plow and sow and reap: farm

Questions

Directions: Working with your partner, carefully read each question. Go back into the text and discuss your thinking about each question. Write your response and cite evidence from the text.

1. According to the text, the name Prometheus means "forethought". What does this tell us about the character?

2. In paragraph 5, look at the words "wretched" and "shivering". What do these words tell us about human beings at this time? What other words does the author use to develop this idea about how people are living?

3. According to the text, why does Jupiter refuse to give people the gift of fire? What does this tell you about what Jupiter cares most about?

4. How does Prometheus respond? What does this tell you about what Prometheus cares most about?

5. Think about the name for the gods in this story, the "Mighty Ones." What does the word "mighty" mean? Why do you think the author names the gods the "Mighty Ones"? Use evidence from the text to support your thinking.

6. Think about the differences between Jupiter and Prometheus in this myth. What do you think this tells us about the ancient Greek view of their gods?

Stop and Jot: Experiential #2 (Post-shifts)	
What did you notice about this experience?	What did you wonder about this experience?

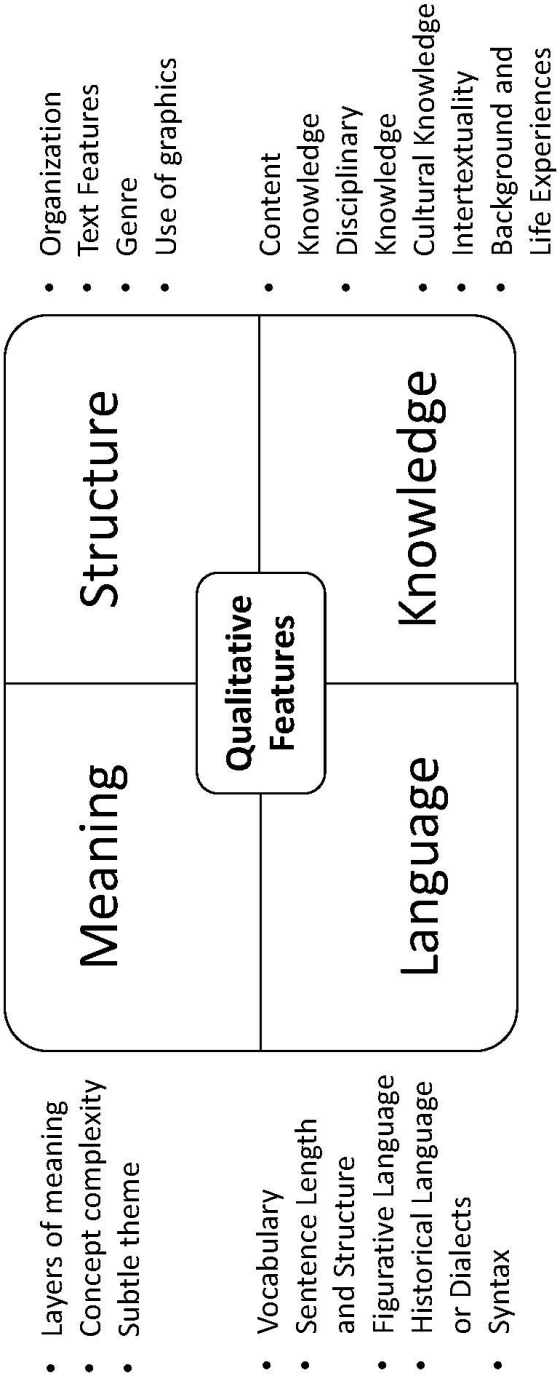
Reflect and Discuss Compare and contrast the two experiences.	
What was similar?	What was different?

Capture your learning

Before the shifts, teachers may have been…

With these shifts, teachers should be…

Qualitative Features of Text Complexity



ELA Content Leader Module 1, Morning P-01.13

Evidence Compare the questions asked in the two experientials.	
Pre-Shifts Questions	**Post-Shifts Questions**
1. Why did Jupiter decide not to give fire to humans? 2. How did Jupiter punish Prometheus? 3. How would you have felt if you were Prometheus at the end of the story? 4. What do you think Prometheus will do next? 5. Whom do you like better, Prometheus or Jupiter?	1. According to the text, the name Prometheus means "forethought". What does this tell us about the character? 2. In paragraph 5, look at the words "wretched" and "shivering". What do these words tell us about human beings at this time? What other words does the author use to develop this idea about how people are living? 3. According to the text, why does Jupiter refuse to give people the gift of fire? What does this tell you about what Jupiter cares most about? 4. How does Prometheus respond? What does this tell you about what Prometheus cares most about? 5. Think about the name for the gods in this story, the "Mighty Ones." What does the word "mighty" mean? Why do you think the author names the gods the "Mighty Ones"? Use evidence from the text to support your thinking. 6. Think about the differences between Jupiter and Prometheus in this myth. What do you think this tells us about the ancient Greek view of their gods?

- What did you have to do or think about to answer the questions in the pre-shifts experience?
- What did you have to do or think about to answer the questions in the post-shifts experience?
- How did this difference affect your understanding of the text?

Instructional Shifts Overview: ELA/Literacy

Shift	Description
Complexity: Practice regularly with complex text and its academic language	Rather than focusing solely on the skills of reading and writing, college- and career-ready standards like the Louisiana Student Standards highlight the growing complexity of the texts students must read to be ready for the demands of college and careers. These standards build a staircase of text complexity so that all students are ready for the demands of college- and career-level reading no later than the end of high school. Closely related to text complexity—and inextricably connected to reading comprehension—is a focus on academic vocabulary: words that appear in a variety of content areas (such as ignite and commit).
Evidence: Ground reading, writing, and speaking in evidence from text, both literary and informational	College- and career-ready standards like the Louisiana Student Standards place a premium on students writing to sources, i.e., using evidence from texts to present careful analyses, well-defended claims, and clear information. Rather than asking students questions they can answer solely from their prior knowledge or experience, the standards expect students to answer questions that depend on their having read the text or texts with care. The standards also require the cultivation of narrative writing throughout the grades; in later grades, a command of sequence and detail will be essential for effective argumentative and informational writing. Likewise, the reading standards focus on students' ability to read carefully and grasp information, arguments, ideas, and details based on text evidence. Students should be able to answer a range of text-dependent questions, questions in which the answers require inferences based on careful attention to the text.
Knowledge: Build knowledge through content-rich nonfiction	Building knowledge through content rich nonfiction plays an essential role in literacy and in the Louisiana Student Standards. In K–5, fulfilling the standards requires a 50–50 balance between informational and literary reading. Informational reading primarily includes content rich nonfiction in history/social studies, science, and the arts; the K–5 standards strongly recommend that students build coherent general knowledge both within each year and across years. In grades 6–12, ELA classes pay much greater attention to a specific category of informational text—literary nonfiction—than has been traditional. In grades 6–12, the standards for literacy in history/social studies, science, and technical subjects ensure that students can independently build knowledge in these disciplines through reading and writing. To be clear, the standards require substantial attention to literature throughout K–12, as half of the required work in K–5 and the core of the work of 6–12 ELA.

Source: Student Achievement Partners. College- and Career- Ready Shifts in ELA/Literacy. Retrieved from https://achievethecore.org/page/2727/college-and-career-ready-shifts-in-ela-literacy

Note Catcher: How Does Knowledge Support Comprehension?

Do Now
Culminating Task: Write a brief report in which you explain whether Pacific Cod is a sustainable food source and why. In your report, include at least one recommendation for each of the following groups: • Consumers • Fishermen • The EPA Rate your confidence level on a scale from 1-5. How confident do you feel about your ability to complete this task? Why? **Reflect:** What do you need to feel more confident?

Session Objectives	Agenda
• Experience how readers develop understanding by building knowledge about topics • Describe the relationship between content knowledge and reading comprehension	

Time	Task
8 min	Getting Started
40 min	Text Set Experiential
12 min	Reflect & Wrap Up

"Bycatch" Questions	
Question	**Response**
What causes bycatch?	
What are the impacts of bycatch?	

"Seafood Rating Methodology" Questions	
Question	**Response**
What does the quantitative rating system used by the Safina Center tell us?	
According to the quantitative rating system used by the Safina Center, what does it mean if a fish has a score of 1.5?	

Culminating Task: Seafood Sustainability
Write a brief report in which you explain whether Pacific Cod is a sustainable food source and why. In your report, include at least one recommendation for each of the following groups: • Consumers • Fishermen • The EPA

Capture Your Learning	
Question	**Response**
How did reading the entire "Pacific Cod Bycatch" text set prepare you to understand the complex text and complete the culminating task?	
What does this seem to imply about the relationship between content knowledge and reading comprehension?	

How Does Knowledge Support Comprehension?

Text list:

- Pacific Cod: Bycatch (Research Report excerpt)
- Bycatch
- The Safina Center: Seafood Rating Methodology
- Monterey Bay Aquarium: Seafood Watch

BYCATCH

1.00 **Bycatch in this fishery is high (>100% of targeted landings), OR regularly includes a "threatened, endangered or protected species."**

Although less than 10% of the total Pacific Cod catch is discarded (NPFMC SAFE, 2009), the longline fishery is known for catching endangered or threatened seabirds. Roughly 15,000 seabirds per year are killed by fishing gear used in the Pacific Cod fishery (NMFS, 2008). The majority of longline-killed seabirds are fulmars, but also includes a large number of albatrosses, gulls, shearwaters, and other species (NMFS, 2004). The fishery kills Laysan, black-foot, and short-tailed albatrosses, which are all on the IUCN Red List of threatened species. The only seabird affected by the Pacific Cod fishery that is listed as endangered by the US is the short tailed albatross although population impacts are unlikely given current growth in this population (Zador et al. 2008).

2.00 Bycatch in this fishery is moderate (10-99% of targeted landings) AND does not regularly include "threatened, endangered or protected species" OR level of bycatch is unknown.

3.00 Bycatch in this fishery is low (<10% of targeted landings) and does not regularly include "threatened, endangered or protected species."

-0.25 Bycatch in this fishery is a contributing factor to the decline of "threatened, endangered, or protected species" and no effective measures are being taken to reduce it.

-0.25 Bycatch of targeted or non-targeted species (e.g., undersize individuals) in this fishery is high and no measures are being taken to reduce it.

-0.25 Bycatch of this species (e.g., undersize individuals) in other fisheries is high OR bycatch of this species in other fisheries inhibits its recovery, and no measures are being taken to reduce it.

-0.25 The continued removal of the bycatch species contributes to its decline.

+0.25 **Measures taken over a major portion of the species range have been shown to reduce bycatch of "threatened, endangered, or protected species" or bycatch rates are no longer deemed to affect the abundance of the "protected" bycatch species OR no measures needed because fishery is highly selective (e.g., harpoon; spear).**

As of 2004, revised seabird bycatch regulations have been in effect for the Alaska demersal longline fleet, requiring most vessels over 55 feet to use paired streamer lines, restricting offal discards, and requiring each vessel to have a seabird avoidance plan onboard. Smaller vessels [greater than 26 ft (7.9 m) LOA and less than or equal to 55 ft LOA] must use a single streamer line or, in limited instances, a buoy bag line (Seabird Avoidance Regulations, NOAA). Management efforts have been successful at reducing the amount of seabirds caught by this fishery.

+0.25 **There is bycatch of targeted (e.g., undersize individuals) or non-targeted species in this fishery and measures (e.g., gear modifications) have been implemented that have been shown to reduce bycatch over a large portion of the species range OR no measures are needed because fishery is highly selective (e.g., harpoon; spear).**

North Pacific fisheries have implemented measures such as conservative catch quotas, mesh size restrictions, no trawl zones, etc. to reduce bycatch (NPFMC, 1999). Other regulations, such as gear and area/season restrictions, are also used to reduce bycatch (NMFS 2004).

+0.25 Bycatch of this species in other fisheries is low OR bycatch of this species in other fisheries inhibits its recovery, but effective measures are being taken to reduce it over a large portion of the range.

+0.25 The continued removal of the bycatch species in the targeted fishery has had or will likely have little or no impact on populations of the bycatch species OR there are no significant bycatch concerns because the fishery is highly selective (e.g., harpoon; spear).

Bycatch | Threats | WWF

Overview

Wherever there is fishing, there is bycatch—the incidental capture of non-target species such as dolphins, marine turtles and seabirds. Thousands of miles of nets and lines are set in the world's oceans each day. Modern fishing gear, often undetectable by sight and extremely strong, is very efficient at catching the desired fish species—as well as anything else in its path. A staggering amount of marine life—including turtles, dolphins and juvenile fish—is hauled up with the catch, and then discarded overboard dead or dying.

Fishing industry leaders increasingly realize the need to reduce this phenomenon. Proven solutions do exist, such as modifying fishing gear so that fewer non-target species are caught or can escape. In many cases, these modifications are simple and inexpensive, and often come from fishers themselves.

Despite new technologies and industry recognition of the issue, bycatch is still a major problem. Not only does it cause avoidable deaths and injuries, but the fishing methods can be harmful to the marine environments where they are employed. WWF aims to reduce bycatch by working with fisheries and helping develop and promote new technologies and gear for more efficient operations.

An uncertain future for our living blue planet

WWF's *Living Blue Planet Report* on the health of the ocean finds that the marine vertebrate population has declined by 49 percent between 1970 and 2012. The report tracks 5,829 populations of 1,234 mammal, bird, reptile, and fish species through a marine living planet index. The evidence, analyzed by researchers at the Zoological Society of London, paints a troubling picture.

Causes

© Brian J. Skerry / National Geographic Stock / WWF
Here a bottom trawler scrapes the ocean floor destroying the habitat, Baja California, Mexico.

Bycatch occurs because modern fishing gear is very efficient, often covers an extensive area, and can be highly unselective—it catches not only the target species but many other marine animals as well. Poor fisheries management in certain countries further contributes to the problem. Widespread pirate fishing ignores regulations on net mesh sizes, quotas, permitted fishing areas and other bycatch mitigation measures.

NON-SELECTIVE FISHING GEAR

Fishing gear is largely non-selective—any species can be caught, including non-target species. Longlines, trawling and the use of gillnets are the fishing methods that most commonly result in bycatch. Longlining is a commercial fishing method commonly targeting swordfish, tuna and halibut, where hundreds or thousands of baited hooks hang at intervals along a single fishing line. The hooks (commonly called "J hooks") cause problems for marine turtles when swallowed, usually resulting in death. Sharks, non-target billfishes and juvenile tunas are often hooked as well.

With trawling, boats drag large nets along the seabed, catching almost everything in their path. They can damage coral reefs and at shallow depths, catch marine turtles. Gillnets are mesh nets that allow fish to pass their heads and gill coverings through a hole in the mesh and then get stuck when they try to back out. They can be several miles long and up to 100 feet deep. Bycatch occurs because the nets also trap everything larger than the net's mesh, which includes juvenile fish, sharks, seabirds, marine turtles and cetaceans (whales, dolphins, porpoises). The nets are very hard to see, blending in perfectly with the water and difficult for cetaceans to detect by echolocation. Gillnets that are lost at sea are rarely recovered and can continue to

capture marine animals for many years.

Impacts

© Michel Gunther / WWF-Canon
Diver trying to rescue a leatherback turtle caught in a net.

It is estimated that over 300,000 small whales, dolphins, and porpoises die from entanglement in fishing nets each year, making this the single largest cause of mortality for small cetaceans. Species such as the vaquita from the Gulf of California and Maui's dolphin from New Zealand face extinction if the threat of unselective fishing gear is not eliminated.

Hundreds of thousands of endangered loggerhead turtles and critically endangered leatherback turtles drown annually on longlines set for tuna, swordfish, and other fish. Incidental capture of turtles by longlines, trawls and gillnets is the single greatest threat to the survival of most populations.

What WWF Is Doing

© Peter Denton / WWF-Canon
Here a green turtle that was accidentally caught in fishing gear is about to be returned to the wild by WWF staff.

Proven solutions do exist to reduce bycatch and others are being discovered. WWF and its partners are working to develop, test, and implement alternative fishing gear and to integrate conservation science into effective fisheries management. WWF and its partners are also working to strengthen legislation on bycatch and to raise consumer awareness about sustainably caught fish.

INSPIRING INNOVATION

Bycatch mortalities can often be reduced by modifying fishing gear so that fewer non-target species are caught or so that non-target species can escape. In many cases, these modifications are simple and inexpensive. WWF created the International Smart Gear Competition to promote the development of such innovative technology. WWF offers more than $50,000 in prize money to attract new ideas that may prove to be a valuable solution to some of the most pressing bycatch problems in fisheries around the globe. Winning entries have resulted in effective solutions to prevent bycatch of marine turtles and seabirds and have even been implemented by the recreational fishing industry

ALTERNATIVE GEAR

WWF works with partners to introduce "circle" hooks. These hooks are far less likely to be swallowed by turtles than J-shaped hooks, which cause suffocation or internal bleeding when ingested. Working with the Inter-American Tropical Tuna Commission (IATTC) and other partners, we introduced the hook in eastern Pacific longline fisheries. As a result, marine turtle deaths may be reduced by as much as 90 percent without adversely affecting catches of swordfish and tuna.

In the Coral Triangle, WWF works with longline tuna fishing vessels to convert traditional hooks to circle hooks, which can maintain or even increase fish catches while decreasingturtle bycatch. Preliminary trials were a tremendous success, and WWF hopes to expand the program to all longline vessels in Papua New Guinea and Solomon Islands, helping to protect vulnerable populations of marine turtles and sharks while supporting local livelihoods.

In the Gulf of California, we've been working with partners on ways to reduce the threat of accidental vaquita capture. So far, a different type of trawl net has been developed and pilot tested. It contains an excluder device to reduce vaquita bycatch while still effectively catching shrimp.

The Safina Center
at Stony Brook University

WILD-CAUGHT SEAFOOD RATING METHODOLOGY

The Safina Center's (formerly Blue Ocean Institute) founders developed the first authoritative and transparent seafood analysis to determine the environmental cost of eating fished and farmed seafood. This analysis examined all aspects of the fishing or farming process, condensing vast amounts of scientific information into an easy-to-understand seafood report and rating; a concept that was quickly adopted by other marine organizations. These days, The Safina Center focuses on fished or wild-caught seafood to highlight the importance of healthy fish populations to our oceans, with analysis grouped into 5 major criteria:

1. **Life history** – species biology like growth rates and egg production
2. **Abundance** - comparing current fish numbers to fishery management goals
3. **Habitat quality and gear impacts** - what fishing method(s) is used and does it cause habitat damage?
4. **Management** - are there regulations in place that effectively protect the fish and their ecosystem?
5. **Bycatch** - are other fish or wildlife accidentally caught when fishing for the target fish?

The Safina Center uses a quantitative rating system to promote transparency for all seafood reports (and ratings). Each of the 5 criteria is given a low (1), medium (2) or high (3) score, which is adjusted up or down using additional questions, or "points of adjustment" (worth +0.25 or -0.25). These scores are averaged to generate a final score, ranging from 0-4, and color rating:

Final Score	Color
2.40 - 4.00	
1.60 - 2.39	
0.00 - 1.59	

Fish Key

- Species has a combination of problems such as overfishing, high bycatch, and poor management.
- Some problems exist with this species' status or catch methods, or information is insufficient for evaluating.
- Species is relatively abundant, and fishing methods cause little damage to habitat and other wildlife.
- A fishery targeting this species has been certified as sustainable and well managed to the Marine Stewardship Council's environmental standard. Learn more at http://www.msc.org.
- These fish contain levels of mercury or PCBs that may pose a health risk to adults and children. Our source of information is http://seafood.edf.org/. We also recommend that you check local advisories.

ELA Module 2, Session 1 P-02.10

To use your guide: 1. Cut along outer black line
2. Fold on grey lines

Monterey Bay Aquarium® Seafood Watch®

The Monterey Bay Aquarium Seafood Watch program creates science-based recommendations that help consumers and businesses make ocean-friendly seafood choices. Carry this guide with you and share it with others to help spread the word.

BEST CHOICES

Abalone
Arctic Char (farmed)
Barramundi (US & Vietnam farmed)
Bass (US hook and line, farmed)
Catfish (US)
Clams, Mussels & Oysters
Cod: Pacific (AK)
Crab: King, Snow & Tanner (AK)
Lobster: Spiny (Mexico)
Prawn: Freshwater (Canada & US)
Prawn: Spot (AK & Canada)
Rockfish (AK, CA, OR & WA)
Sablefish/Black Cod (Canada farmed & AK)
Salmon (AK & New Zealand)
Sanddab (CA, OR & WA)
Sardines: Pacific (Canada & US)
Scallops (farmed)
Shrimp (US farmed & AK)
Tilapia (Canada, Ecuador & US)
Trout: Rainbow (US farmed)
Tuna: Albacore (Pacific troll, pole and line)
Tuna: Skipjack (Pacific troll, pole and line)

GOOD ALTERNATIVES

Branzino (Mediterranean farmed)
Cod: Pacific (Canada & US)
Crab: Blue & Dungeness (US)
Grouper: Black & Red (US)
Halibut: Atlantic (farmed)
Lobster (Bahamas & US)
Mahi Mahi (US troll & Ecuador)
Monkfish (US)
Octopus (Portugal & Spain pot, trap)
Pollock (Canada longline, gillnet & US)
Salmon (Canada, CA, OR & WA wild)
Scallops: Sea (wild)
Shrimp (Canada & US wild, Ecuador & Honduras farmed)
Squid (Mexico & US)
Swordfish (US)
Tilapia (China, Indonesia, Mexico & Taiwan)
Tuna: Albacore (US longline)
Tuna: Skipjack (free school, imported troll, pole and line, and US longline)
Tuna: Yellowfin (free school, H longline, and Pacific & Indian Ocean troll, pole and line)

AVOID

Abalone (China & Japan)
Basa/Pangasius/Swai
Cod: Atlantic (Canada, CA, OR & WA)
Cod: Pacific (Japan & Russia)
Crab (Russia)
Halibut: Atlantic (wild)
Lobster: Spiny (Belize, Brazil, Honduras & Nicaragua)
Mahi Mahi (Costa Rica, Guatemala & Peru)
Orange Roughy
Pollock (Canada trawl)
Salmon: Atlantic (farmed)
Sardines: Atlantic (Mediterranean)
Sharks
Shrimp (imported)
Squid (China, India & Thailand)
Swordfish (imported longline)
Tuna: Albacore (except US troll, pole and line, and longline)
Tuna: Bluefin
Tuna: Skipjack (imported purse seine)
Tuna: Yellowfin (Atlantic troll, pole and line)

Start with Best Choices then check the other columns—your favorite seafood could be in more than one.

Best Choices
Buy first, they're well managed and caught or farmed in ways that cause little harm to habitats or other wildlife.

Good Alternatives
Buy, but be aware there are concerns with how they're caught or farmed.

Avoid
Take a pass on these for now, they're overfished or caught or farmed in ways that harm other marine life or the environment.

Visit us online or download our app for a **comprehensive list** of our recommendations.

Your Choices Matter

Many of the fish we enjoy are in trouble due to destructive fishing and farming practices.

Purchase seafood caught or farmed in ways that support a healthy ocean—now and for future generations.

Take Action

Be part of the solution and make a difference for our ocean:

ASK "Do you sell sustainable seafood?" Let businesses know this is important to you.

BUY Best Choices. If unavailable, look for Good Alternatives or the eco-certified options found on our app and website.

CHOOSE Seafood Watch partners from our app or website when dining and shopping.

Stay Connected

- Download our free app
- Join us on Facebook and Twitter
- Sign up for our e-news
- Visit **seafoodwatch.org**

Monterey Bay Aquarium

The seafood recommendations in this guide are created by the Monterey Bay Aquarium Foundation. ©2016 All rights reserved. Printed on recycled paper.

Seafood WATCH

National Consumer Guide
January–June 2016

Monterey Bay Aquarium

Note Catcher: Conceptual Coherence

Grades 6-8

Do Now
Think about a topic you've learned a lot about. What role has reading played in developing your "expertise" in this topic? *Note: "Reading" need not be limited to the type of text we traditionally read in school – be sure to include texts like manuals, blogs, magazines, newspapers, etc.*

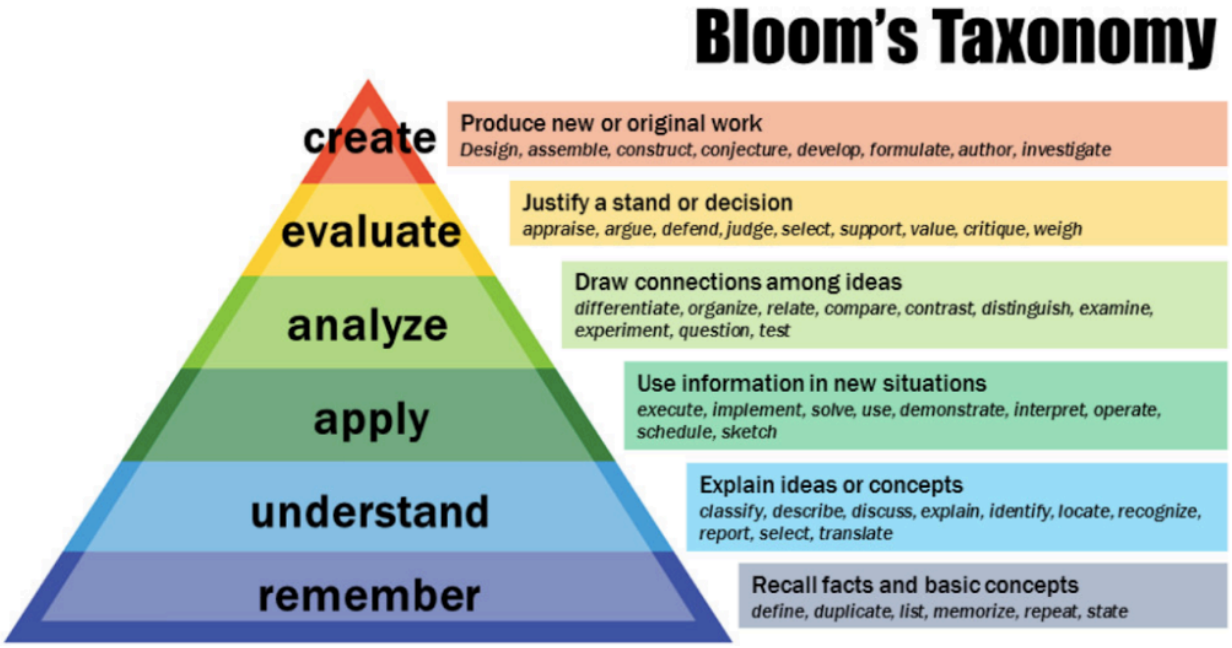
Session Objectives	Agenda
• Explain the research on the relationship between knowledge and reading comprehension • Analyze how texts are chosen and organized to build knowledge in our shared unit from the ELA Guidebooks	

Time	Task
10 min	Getting Started
10 min	Rigor and Reading Comprehension
10 min	The Baseball Study
20 min	Text Sets in the ELA Guidebooks
5 min	Closing

Consider These Questions

Question #1: Restate the following sentence in your own words.

Question #2: Read the following passage, then write a letter to the editor defending the moral values the main character displays with regard to animals.



Citation: Vanderbilt University Center for Teaching. Bloom's Taxonomy [Online image]. Retrieved from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

The Baseball Study: "Effect of Prior Knowledge on Good and Poor Readers' Memory of Text"

Recht and Leslie (1988)

Predict the Results:

Put the groups in order from highest to lowest performers.

High reading ability High knowledge of baseball A	High reading ability Low knowledge of baseball B
Low reading ability High knowledge of baseball C	Low reading ability Low knowledge of baseball D

What do the actual results tell us?	What stands out to you most?

Flowers for Algernon: Synopsis	
Flowers for Algernon is a character study of one man, Charlie Gordon. Charlie is a 32-year-old developmentally disabled man who has the opportunity to undergo a surgical procedure that will dramatically increase his mental capabilities. This procedure had already been performed on a laboratory mouse, Algernon, with remarkable results. Charlie will be the first human subject. In a series of progress reports, Charlie documents everything that happens to him. As Charlie's intelligence increases to a genius level, the reader not only reads about the changes from Charlie's viewpoint, but also sees the change evidenced in Charlie's writing ability. This jump in intelligence is not necessarily a good thing, however. Charlie is now able to recall past events that shaped his life and analyze past friendships for what they were, or weren't. He also has difficulty making new friendships and establishing new relationships due to a lack of social intelligence that the surgery could neither correct nor anticipate. And, finally, because of his increased intelligence, Charlie is able to discover the experiment's "fatal flaw" and is reduced to watching the end for both Algernon and himself, hoping to salvage something for the future from his brief bout with genius. *(Retrieved from https://www.cliffsnotes.com/literature/f/flowers-for-algernon/book-summary)*	
What knowledge may be helpful for students to build?	What concepts are being explored in this text?

A First Look at Text Sets

Complete the table as you read your assigned text (from the *Flowers for Algernon* unit).

Text	Text Type	What is this text about? What key information or ideas does it provide?
Old Greek Stories: The Story of Prometheus	Greek Myth	
What's in an Inkblot? Some Say Not Much	Informational Text (Article)	
Excerpts from Frankenstein; or, the Modern Day Prometheus	Literary Text (Excerpt from Chapter 4 of novel)	

***Flowers for Algernon* Text Set: Reflection Questions**	
What is the relationship between these three texts? What do they have in common?	How might the selection and organization of these texts support reading comprehension in this unit?

Capture Your Learning	
Question	**Response**
What are the key takeaways from “the baseball study”?	
What is conceptual coherence?	
What evidence do you see of conceptual coherence in the Guidebooks?	

ENGLISH LANGUAGE ARTS
CONTENT MODULES

Text Set: *Flowers for Algernon*
ELA Module 2, Session 2
Grades 6-8

Flowers for Algernon Text Set:

1. "The Story of Prometheus: I and II" (Greek Myth)
2. "What's in an Inkblot? Some Say, Not Much" (Informational Article)
3. Excerpts from *Frankenstein; or, the Modern Prometheus* (Literary Text, novel excerpt)

DEPARTMENT of EDUCATION
Louisiana Believes

The Story of Prometheus: I. How Fire Was Given to Men from *Old Greek Stories*

James Baldwin

In those old, old times, there lived two brothers who were not like other men, nor yet like those Mighty Ones who lived upon the mountain top. They were the sons of one of those Titans who had fought against Jupiter[1] and been sent in chains to the strong prison-house of the Lower World. (1)

The name of the elder of these brothers was Prometheus, or Forethought; for he was always thinking of the future and making things ready for what might happen tomorrow, or next week, or next year, or it may be in a hundred years to come. The younger was called Epimetheus, or Afterthought; for he was always so busy thinking of yesterday, or last year, or a hundred years ago, that he had no care at all for what might come to pass after a while.

For some cause Jupiter had not sent these brothers to prison with the rest of the Titans.

Prometheus did not care to live amid the clouds on the mountain top. He was too busy for that. While the Mighty Folk were spending their time in idleness, drinking nectar and eating ambrosia, he was intent upon plans for making the world wiser and better than it had ever been before.

He went out amongst men to live with them and help them; for his heart was filled with sadness when he found that they were no longer happy as they had been during the golden days when Saturn[2] was king. Ah, how very poor and wretched they were! He found them living in caves and in holes of the earth, shivering with the cold because there was no fire, dying of starvation, hunted by wild beasts and by one another--the most miserable of all living creatures. (5)

"If they only had fire," said Prometheus to himself, "they could at least warm themselves and cook their food; and after a while they could learn to make tools and build themselves houses. Without fire, they are worse off than the beasts."

Then he went boldly to Jupiter and begged him to give fire to men, so that they might have a little comfort through the long, dreary months of winter.

---

[1] Jupiter (Roman) is the same as Zeus (Greek).
[2] Saturn (Roman) is the same as Cronus (Greek).

DEPARTMENT of EDUCATION
Louisiana Believes

"Not a spark will I give," said Jupiter. "No, indeed! Why, if men had fire they might become strong and wise like ourselves, and after a while they would drive us out of our kingdom. Let them shiver with cold, and let them live like the beasts. It is best for them to be poor and ignorant, so that we Mighty Ones may thrive and be happy."

Prometheus made no answer; but he had set his heart on helping mankind, and he did not give up. He turned away, and left Jupiter and his mighty company forever.

As he was walking by the shore of the sea he found a reed, or, as some say, a tall stalk of fennel, growing; and when he had broken it off he saw that its hollow center was filled with a dry, soft pith[3] which would burn slowly and keep on fire a long time. He took the long stalk in his hands, and started with it towards the dwelling[4] of the sun in the far east.

"Mankind shall have fire in spite of the tyrant who sits on the mountaintop," he said. (10)

He reached the place of the sun in the early morning just as the glowing, golden orb was rising from the earth and beginning his daily journey through the sky. He touched the end of the long reed to the flames, and the dry pith caught on fire and burned slowly. Then he turned and hastened back to his own land, carrying with him the precious spark hidden in the hollow center of the plant.

He called some of the shivering men from their caves and built a fire for them, and showed them how to warm themselves by it and how to build other fires from the coals. Soon there was a cheerful blaze in every rude home in the land, and men and women gathered round it and were warm and happy, and thankful to Prometheus for the wonderful gift which he had brought to them from the sun.

It was not long until they learned to cook their food and so to eat like men instead of like beasts. They began at once to leave off their wild and savage habits; and instead of lurking in the dark places of the world, they came out into the open air and the bright sunlight, and were glad because life had been given to them.

After that, Prometheus taught them, little by little, a thousand things. He showed them how to build houses of wood and stone, and how to tame sheep and cattle and make them useful, and how to plow and sow and reap,[5] and how to protect themselves from the storms of winter and the beasts of the woods. Then he showed them how to dig in the earth for copper and iron, and how to melt the ore, and how to hammer it into

[3] pith: soft, spongy tissue inside a plant
[4] dwelling: home, place to live or stay
[5] plow and sow and reap: farm

DEPARTMENT of EDUCATION
Louisiana Believes

shape and fashion from it the tools and weapons which they needed in peace and war; and when he saw how happy the world was becoming he cried out:

"A new Golden Age shall come, brighter and better by far than the old!" (15)

The Story of Prometheus: II. How Diseases and Cares Came Among Men from *Old Greek Stories*

James Baldwin

Things might have gone on very happily indeed, and the Golden Age might really have come again, had it not been for Jupiter. But one day, when he chanced to look down upon the earth, he saw the fires burning, and the people living in houses, and the flocks feeding on the hills, and the grain ripening in the fields, and this made him very angry.

"Who has done all this?" he asked.

And some one answered, "Prometheus!"

"What! that young Titan!" he cried. "Well, I will punish him in a way that will make him wish I had shut him up in the prison-house with his kinsfolk. But as for those puny men, let them keep their fire. I will make them ten times more miserable than they were before they had it."

Of course it would be easy enough to deal with Prometheus at any time, and so Jupiter was in no great haste about it. He made up his mind to distress mankind first; and he thought of a plan for doing it in a very strange, roundabout way. (20)

In the first place, he ordered his blacksmith[6] Vulcan, whose forge[7] was in the crater of a burning mountain, to take a lump of clay which he gave him, and mold it into the form of a woman. Vulcan did as he was bidden;[8] and when he had finished the image, he carried it up to Jupiter, who was sitting among the clouds with all the Mighty Folk around him. It was nothing but a mere lifeless body, but the great blacksmith had given it a form more perfect than that of any statue that has ever been made.

"Come now!" said Jupiter, "let us all give some goodly gift to this woman;" and he began by giving her life.

[6] blacksmith: a person who makes objects out of metal
[7] forge: open fire oven for making objects that require heat to be formed, like metal
[8] bidden: told

DEPARTMENT of EDUCATION
Louisiana Believes

Then the others came in their turn, each with a gift for the marvelous creature. One gave her beauty; and another a pleasant voice; and another good manners; and another a kind heart; and another skill in many arts; and, lastly, some one gave her curiosity. Then they called her Pandora, which means the all-gifted, because she had received gifts from them all.

Pandora was so beautiful and so wondrously gifted that no one could help loving her. When the Mighty Folk had admired her for a time, they gave her to Mercury, the light-footed; and he led her down the mountain side to the place where Prometheus and his brother were living and toiling for the good of mankind. He met Epimetheus first, and said to him:

"Epimetheus, here is a beautiful woman, whom Jupiter has sent to you to be your wife." (25)

Prometheus had often warned his brother to beware of any gift that Jupiter might send, for he knew that the mighty tyrant could not be trusted; but when Epimetheus saw Pandora, how lovely and wise she was, he forgot all warnings, and took her home to live with him and be his wife.

Pandora was very happy in her new home; and even Prometheus, when he saw her, was pleased with her loveliness. She had brought with her a golden casket,[9] which Jupiter had given her at parting, and which he had told her held many precious things; but wise Athena, the queen of the air, had warned her never, never to open it, nor look at the things inside.

"They must be jewels," she said to herself; and then she thought of how they would add to her beauty if only she could wear them. "Why did Jupiter give them to me if I should never use them, nor so much as look at them?" she asked.

The more she thought about the golden casket, the more curious she was to see what was in it; and every day she took it down from its shelf and felt of the lid, and tried to peer inside of it without opening it.

"Why should I care for what Athena told me?" she said at last. "She is not beautiful, and jewels would be of no use to her. I think that I will look at them, at any rate. Athena will never know. Nobody else will ever know." (30)

She opened the lid a very little, just to peep inside. All at once there was a whirring, rustling sound, and before she could shut it down again, out flew ten thousand strange

[9] casket: a small box for holding valuable objects

DEPARTMENT of EDUCATION
Louisiana Believes

creatures with death-like faces and gaunt[10] and dreadful forms, such as nobody in all the world had ever seen. They fluttered for a little while about the room, and then flew away to find dwelling-places wherever there were homes of men. They were diseases and cares; for up to that time mankind had not had any kind of sickness, nor felt any troubles of mind, nor worried about what the morrow might bring forth.

These creatures flew into every house, and, without anyone seeing them, nestled down in the bosoms of men and women and children, and put an end to all their joy; and ever since that day they have been flitting and creeping, unseen and unheard, over all the land, bringing pain and sorrow and death into every household.

If Pandora had not shut down the lid so quickly, things would have gone much worse. But she closed it just in time to keep the last of the evil creatures from getting out. The name of this creature was Foreboding, and although he was almost half out of the casket, Pandora pushed him back and shut the lid so tight that he could never escape. If he had gone out into the world, men would have known from childhood just what troubles were going to come to them every day of their lives, and they would never have had any joy or hope so long as they lived.

And this was the way in which Jupiter sought to make mankind more miserable than they had been before Prometheus had befriended them.

This text is in the public domain.

[10] gaunt: skinny from starving

What's in an Inkblot? Some Say, Not Much

By ERICA GOODE

Psychology has produced few more popular icons than the Rorschach inkblot test.

Devised 80 years ago by a young Swiss psychiatrist, the Rorschach has entered the language as a synonym for anything ambiguous enough to invite multiple interpretations. And beyond its pop culture status, it has retained a central role in personality assessment, administered several hundred thousand times a year, by conservative estimates, to both children and adults.

In custody disputes, for example, the test is used to help determine the emotional fitness of warring parents. Judges and parole boards rely on it for insight into a prisoner's criminal tendencies or potential for violence. Clinicians use it in investigating accusations of sexual abuse, and psychotherapists, as a guide in diagnosing and treating patients.

Yet almost since its creation, the inkblot test has also been controversial, with early critics calling it "cultish" and later ones deeming it "scientifically useless."

And in recent years, academic psychology departments have been divided over the merits of the test, and some have stopped teaching it.

The debate is likely to become even more heated with the publication of an article provoking discussion and anger among clinicians who routinely use the Rorschach. In the article, three psychologists conclude that the inkblot test and two others commonly used — the Thematic Apperception Test or T.A.T. and the Draw-a-Person test — are seriously flawed and should not be used in court or the consulting room.

"There has been a substantial gap between the clinical use of these tests and what the research suggests about their validity," said Dr. Scott O. Lilienfeld, an associate professor of psychology at Emory University and the lead author of the article. "The research continues to suggest that they are not as useful for most purposes as many clinicians believe."

The review, by Dr. Lilienfeld and two colleagues, Dr. James M. Wood of the University of Texas at El Paso and Dr. Howard Garb of the University of Pittsburgh, appears in the current issue of the journal Psychological Science in the Public Interest, a publication of the American Psychological Society.

The three tests are known as "projective" because they present people with an ambiguous image or situation and ask them to interpret or make sense of it. The test taker's responses are

assumed to reflect underlying personality traits and unconscious conflicts, motives and fantasies.

In the T.A.T., test takers are shown a series of evocative pictures depicting domestic scenes and are asked to tell a story about each one. The figure-drawing test requires drawing a person on a blank sheet of paper and then drawing a second person of the opposite sex.

While the Rorschach and the other projective techniques may be valuable in certain specific situations, the reviewers argue, the tests' ability to diagnose mental illnesses, assess personality characteristics, predict behavior or uncover sexual abuse or other trauma is very limited.

The tests, which often take hours to score and interpret, add little information beyond what can be gleaned from far less time-consuming assessments, the psychologists say. They recommend that practitioners refrain from administering the tests for purposes other than research "or at least limit their interpretations to the very small number of indexes derived from these techniques that are empirically supported."

Dr. Lilienfeld said that the review was written to raise awareness of the problems with the tests in the legal field and with "the hope that maybe we can reach a small number of open-minded people, and in particular students, who have yet to make up their minds on this issue."

But he added, "I'm confident that many will take issue with our conclusions."

One of those is Dr. Irving B. Weiner, a clinical professor of psychiatry and behavioral medicine at the University of South Florida and the president of the International Rorschach Society, who said the authors of the journal report took research findings out of context to bolster their case.

Dr. Lilienfeld and his colleagues do not really understand how clinicians use the tests, Dr. Weiner said. They "have been used for a long time very effectively, with very good results and a great deal of scientific support," he said.

Dr. Gregory J. Meyer, an associate professor of psychology at the University of Alaska at Anchorage, who has studied the Rorschach, said admonishing psychologists against using the tests was "not in the spirit of advancing our science."

He said the journal's decision to run the psychologists' article was like asking "someone who believes in creationism to review evolutionary theory and make recommendations about it."

A History of Controversy

Projective tests are no strangers to controversy. The Rorschach, in particular, has inspired intense passion in defenders and critics over the decades, leading two scientists to observe in a 1999 paper that the test had "the dubious distinction of being, simultaneously, the most cherished and the most reviled of psychological assessment instruments."

Dr. Hermann Rorschach, a Swiss psychiatrist who worked with schizophrenic patients, is believed to have gotten the idea for the test from a popular European parlor game called Klexographie, which involves making inkblots and telling stories about them. As a child, Dr. Rorschach was so good at the game that he earned the nickname Klecks, or Blot. He died of peritonitis a year after the test's publication in 1921. He was 37.

The Rorschach's champions have often been almost worshipful in their belief in its ability to pare back the layers of the psyche, and the test is generally regarded as offering a richness of information about a person's psychological world that cannot be gained from interviews or from "self-report" tests like the Minnesota Multiphasic Personality Inventory or M.M.P.I.

The test has used the same 10 images since it was developed. Responses to the inkblots can be scored using more than 100 criteria, including how common or unusual the responses are, what areas of the blots are focused on, whether movement is seen in the images, and so on.

In an earlier era, clinicians who demonstrated special skill in interpreting the test were dubbed Rorschach "wizards," and the technique sometimes was referred to as "an X- ray of the mind."

Over the years, the test's detractors have also been zealous, making at times brutal attacks on its scientific validity, especially in the 1950's and 1960's, when practitioners varied greatly in the ways they administered and scored the tests.

Some of the criticism abated in the mid-1970's, when Dr. John E. Exner, then a professor of psychology at Long Island University, developed systematic rules for giving and scoring the Rorschach and established norms against which the responses of test takers could be compared.

Dr. Exner's "comprehensive system" is used by a majority of psychologists who administer the Rorschach. Dr. Exner says that Rorschach Workshops, a North Carolina research foundation which he directs, trains an average of 300 clinicians a year in the method in the United States and several hundred more in Europe and Japan. The foundation charges $650 for five days of intense training in the technique.

With the comprehensive system, the test can yield a complex picture of people's psychological strengths and weaknesses, the Rorschach's proponents say, including their intelligence and overall mental functioning, their ability to relate appropriately to other people, their sexuality, and their fantasies, fears and preoccupations.

And the psychologists argue that even when the Rorschach appears to have greater validity — for example, in assessing intelligence, diagnosing schizophrenia and predicting a patient's success in psychotherapy — it is not clear how much additional knowledge is gained from the test.

Detecting Abnormality

Another problem with the Rorschach, the psychologists say in their review, is that the test tends to "overpathologize," making even normal people look maladjusted.

In a study, which they reviewed, of 123 subjects with no psychiatric history who were given the test, most at a California blood bank, 16 percent scored in the abnormal range on the test's schizophrenia index — far higher than the 1 percent incidence of the illness in the general population indicated in other surveys. Eighteen percent showed signs of clinical depression on the test, and 29 percent had indicators of extreme narcissism.

Empirical backing for the validity of the other two projective measures, the T.A.T. and the human figure drawing test, was sketchy at best, the review's authors found, with the drawing test "the weakest" of the three tests.

Psychologists like Dr. Weiner, the author of "Principles of Rorschach Interpretation" and another book on the test, strongly disputed the conclusions drawn in the review.

They said a diagnosis was never made on the basis of the test alone.

"There are plenty of studies that show the Rorschach can help you identify people who have schizophrenia or whether people are depressed," Dr. Weiner said, "but the test doesn't make the diagnosis. No single test that a clinician uses makes the diagnosis. If you're going to use this instrument effectively, you're going to take a lot of things into consideration."

He added: "Tests don't `overpathologize.' That's done by the person who interprets them."

Dr. Meyer, of the University of Alaska, said that while more research needed to be done on some of the issues raised by Dr. Lilienfeld and his colleagues, their views did not fairly reflect what is known about the validity of the Rorschach and other tests.

In an article to be published in the journal American Psychologist, Dr. Meyer and other researchers conclude that the validity of psychological tests, including the Rorschach and the T.A.T., is comparable to that of medical tests, like ultrasounds and M.R.I.'s. The article is based on a review of 125 meta-analyses of the validity of psychological and medical tests.

But even Dr. Exner, the developer of the comprehensive system, agreed that the test "can be abused unwittingly by the ill-trained person," and he said he was uncomfortable with the use of the test in "adversarial" settings, like custody disputes, unless the psychologist was working for the court, rather than for one parent or the other.

"It takes a long time to learn the Rorschach and you've got to work at it, it's not simple," said Dr. Exner, who is also the curator of the Rorschach archives.

The real question for clinicians in using the test, he said, is, "What do you want to know about the individual?"

"If you're interested only in some diagnostic labeling," Dr. Exner said, "I don't know that the Rorschach is worth doing, not simply because of time but because you're flooded with information that you're not going to use. On the other hand, if you're going to treat someone, I think the Rorschach is a pretty sturdy instrument.

"The strength of the test," he continued, "is that it helps the really capable interpreter to develop a picture of an individual."

DEPARTMENT of EDUCATION
Louisiana Believes

Excerpts from *Frankenstein; or, the Modern Prometheus*

Mary Shelley

From Chapter 4: *(From Dr. Frankenstein's point of view)*

In M. Waldman I found a true friend. In a thousand ways he smoothed for me the path of knowledge and made the most abstruse inquiries clear to my apprehension. My application was at first fluctuating and uncertain; it gained strength as I proceeded and soon became so eager that the stars often disappeared in the light of morning whilst I was yet engaged in my laboratory.

One of the phenomena which had peculiarly attracted my attention was the structure of the human frame, and, indeed, any animal endued with life. Whence, I often asked myself, did the principle of life proceed? It was a bold question, and one which has ever been considered as a mystery. To examine the causes of life, we must first have recourse to death. I became acquainted with the science of anatomy, but this was not sufficient; I must also observe the natural decay and corruption of the human body. I saw how the fine form of man was degraded and wasted; I beheld the corruption of death succeed to the blooming cheek of life; I saw how the worm inherited the wonders of the eye and brain. I paused, examining and analysing all the minutiae of causation, as exemplified in the change from life to death, and death to life, until from the midst of this darkness a sudden light broke in upon me. After days and nights of incredible labour and fatigue, I succeeded in discovering the cause of generation and life; nay, more, I became myself capable of bestowing animation upon lifeless matter. I was surprised that among so many men of genius who had directed their inquiries towards the same science, that I alone should be reserved to discover so astonishing a secret.

The astonishment which I had at first experienced on this discovery soon gave place to delight and rapture. After so much time spent in painful labour, to arrive at once at the summit of my desires was the most gratifying consummation of my toils. What had been the study and desire of the wisest men since the creation of the world was now within my grasp. I see by your eagerness and the wonder and hope which your eyes express, my friend, that you expect to be informed of the secret with which I am acquainted; that cannot be; listen patiently until the end of my story, and you will easily perceive why I am reserved upon that subject. Learn from me, at least by my example, how dangerous is the acquirement of knowledge and how much happier that man is who believes his native town to be the world, than he who aspires to become greater than his nature will allow.

DEPARTMENT of EDUCATION
Louisiana Believes

When I found so astonishing a power placed within my hands, I hesitated a long time concerning the manner in which I should employ it. Although I possessed the capacity of bestowing animation, yet to prepare a frame for the reception of it, still remained a work of inconceivable difficulty and labour. I doubted at first whether I should attempt the creation of a being like myself, or one of simpler organization; but my imagination was too much exalted by my first success to permit me to doubt of my ability to give life to an animal as complex and wonderful as man. The materials at present within my command hardly appeared adequate to so arduous an undertaking, but I doubted not that I should ultimately succeed. I prepared myself for a multitude of reverses, yet when I considered the improvement which every day takes place in science and mechanics, I was encouraged to hope my present attempts would at least lay the foundations of future success. It was with these feelings that I began the creation of a human being. I resolved, contrary to my first intention, to make the being of a gigantic stature, that is to say, about eight feet in height, and proportionably large. After having formed this determination and having spent some months in successfully collecting and arranging my materials, I began.

No one can conceive the variety of feelings which bore me onwards, like a hurricane, in the first enthusiasm of success. A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me. Pursuing these reflections, I thought that if I could bestow animation upon lifeless matter, I might in process of time (although I now found it impossible) renew life where death had apparently devoted the body to corruption. These thoughts supported my spirits, while I pursued my undertaking with unremitting ardour. My cheek had grown pale with study, and my person had become emaciated with confinement. Sometimes, on the very brink of certainty, I failed; yet still I clung to the hope which the next day or the next hour might realize. One secret which I alone possessed was the hope to which I had dedicated myself; and the moon gazed on my midnight labours.

The summer months passed while I was thus engaged, heart and soul, in one pursuit. I could not tear my thoughts from my employment, loathsome in itself, but which had taken an irresistible hold of my imagination. Winter, spring, and summer passed away during my labours; but I did not watch the blossom or the expanding leaves—sights which before always yielded me supreme delight—so deeply was I engrossed in my occupation. The leaves of that year had withered before my work drew near to a close, and now every day showed me more plainly how well I had succeeded. Every night I was oppressed by a slow fever, and I became nervous to a most painful degree. Sometimes I grew alarmed at the wreck I perceived that I had become; the energy of my purpose alone sustained me: my labours would soon end, and I believed that exercise and amusement would then drive away incipient disease; and I promised myself both of these when my creation should be complete.

Grade 8: Flowers for Algernon

ELA Module 2, Session 2 P-02.16

DEPARTMENT of EDUCATION
Louisiana Believes

The Story of Prometheus: I. How Fire Was Given to Men from *Old Greek Stories*

James Baldwin

In those old, old times, there lived two brothers who were not like other men, nor yet like those Mighty Ones who lived upon the mountain top. They were the sons of one of those Titans who had fought against Jupiter[1] and been sent in chains to the strong prison-house of the Lower World. (1)

The name of the elder of these brothers was Prometheus, or Forethought; for he was always thinking of the future and making things ready for what might happen tomorrow, or next week, or next year, or it may be in a hundred years to come. The younger was called Epimetheus, or Afterthought; for he was always so busy thinking of yesterday, or last year, or a hundred years ago, that he had no care at all for what might come to pass after a while.

For some cause Jupiter had not sent these brothers to prison with the rest of the Titans.

Prometheus did not care to live amid the clouds on the mountain top. He was too busy for that. While the Mighty Folk were spending their time in idleness, drinking nectar and eating ambrosia, he was intent upon plans for making the world wiser and better than it had ever been before.

He went out amongst men to live with them and help them; for his heart was filled with sadness when he found that they were no longer happy as they had been during the golden days when Saturn[2] was king. Ah, how very poor and wretched they were! He found them living in caves and in holes of the earth, shivering with the cold because there was no fire, dying of starvation, hunted by wild beasts and by one another--the most miserable of all living creatures. (5)

"If they only had fire," said Prometheus to himself, "they could at least warm themselves and cook their food; and after a while they could learn to make tools and build themselves houses. Without fire, they are worse off than the beasts."

Then he went boldly to Jupiter and begged him to give fire to men, so that they might have a little comfort through the long, dreary months of winter.

---

[1] Jupiter (Roman) is the same as Zeus (Greek).
[2] Saturn (Roman) is the same as Cronus (Greek).

DEPARTMENT of EDUCATION
Louisiana Believes

"Not a spark will I give," said Jupiter. "No, indeed! Why, if men had fire they might become strong and wise like ourselves, and after a while they would drive us out of our kingdom. Let them shiver with cold, and let them live like the beasts. It is best for them to be poor and ignorant, so that we Mighty Ones may thrive and be happy."

Prometheus made no answer; but he had set his heart on helping mankind, and he did not give up. He turned away, and left Jupiter and his mighty company forever.

As he was walking by the shore of the sea he found a reed, or, as some say, a tall stalk of fennel, growing; and when he had broken it off he saw that its hollow center was filled with a dry, soft pith[3] which would burn slowly and keep on fire a long time. He took the long stalk in his hands, and started with it towards the dwelling[4] of the sun in the far east.

"Mankind shall have fire in spite of the tyrant who sits on the mountaintop," he said. (10)

He reached the place of the sun in the early morning just as the glowing, golden orb was rising from the earth and beginning his daily journey through the sky. He touched the end of the long reed to the flames, and the dry pith caught on fire and burned slowly. Then he turned and hastened back to his own land, carrying with him the precious spark hidden in the hollow center of the plant.

He called some of the shivering men from their caves and built a fire for them, and showed them how to warm themselves by it and how to build other fires from the coals. Soon there was a cheerful blaze in every rude home in the land, and men and women gathered round it and were warm and happy, and thankful to Prometheus for the wonderful gift which he had brought to them from the sun.

It was not long until they learned to cook their food and so to eat like men instead of like beasts. They began at once to leave off their wild and savage habits; and instead of lurking in the dark places of the world, they came out into the open air and the bright sunlight, and were glad because life had been given to them.

After that, Prometheus taught them, little by little, a thousand things. He showed them how to build houses of wood and stone, and how to tame sheep and cattle and make them useful, and how to plow and sow and reap,[5] and how to protect themselves from the storms of winter and the beasts of the woods. Then he showed them how to dig in the earth for copper and iron, and how to melt the ore, and how to hammer it into shape and fashion from it the tools and weapons which they needed in peace and war; and when he saw how happy the world was becoming he cried out:

"A new Golden Age shall come, brighter and better by far than the old!" (15)

[3] pith: soft, spongy tissue inside a plant
[4] dwelling: home, place to live or stay
[5] plow and sow and reap: farm

Application to your content area

Use your discipline-specific text for this task.

Identify how you will address the literacy instructional shifts, complexity, evidence, knowledge, and fluency as you use this text and others in your classroom. Include specific strategies you will use to address each of the three key shifts in literacy when you use this text and others with students.

1. How will you facilitate students' successful reading of this complex text?

2. How will you have students practice using the text for evidence?

3. How will you develop the necessary knowledge to ensure students are successful in reading this text?

4. What other texts might you consider using to build coherence for students to understand the knowledge to read successfully?

5. What fluency strategies are appropriate to use with your students? Explain your reasons.

Teacher Preparation Competencies

In your learning teams,

- Review the Disciplinary Literacy Standards in the *Teacher Preparation Competencies*.
- Align what you have learned today to the competencies. How does our content today expand your understanding of these competencies?
- Explain how the content studied in Module 5 will assist you in supporting your resident teacher refine his or her understanding of the competencies and ability to apply them in practice.

Culminating Task

Consider this scenario.

Mr. Smith is a new teacher at your school. This is his first year teaching. Over lunch one day he asks you "I don't understand why it is my job to teach these students how to read? Why do I need to do that and how can I do that in [add your content area here]?"

How will you respond? Include reference to the disciplinary literacy competencies and your specific content area in your response.

Jot notes here to include in your response.

Module 5 Review

In your team, review the outcomes and key points (p. 3-4) for Module 5. Share how you anticipate applying what you learned as a mentor.

Exit slip

Use an index card on your table. Write a brief note.

3 ideas I am taking away
2 actions I'll take based on what I learned
1 question I have about what I learned