21st Century Mythmaking: Reading and Writing Culturally Responsive Mythology through a Scientific Lens in the ELL Classroom

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Introduction

Teaching teenagers to love reading and writing can be a daunting task in a world of ever evolving distractions; however, there is always one genre that has the mystical power to momentarily tear my students' eyes from their handheld screens-- mythology. Perhaps it is the vivid details, the fantastical characters, or the death-defying hero's journey that captures students' interest-- regardless of the specific reasoning, many of my students love mythology. The irony is not lost on me that this genre is as ancient as storytelling itself, and yet, still offers an allure that gives me precious time to hook students into performing old-fashioned read alouds, discussions and analysis.

As a high school teacher of English language learners (ELL), it is vital that I capitalize on high interest literary genres to teach language and English language arts content. Aside from the typical 21st century distractors, trying to concentrate on academic content in an incomprehensible language is as difficult as it sounds. Mythology is a useful genre in engaging my ELL students because of its high interest, and because many ELL students have some background knowledge of mythology and folklore in their own cultures. This background knowledge serves as a natural scaffold to teaching language and content in my 9th grade English classroom.

While my students eagerly read and respond to mythology, I have found that they have difficulty producing myths of their own creation. After reading and analyzing several myths, I ask students to write a myth about a natural phenomenon, or one that teaches a lesson about the human connection to the natural world. While most students understand the requirements of the writing assignment, they often struggle to form ideas into cohesive narratives. I believe this breakdown is due in large part to a knowledge gap in the phenomena they are attempting to mythologize. For example, a group of students who are attempting to write a myth about global warming may have difficulty in creating characters or developing a storyline if they don't understand the basic principles of climate change.

In this unit, I hope to deepen student understanding of mythology as an engaging genre of fantastic storytelling, and a practical genre as a means of passing on beliefs, cultural knowledge, and a cultural philosophy developed over millennia to future generations. To do this, we will read culturally responsive myths from around the world and analyze what knowledge or belief systems are represented by the characters, conflict, and/or themes in the text. Students will further explore the function of mythology as a system for transmitting knowledge by engaging in an ethnobotanical study of plants native to Delaware and used by the Indigenous peoples of Delaware. Students will then conduct their own research into a plant that is influential in their own culture. Further, we will analyze how the ideas, observations and understandings mythologized by Indigenous peoples have influenced our modern world in our everyday living and in fields such as medicine and science. Throughout the unit, we will analyze the connections between the teachings of myths and the cultural norms and values we live by today. In our exploration of character, theme, and setting archetypes, students will explore why heroes both past and present make dangerous journeys. Students will then imitate the hero and hero's journey archetypes in their own writing to describe a courageous journey that they, or someone they know, has made. We will compare and contrast how archetypes appear in multicultural mythology and the way in which these archetypes are both alike and dissimilar across cultures. In the culminating unit assessment, students will write myths about a plant that is central to their native culture. This assessment will give students the rich opportunity to draw on their own cultural knowledge and apply their research to a familiar narrative myth genre that makes space for imagination and creativity. By carefully scaffolding these learning activities, I hope to close the knowledge gap that has previously caused my students difficulty in crafting their own myths.

Demographics

The John Dickinson School is one of four public, secondary schools in the Red Clay Consolidated School District. Although the school is located on the suburban outskirts of Wilmington, Delaware, JDS serves a majority of students from inner-city Wilmington and the immediate surroundings. The school houses two programs within its building: the Middle Years Program, grades 6 to 8, and the high school, grades 9 to 12.

JDS serves a diverse population of students. Currently, 894 students are enrolled in JDS for the 2020-21 school year. Of the 894 students, 24.5% of students are African

American, 28.4% of students are Hispanic, 2.8% of students are Asian American, 2.35% of students are Multi-Racial and 41.9% of students are Caucasian. Of the more than 800 students enrolled at JDS, 28.8% of students are classified as low income. Further, 11.8% of the student body are classified as English language learners and about 15.5% of students are learners with disabilities.¹

Background Information

I am one of two ELL teachers in my building. I teach two grade level sheltered English courses, English 9 and English 10. Additionally, I teach a writing course for English learners and an English language development course for beginners. The students in my sheltered English courses receive grade level English content instruction, as dictated by the curriculum, in a manner that is differentiated for their language proficiency level. Often, the students in my sheltered English classes fall in an English proficiency level of beginner to high beginner or low intermediate. Further, my students are from a number of countries around the world and enter the classroom with a range of previous educational experiences. Some students are highly educated in their countries of origin, while others may arrive with years-long gaps in their formal schooling. While most of my students are from Spanish-speaking countries, each student arrives with unique cultural, linguistic, and individual needs both socially and academically.

In an effort to make educational opportunities equitable to ELLs, the district requires that English learners receive content instruction separately from an English language development class. In other words, ELL students must be exposed to the same English language arts content as their native-speaking peers, rather than simply focusing on developing English proficiency in listening, speaking, reading, and writing. While this has presented some significant challenges in my sheltered English classrooms, it has narrowed my focus on providing instruction that teaches both language and content simultaneously. By teaching a language function in the context of grade-level content, high school ELL students receive equitable access to age-appropriate content and language instruction to support their developing English proficiency.

I intend to teach this unit to my 9th grade sheltered English class. As specified by the district curriculum map, students will read and analyze an excerpt from *The Odyssey* by Homer. However, I plan to enrich student learning by integrating more culturally responsive myths from my students' own cultures, and cultures around the world. In this way, I will build student understanding of new content based on their background

knowledge of mythology. Moreover, I will embed language instruction in content-rich activities that support English proficiency development in the domains of listening, speaking, reading, and writing.

Content Objectives

My primary objective in this unit is for students to understand the purpose and relevance of mythology in literature and culture. This objective is two-fold. The first part of this objective aims to help students understand mythology as a means of transmitting a culture's belief system and philosophy. As Dale Allender describes, mythology is not a false belief or lie, but rather "a cultural phenomenon embedded in sophisticated systems of meaning and action." At the end of this unit, it is my hope that students not only have a deeper appreciation of mythology as masterful storytelling, but an understanding of mythology as a tool that cultures use to teach and sustain their cultural norms and values. These norms and values address both interpersonal relationships in the community and relationships with the natural world. Moreover, mythology illustrates a culture's belief system, including the origin of life on earth and an Indigenous group's relationship with the spiritual and earthly forces in their immediate surroundings.

In her beautiful retelling of the Anishinaabe creation myth, Robin Wall Kimmerer describes the story of Skywoman Falling as both "glittering" and instructional. Kimmerer's retelling follows the pregnant Skywoman who falls to earth and relies on the help of animals to form land and grow plants so that life can flourish. The central theme of the story shows the value of reciprocity with the natural world. The animals in the myth sacrifice their lives to bring Skywoman soil so that she can survive on the oceancovered Earth. In an act of reciprocity, Skywoman plants seeds in the soil and creates food for herself and the animals. As Kimmerer describes, the story encapsulates some of the "ethical prescriptions for respectful hunting, family life, [and] ceremonies" that are central to the Anishinaabe cultural philosophy regarding reciprocity with the natural world.³ To help my students reach this understanding of myths as conduits for spreading a culture's philosophy, I plan to expose students to a number of myths from cultures around the world. We will conduct close readings with specific goals to reveal the different layers and deeper purpose(s) of these texts. As we work to reach this objective, I envision rich conversations as a class, and in small groups, in which students make connections between themselves and these multicultural myths. My goal is to provoke critical thought about what these myths teach, and to analyze if the insights or values central to each myth are reflected in their own culture today.

The second facet of my first objective is to elicit student understanding of storytelling as a means of passing on generational knowledge about the natural world. Mythology has gained the negative connotation of being inferior to scientific thought; however, it is clear that Indigenous people used specific methods to gather and disseminate information within their cultures. This concept has several different titles, but is commonly referred to as Traditional Ecological Knowledge (TEK). The U.S. Fish and Wildlife Service defines TEK as "the evolving knowledge acquired by Indigenous and local peoples over hundreds or thousands of years through direct contact with the environment."⁴ Within this objective, I aim to help students better understand how Indigenous peoples use the scientific methods of observation, imitation, and trial and error to gain understandings about the natural world around them. This type of engagement between Indigenous cultures and their respective environments is now formalized into the scientific field of ethnobotany. Ethnobotany is a field of study that analyzes the interaction between Indigenous manipulations of plants and the culture in which these plants are used.⁵ Through centuries of careful observation and engagement, these groups have tested, discovered, and propagated plants for food, medicine, art, tools, weapons, and rituals. According to Nancy Turner and Jonaki Bhattacharyya, Indigenous people often integrate ethnobotany into their language by referring to plants based on the relationships with animals that feed from them. This is evidence that Indigenous people developed lifestyles and philosophies based on careful study and analysis of their landscapes.⁶ Though the genre of mythology has certainly proven its ability to capture rapt audiences for centuries, the genre represents much more than just colorful storytelling. Mythology is an effective tool for passing on practical knowledge about plants, animals, and the natural world to future generations.

In his work collecting seeds of wild plants, Gary Nabhan describes how some traditional farmers in agrarian cultures around the world can name anywhere from one thousand to twenty-three hundred different plants and animals in their surroundings. This knowledge is then passed within family and the community. This is in stark contrast with the mono-cropping culture that has led to the destruction of wild plants and a disconnect between the farmer and the land. Moreover, pragmatic concepts like sustainability and self-restraint were not invented by modern recycling campaigns, but rather appear as common themes of centuries-old indigenous myths and folklore, and show up in the lived experience of some Indigenous cultures today. The Hadzabe people of Tanzania state plainly that there is no need to gather more food than what will be consumed within a day because their environment will provide food the next day. The concept of stockpiling

food for later consumption is not a part of the Hadzabe culture. The absence of this notion to gather more than what is necessary for day to day living provides adequate time for plants and animals in their natural surroundings to regrow or repopulate respectively. Thus, the idea of sustainability is not a concept in the Hadzabe culture, but rather a way of living.⁸

Many of the centuries-old stories we now consider relics of a past era still remain fundamental bodies of literature to Indigenous peoples and narrate the cultural philosophy that these groups still live by. By reading these types of stories with students, I aim to help students make connections between what traditional wisdom remains relevant in our world today. Further, we will read stories about specific plants, animals, and natural phenomena that pre-date the "scientific era" but describe observations that have been critical in forming current scientific understandings. One such example of how traditional knowledge can influence scientific breakthroughs and data-gathering comes from the bowhead whale census of 1977. The International Whaling Commission put a ban on hunting bowhead whales due to dwindling populations, according to the census data gathered by outside researchers. However, native Eskimos that relied on the bowhead whale harvest suggested this low census data was inaccurate due to the researchers misunderstanding of the whales' migration patterns. A study was then conducted in a manner that accounted for the Eskimos' sightings of whales in areas previously not studied and found that the Eskimos' estimations were correct. As my students and I analyze what observations and facts are conferred through traditional storytelling, we will also discuss how these observations may have been collected and trialed in much the same way that we use the scientific method to make new discoveries today. In this way, I hope students come to value mythology as a unique literary genre that provides rich, cross-curricular connections between literature and science; rather than separating the art of storytelling from the science of nature, mythology blends the best of both worlds.

My second objective is to deepen student understanding of archetypes and cultural symbols. An archetype is a concept identified by psychologist Carl Jung in his theory of the collective unconscious that explains common characters and themes that appear in the literature of cultures from around the world. In short, an archetype is defined as "a universal symbolic pattern." The archetype is a central feature of mythology and appears in many other genres including current literature and media. Jeff House notes in his article on teaching mythology that "mythmaking is very much alive" in "modern films, songs, television, and cultural icons." This phenomenon is due, in large part, to

the persistence of archetypes that stem from mythology. These archetypes have stayed with us and influenced our storytelling since their appearance in stories long ago. Archetypes can be characters, settings, themes, or plots that "explain the nature of the world or life."¹³ Archetypes, such as the hero or the trickster, appear in cultures across the globe, some of which may have never interacted. While some archetypal characters or story themes may have astonishing similarities, they can also be wholly unique to a particular culture. After introducing students to the concept of archetypes, we will look at examples of archetypes in mythology and popular culture. Then, we will spend time comparing archetypes from different cultures. The primary focus of our comparison will be on the hero and the hero's journey archetypes because these archetypes are a central part of my district's curriculum unit entitled *Heroes and Ouests*. We will analyze why the archetypes of the hero and the hero's journey persist in cultures around the world. We will compare heroes and their quests in several multicultural myths. The goal in identifying and analyzing these archetypes is to illustrate the commonalities in the way the human experience of failure and triumph is conveyed in stories around the world. Another goal in analyzing these archetypes is to identify how these archetypes are portrayed differently according to each culture's distinctive philosophy. To do so, we will identify and compare the distinct cultural symbols in each myth. These cultural symbols may include colors, plants, animals, or landscapes, and will be unique to the myth's culture of origin. While an archetypal character or theme may bring two multicultural stories together, the cultural symbols that are present in each story will set the stories apart. It is my hope that comparing and contrasting the archetypes and symbols in these stories will spark student inquiry into how cultures are similar, and how they are different. Further, I want students to reflect and identify symbols in their own cultures, and how they may be similar or different from that of their classmates.

My final objective for this unit is to support students in developing original myths that offer an explanation for the origin of a culturally significant plant. While many of the curriculum goals aim to improve student comprehension and text analysis, I believe that student comprehension and text analysis is more effectively strengthened by allowing the student to assume the role of author in the same genre they are reading. What better way to analyze the author's choice and text structure than to actually imitate the genre students are asked to analyze? Most writing assignments in the curriculum focus on analysis and evidence-based responses. While this genre of writing is certainly one that students must learn and practice, it is not the only writing genre worth teaching. Furthermore, the opportunity to imitate the writing genre that students are studying deepens their understanding of the text structure and associated grammatical text features, and gives

students authentic writing practice that is naturally scaffolded by the texts they have studied. Moreover, the concept of "author purpose" or "author's choice" becomes more concrete when the student has assumed the role as author, thus improving comprehension. In their work on collaborative writing and genre-based pedagogy, Nigel Caplan and Monica Farling outline the benefits of genre-based writing for English learners. One of these benefits states that "genres give learners a reason to write and an audience to read their texts." ¹⁴

With a clear purpose for writing, students will be able to focus their effort and creativity on the construction of their original myths, rather than the traditional, "static" analytical essay. Again, I will use both the gradual release of responsibility method and collaborative writing so that students receive adequate myth writing practice before they are expected to produce independent writing. The collaborative myth writing will occur in the second activity in which students write archetypal hero's journeys about a quest they, or someone they know, has taken. First, we will read an excerpt from *The Odyssey* and deconstruct the structure of narrative myths and the way in which hero's journeys are sequenced. Then, we will develop a 21st century hero and write a myth in which our character goes on the archetypal hero's journey to face a 21st century problem, such as climate change or racial injustice. During this phase, I will call attention to the language, structure, and organization that students will need to imitate in their own writing. Next, students will work in small groups to develop a teenage hero and a myth that details how this hero faces a coming of age issue, such as dating violence or taking a stand against a bully. Students will then work independently to write a myth detailing a heroic journey they have taken, or someone they know has taken. This collaborative writing activity is intended to serve as a scaffold to support students' final writing projects. In this project, students will use the research they conducted about a culturally significant plant in the first activity to create a myth explaining this plant's origin. Students will be encouraged to consider plants that have considerable influence on different aspects of their culture, such as food, clothing, and/or medicine. Thus, my third learning objective in which students will write original myths is intended to spiral content knowledge and skills students have learned in the first two unit activities.

Teaching Strategies

Gradual Release of Responsibility

The gradual release of responsibility method is central to nearly all of my reading and writing instruction because it scaffolds instruction and gives students multiple opportunities to safely practice a skill before being asked to demonstrate the skill individually. This method begins with the teacher modeling the reading or writing skills she wants the students to perform. Then, the teacher releases the "responsibility" of performing the skill to carefully selected small groups of students. When the teacher has assessed that students have adequately practiced and grasped the skill, responsibility to perform the skill is released to individual students. Students are then individually assessed on their ability to perform the skill being assessed. This is particularly useful for teaching reading and writing to English learners, who benefit from the interaction with peers to understand the language functions and patterns necessary to read a text critically or to produce a written product. Therefore, this strategy will be crucial in helping me to achieve my first unit objective in which students must read and analyze multicultural myths, as well as conduct research on the features and uses of native plants that are central components of these myths. It is important that students learn how to gradually conduct these analyses and research investigations more independently as the unit progresses. Students will eventually be required to independently research a plant from their own culture and create a presentation that outlines its features, functions, and importance to their own culture.

Collaborative Writing

In my final unit objective, students will produce original myths about a culturally significant plant. To achieve this objective, students will need adequate writing practice in the narrative genre form prior to attempting this assessment. Of the four language domains, writing is the most complex and arguably the most challenging for language learners. However, I have found that students are infinitely more enthusiastic and confident in their writing when they feel that they have had adequate practice and developed the skills necessary to complete the writing task. Collaborative writing provides both guided practice and incremental development of the language skills that students will need to produce their own writing independently.

The process of collaborative writing is three-fold. In the first stage of collaborative writing, the teacher and students "deconstruct" a mentor text as a class. Students examine the organization and grammatical features of the mentor text, and the instructor teaches explicit lessons on these features as necessary. Then, the instructor leads the class in jointly constructing a text in the same genre as the mentor text. During this "join

construction" phase, the teacher models the language, organization, and grammatical features of the genre that were analyzed during the deconstruction phase. I often give students an additional opportunity to jointly construct a text in small groups or pairs. In this way, I can more closely assess what skills or concepts students need more practice with before writing independently. In the final phase of collaborative writing, students construct their texts independently. This phase of "independent construction" is highly scaffolded by the previous whole-class and small-group writing practice. Additionally, students have the benefit of referring to the jointly constructed texts (which serve as models) when constructing their own texts. ¹⁶

Gallery Walks

Gallery walks are kinesthetic and interactive opportunities for students to gather information. A large part of my curriculum unit will involve students gathering information about cultures and natural phenomena. Rather than having students take notes from their seats, I want to incorporate opportunities for students to plan, seek out, and gather information. Gallery walks provide an information gathering activity that is multi-sensory, as they integrate audio, visual, and kinesthetic activity. These modes of input help students retain content longer and give students a visual point of reference to remember particular information. Furthermore, gallery walks are useful in teaching information-gathering skills such as note-taking and summarizing. Not only will these skills aid students in completing their individual myth writing assessment, but they are skills that can (and should) be applied across content areas.

Close Reading

Close reading is a teaching strategy that requires students to have multiple interactions with a text. With each interaction, students will peel back another layer of complexity in the text. The key features of close reading according to Douglas Fisher and Nancy Frey are the short, complex passages, repeated reading, annotation, text-dependent questions, and rich discussion of the text post-reading. I plan to incorporate each of these features with my class of English learners as we read short selections of mythology from cultures around the world. Most of these texts will be relatively short in length and likely require repeated interactions with the text to understand both the narrative and the cultural symbols and archetypes. These multiple, meaningful interactions will with the text help my students understand the myths we read as stories in and of themselves, as well as cultural messages and/or knowledge intended to be passed on to subsequent generations.

In order to achieve this deeper understanding, students will also need to annotate their texts and prepare for discussions after reading the text so that they may work collaboratively to discover the myth's theme or lesson. Therefore, close reading is a critical strategy in achieving the first and second objectives of my unit, which aim to deepen students' understanding of mythology as both entertaining and informative texts.

Classroom Activities

Activity 1: Making Connections: Ethnobotany and Mythology

As I outlined in my first goal for this unit, I want to dispel common misconceptions students may have about mythology. I want students to understand mythology as a genre that encapsulates entire belief and knowledge systems for posterity. Each story demonstrates the moral, spiritual, and scientific understandings that define a particular culture. To meet this objective, I plan to have students engage in a bit of ethnobotany as a class, in small groups, and individually. In the culminating assessment of this activity, students will present research they have conducted on a plant that is central to their culture.

Vocabulary is a critical component of any lesson that introduces new content, but it is especially critical when teaching English learners. To begin this activity, we will define and discuss the meaning of the words mythology, philosophy, culture, and symbol. I expect that some students may suggest that mythology is not true, false, or irrelevant, though perhaps not in that exact language. I will take this learning opportunity to guide students to a new understanding of mythology as representing a culture's beliefs, philosophy, and guidelines for everyday living. I plan to use the story of the Ese'Eja, who believe that their people descended from cotton thread that was connected to the sky. 19 As a class, we will read, discuss, and identify the recurring symbols. I will guide students to correctly identify cotton as an important symbol before presenting an informative presentation that shows the many uses and significance of cotton in the Ese'Eja culture. After the presentation, I will ask students to consider any plants, animals, or cultural symbols that frequent their own traditions and daily life. Then, I will ask students to choose one cultural symbol and reflect on how this symbol is used and represented in their culture. What beliefs are connected to this symbol? Is this symbol something used in everyday life, or reserved for special occasions? Do you see this symbol on clothing, in your food, in the medicine you take, or elsewhere? These reflection questions are intended to deepen student understanding that the lessons, beliefs, and knowledge passed down in the genre of mythology are still quite relevant to our modern cultures, which contrasts the widely accepted idea that mythology is ancient or irrelevant.

The next concept that will aid student understanding of mythology as a genre for knowledge transfer is the term ethnobotany. We will define this word as a class, and then begin researching local native plants through an ethnobotanical lens. My goal is for students to see how Indigenous peoples gained scientific knowledge about the world around them through the methods of observation and hypothesis testing. As a class, we will read, discuss, and analyze a myth explaining the origin of a particular plant with great significance to an Indigenous culture. For example, the Haudenosaunee legend of The Three Sisters describes the origin story of corn, beans, and squash and their importance in the diet, rituals, and philosophy of the Haudenosaunee culture. The story of the three sisters demonstrates how native peoples observed the colors, textures, and growth cycles of corn, beans, and squash, as well as their understanding of how nutritious these plants were separately and when eaten together.

To help students identify the ethnobotanical underpinnings of Three Sisters story, we will conduct a close reading of the story. This close reading will also support students who have lower English proficiency and/or developing literacy skills because we will interact with the text multiple times to achieve clearly stated goals for each interaction. In our first reading of the text, students will identify the traditional elements of a story, including the setting, characters, conflict, and resolution. Then, I will guide student understanding to identify how the "characters" are symbols for corn, beans, and squash. In our second reading of the story, students will look at specific selections of the text that denote plant features and plant uses. While re-reading these excerpts, I will ask students to predict how and why these plants may be important to the Haudenosaunee. If students need additional prompting, I will ask them to consider how the plants reacted when they were left alone, how the plants react when they are together, and how the plants respond to the humans' needs. After developing their predictions, students will complete a gallery walk in which they will view plant images and read short informational descriptions about corn, beans, and squash. Students will be tasked with taking notes, and summarizing the nutritional value and growth cycle of corn, beans, and squash. Students will also label diagrams of a three sisters garden and note how the plant features are mutually beneficial to the successful growth of all three plants. Upon completion of the gallery walk, students will return to the Three Sisters text and their hypotheses about how and why these plants are important to the Haudenosaunee. We will discuss how

student hypotheses compare to the information they learned from the gallery walk. Then, I will ask students to skim the text a third time to identify how plant features, the growth cycle, and traditional uses of the plants are symbolized in the myth. Once students have identified this symbolism, we will discuss how myths are tools for transmitting knowledge, rituals, and philosophy.

The whole class close reading and gallery walk is intended to serve as a scaffold for partner work in a gradual release of responsibility. Once students have gained a basic understanding of ethnobotany and its relationship to mythology, students will work in pairs to research and gather information about a local native plant. They will then use this information to create a presentation that outlines and summarizes the plant's importance to local Indigenous communities. In essence, students will conduct their own ethnobotanical research to present to their peers. The peer interaction in pair work is especially beneficial to language learners, who will have the opportunity to safely negotiate new content, language, or skills before being required to demonstrate individual mastery.

I am fortunate that my teaching context is in the state of Delaware and there is a wealth of information about local Indigenous communities and the plants these peoples used and continue to use in their daily lives. Teachers in other regions can easily adapt this part of the activity to their own teaching context. For this part of my classroom activity, I plan to use a text on Delaware ethnobotany that was compiled by Jim A. Hill, Jr. and Jim Remtner to support student research of local native plants.²¹ Students may also gather information from other credible sources to include in their presentation. I plan to model the information gathering and compilation of this presentation for students before they begin their research. I will model how students should find an image or make a sketch of the plant they are researching and label its features, much like the exercise they completed in their gallery walk. I will then show students how to identify and summarize important uses of each plant. Finally, I will model a short, informative summary that includes the plant's features, relevant uses in native communities, and importance for sustaining native peoples' daily lives. To further support student success, I will likely provide students with a presentation template that guides their research, information gathering, and final summary. When students give their presentations, we will make connections to how these native plants may or may not be used in "mainstream" society and draw comparisons between students' own experiences with traditional uses of plants.

In the final iteration of this activity, the burden of responsibility will fall on the shoulders of the individual student. Students will choose a plant from their own culture that bears some significance in daily living and/or rituals. Then, they will conduct research into the features, uses, and importance of this plant to their culture. To help students identify a culturally significant plant, I will have students complete a survey. Some of these questions on the survey may be as follows: What plant is a staple in the food that you eat most often in your culture? What dishes are always served on holidays? What ingredients are in these dishes? What is your state, regional, or national plant? What homeopathic medicines do you take? From what plants do these medicines come from?

After completing the survey, students will be able to identify a plant that is culturally significant to their heritage. Then, students will begin their research and presentations. Students can use the model of the presentations that they completed with their partners; thus, students will be able to complete this individual assessment with confidence. Upon the completion of these presentations, students will have successfully completed ethnobotanical research into their own cultures and will have a deeper understanding of mythology as a source of traditional ecological knowledge.

Activity 2: Analyzing and Applying Archetypes

My next activity will aim to address the second goal of my unit, which is to deepen student understanding of archetypes and cultural symbols. Additionally, I want students to apply their knowledge of archetypes in their own writing. Within this learning activity, students will define archetypes, identify and compare archetypes, and practice using archetypal settings, themes, and characters in a variety of creative writing assessments. The most prominent archetype we will study in this activity is the hero's journey. A number of my students are immigrants, or have parents who immigrated to the United States. In studying the hero's journey, we will make direct comparisons to the immigrant's journey. Though all of these journeys are unique in nature, the immigrant's journey to a new country and a new life is nothing short of courageous. Similarly, our study of archetypes will compare the broad similarities and the particular cultural differences between archetypes in myths from around the world. By giving students a context to which they can personally relate, they will be able to understand the archetypal patterns that characterize mythology and literature from cultures around the world.

I plan to introduce the concept of archetypes by giving students a definition of archetypes and explaining that archetypes exist as characters, settings, and themes. I may also ask students to conduct a short web quest using the PBS website on myths and archetypes so that students can practice information gathering skills, while also learning more about this new concept.²² After exploring examples of different archetypes in a short presentation, I will ask students to identify different archetypes in popular films that most students have seen in English or their native languages. When I am confident that students have a general understanding of the concept, we conduct a close reading of two short myths from different cultures. These myths can be from any culture, but should share at least one similar character, setting, or theme archetype for students to analyze. We will conduct our close reading in a similar manner to the way we conducted our close reading in the first activity. Our first reading of the two texts will focus on identifying and discussing the texts' main elements. We will work as a class to identify the settings, characters, conflicts, and resolutions of each text. I will likely provide a graphic organizer for students to organize their notes on each text. Then, we will read the text a second time, with the express purpose of finding similarities and differences between the texts. I will guide students to notice the similar archetypes in each text, as well as the different cultural symbols. Then, we will transition into a class discussion of how archetypes exist in mythology around the world, but may be portrayed with differing cultural symbols.

In the next part of this activity, students will study the hero's journey archetype. We will begin by discussing the qualities of a hero, who represents a hero in our own lives, and debating if heroes are the same or different in different parts of the world. I will guide students to the understanding that a hero, and the hero's journey, are archetypes that exist in nearly all cultures. Then, students will watch the TEDEd video on the hero's journey and identify the different stages of the hero's journey in their class notes.²³ To further support student understanding of the hero's journey, we will choose a popular Disney movie with a heroic main character, and identify the different parts of the main character's journey as a hero. This will reinforce students' understanding of the hero's journey archetype, and the vocabulary terms that describe each part of the journey.

When students have a basic understanding of the hero's journey archetype, we will prepare to read an excerpt from *The Odyssey*, by Homer. Before reading this text, it is crucial to build students' background knowledge of ancient Greek culture and mythology. Students will conduct a gallery walk in which they read and summarize information about Greek deities, as well as Greek culture. After the gallery walk, students will

identify symbols they believe were important parts of Greek culture, based on their recurrence in the images and information they viewed during their gallery walk.

After assessing that students have gained sufficient background information, students will begin reading "The Cyclops," an excerpt from *The Odyssey*. This excerpt and the larger epic poem *The Odyssey* is a part of our district's curriculum map. The essential question of this unit asks students to consider why people embark on quests and journeys. As we read, students will consider this essential question while illustrating and summarizing several parts of the hero's journey on a graphic organizer. Portions of the graphic organizer will be completed for students because we will not read the entire epic poem, The Odyssey. The completed portions of the organizer will illustrate and summarize the parts of Odysseus' hero's journey that occur before and after "The Cyclops" so that students have a full picture of Odysseus' quest. This partially complete, illustrated organizer also prevents students from being cognitively overloaded by the length and complexity of *The Odyssey*, while also providing them an opportunity to comprehend and engage in authentic, grade level text analysis. As a class, we will discuss how the main character, Odysseus, does or does not represent the ideals of a hero that we identified at the onset of this learning activity. We will also discuss how our ideals of a hero may differ from the myth's Greek culture of origin and the time period in which the myth originated. If students need additional reinforcement of the hero's journey archetype, we may also identify heroes of myths and legends from mainstream culture and compare them to Odysseus' character.

In the next phase of this activity, our class will write collaboratively. Our analysis of Odysseus' journey in "The Cyclops" serves as the deconstruction phase of the collaborative writing process. As a class, we read, analyzed, and deconstructed the part of the hero's journey in "The Cyclops," and the larger epic poem, *The Odyssey*. Thus, these texts will serve as mentor texts to which students can refer as they prepare to imitate this genre of writing. The next step in collaborative writing is to jointly construct texts. As a class, we will refer back to our discussion of qualities that define the archetypal hero, and create a character sketch of a 21st century hero. We will then brainstorm current problems or issues our hero could potentially face (i.e. climate change, cyberbullying, racial injustice, etc.), and vote on the problem that will serve as the conflict for our story. Next, I will model writing a short narrative that encompasses the hero's journey archetype. As I write with the class, I am not only gathering student input on the events and details of the narrative, but also prompting students to recall and identify the sequential parts of the hero's journey archetype. In this way, I am deepening

student understanding of the form of this genre and the predictable nature of an archetype's pattern. While we are writing as a class I also model the language that students will use in their own writing, such as narrative tenses and time order transition words. When we have completed our text as a class, students will also have an additional model to which they can refer when they are writing in pairs or independently.

The next iteration of the collaborative writing model is paired or small group writing. This phase of collaborative writing gives students an additional opportunity to practice the writing genre "safely" before they are required to produce writing independently. This interaction is critical in allowing students to negotiate their understanding of the language and structure of the writing they will be expected to produce independently. It is within this phase that students can apply newly acquired knowledge and skills with peer and teacher feedback to correct any gaps in understanding and reinforce what students are doing well. I will ask students to work in pairs to develop a modern teenage hero who goes on a quest to solve a coming of age problem. We will brainstorm potential conflicts as a class. Some ideas that students may suggest include bullying, social pressure, parent-child relationships, teen dating violence, etc. Then, each pair will choose a conflict and work together to develop an archetypal teenager hero and short narrative that follows the hero's journey archetype. It is my hope that students will be motivated by the personally relevant topic, and feel confident in reproducing this genre with the scaffolds of previous lessons, a jointly constructed model text, and peer support.

Once I have ascertained that students understand the concept of the hero and hero's journey archetypes, as well as the narrative genre in which these archetypes are portrayed, students will complete the last step of this activity and the final stage in collaborative writing-- independent text construction. I will ask students to consider the immigrant's journey and draw comparisons between the immigrant's journey and the hero's journey. Many of my students know someone who has made the immigrant's journey, or have made the journey themselves. I will explain to students that they may write a fictional or real story about an immigrant who represents the hero archetype and completes the archetypal hero's journey. In this assessment, I will be able to measure how well students understand these archetypes and the narrative myth genre in which they exist. In much the same way as the preceding writing assessment, I am hopeful that students will feel both confident and motivated by the personally relevant writing prompt and the previously learned skills, model texts, and practice they have gained throughout this activity. When students have completed this assessment, I will ask students to share their work with the class. As students share out, we will discuss the similarities and

differences between the heroes in each story, and reflect on how heroes are represented in mythology from around the world. In this manner, our study of archetypes will come full circle.

Activity 3: Mythmaking

In the final activity of this unit, students will apply the knowledge and skills they have developed in previous learning activities to write an original myth explaining the origin of a culturally significant plant. Students who would like to explore a culturally significant animal, ritual, moral lesson or symbol rather than a plant may do so with approval. However, there are several reasons that I have purposefully limited the topic of this writing assessment. One reason for limiting the scope of this activity is to prevent cognitive overload in students. In previous years when I have asked students to write myths, their lack of scientific understanding about parts of the natural world hindered their efforts to write effectively. Students will already have a framework and some scientific understanding of the plants they studied in the first activity. This pre-existing framework will be an especially beneficial scaffold for students with more limited English proficiency or weaker writing skills. In sum, this final activity ties in the knowledge and skills that were gained as a result of completing the first two activities. Students will use their research from the first activity and apply their understanding of archetypes and the narrative myth genre to successfully write their own original myths. In the prewriting phase of this activity students will also review a key content objective, which is to understand that the purpose and existence of mythology as a genre is to convey cultural knowledge, beliefs, and moral lessons. In this culminating activity, I will be able to assess how students have or have not mastered these requisite concepts and skills.

To introduce this activity, I will have students refer back to the purpose of mythology as a means of passing on knowledge and belief systems. We will review the mythology we have read in class and recall the purpose of each story. For our review, we will write 2-3 sentence summaries and then complete sentence stems that describe the purpose of the myth (to inform, to describe, to express, etc.) In the last part of our review we will identify archetypal characters, themes, settings, or other cultural symbols that make the purpose of the myth apparent to the reader. When I am satisfied that students understand these previously learned concepts, they will begin their pre-writing for their original myths.

In their pre-writing, students will identify the plant they researched in the first activity and determine the purpose of their myth. Most students will write with the purpose of informing others about the origin of the plant they researched, though students who chose different topics may have a slightly different writing purpose. Then, students will brainstorm ideas for symbolizing the plant's features, uses, and importance. To support students in brainstorming for their own myths, I will review the story of The Three Sisters that personifies the plant features of corn, beans, and squash and symbolize these plants as helpful sisters to the Haudenosaunee people.

In the next phase of this activity, students will outline the character(s), setting, conflict, and resolution of their stories. I will remind students that their myths should be culturally relevant, and therefore will likely reflect the settings and people of their heritage culture. In this part of the activity I will ask students to consider how their plant is useful in their culture. What problem does this plant help to solve? How would your culture be different if this plant did not exist? These questions will guide students to determine a central conflict for their myths and a subsequent resolution. In this way, students will be applying their observations and knowledge about this plant to write a narrative myth that achieves their author's purpose to inform, describe, or express specific scientific and cultural information.

After completing their prewriting, students will begin drafting their original myths. Students will be encouraged to use their creativity and imagination, while also applying their research and what they know about archetypes and narrative structure to develop a cohesive story. Students will have the option to provide illustrations or images to supplement their original myths. This option may also be useful in generating more writing from reluctant writers or students with lower English proficiencies. Struggling writers may also complete a comic book page(s) that illustrates their original myth and requires shorter written descriptions of action in lieu of a more formalized text. Additionally, students will be encouraged to include culturally relevant colors, symbols, and patterns in their writing and/or illustrations.

When students have completed the final drafts of their original myths, we will share our myths with each other in a "writer's cafe." All students will have the opportunity to present an illustration, excerpt, or their entire myth to the class. I will encourage students to identify and ask questions about rituals, traditions, and cultural symbols that are embedded in each student's myth. In this way, students will actively build community in

our classroom and pass on some of their own cultural knowledge to others, which reflects the essence and purpose of Indigenous storytelling both past and present.

My hope in giving students the opportunity to "make" myths is for them to see firsthand that mythology is a rich genre beyond its popular image as fantastical, ancient storytelling. The storytelling is fantastic to be sure, but mythology serves a much deeper purpose in relation to culture, belief systems, and traditional knowledge of the natural world. Further, in contrast to the belief that mythology is "ancient," the archetypal characters, settings, and themes that exist in myths from virtually every culture in the world still occupy our modern television and movie theater screens. What's more, the lessons and knowledge that are passed on through mythology continue to remain relevant to the human experience no matter how technologically advanced our world becomes. In completing these learning activities, I am confident that students will develop a greater respect for mythology and the knowledge systems of Indigenous cultures from which these stories originate.

Resources

Allender, Dale. (2002). The Myth Ritual Theory and the Teaching of Multicultural Literature. The English Journal, May, 2002, Vol. 91, No. 5, *The World of Literature* (May, 2002), pp. 52-55. National Council of Teachers of English Stable. http://www.jstor.com/stable/821398

In this short article, Allender describes his process for teaching mythology to high school students. Allender details how he dispels misconceptions about mythology and guides students toward an understanding of mythology as a central part of a culture's philosophy and associated rituals.

Caplan, Nigel and Farling, Monica. (2016). A Dozen Heads Are Better Than One: Collaborative Writing in Genre-Based Pedagogy. TESOL Journal, 8.3

Caplan and Farling outline their model for scaffolding writing assignments with English learners. This approach provides models for students and gradually shifts responsibility of text production from whole class, to small groups, to the individual learner.

Coe, Cindy A. (2019). *Utilizing Gallery Walks and Stations of Foster Inquiry, Compelling Questions, and Academic Discourse in Social Studies Classrooms.* Oregon Journal of the Social Studies, Fall, 2019, Vol. 7, No. 2.

In this article, Coe outlines how gallery walks can be used in the classroom to create interaction and foster deeper understanding of content.

Delaware Report Card: Educational Data for Delaware Citizens. (n.d.) Retrieved October 9, 2020, from

https://reportcard.doe.k12.de.us/detail.html#aboutpage?scope=school&district=32&school=290

This resource gives stakeholders in public education, including parents, educators, and students, accurate and up to date information about the performance and demographics of public schools in Delaware.

Elder, John and Wong, Hertha. (1994). Family of Earth and Sky: Indigenous Tales of Nature from Around the World. Boston, MA: Beacon Press.

This book is a collection of nature-related myths from cultures around the world.

Educational Broadcasting Corporation. PBS

https://www.pbs.org/mythsandheroes/myths.html

This resource defines mythology and archetypes, and also provides short summaries of multicultural myths that demonstrate the archetypes defined on this website.

Frey, Nancy and Fisher, Douglas. (2013). *Gradual Release of Responsibility Instructional Framework*. ASCD. Retrieved October 12, 2020 from

https://pdo.ascd.org/lmscourses/pd13oc005/media/formativeassessmentandccswithelaliteracymod_3-reading3.pdf

This article outlines the gradual release of responsibility instructional model.

Fisher, Douglas and Frey, Nancy. (2014). *Close Reading as an Intervention for Struggling Middle School Readers*. Journal of Adolescent and Adult Literacy, February, 2014. pp. 367-376.

This article outlines methods of incorporating close reading in the classroom to improve comprehension.

Hill, George A, and Jim Rementer. "Delaware Ethnobotany." The Official Website of the Delaware Tribe of Indians, 2015. http://delawaretribe.org/wp-content/uploads/DEL-ETHNOBOTANY-Hill.pdf.

This resource is a compilation that describes how the Delaware tribes used native plants in their daily lives. The document was a joint effort between the authors and Delaware tribe members.

House, Jeff. (1992). *The Modern Quest: Teaching Myths and Folktales*. The English Journal. Vol. 81, No. 1 (Jan., 1992), pp. 72-74

House draws comparisons to ancient and modern myths, and describes examples of modern "mythmaking" in literature.

Huntington, H. P. (2000). Using Traditional Ecological Knowledge In Science: Methods And Applications. *Ecological Applications*, 10(5), 1270-1274. (2000)

This article outlines successful scientific research projects that partner Western science with traditional knowledge and input from local native groups.

Kimmerer, Robin Wall. (2013). *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Canada: Milkweed Editions.

Kimmerer outlines pressing environmental issues in the United States from the perspective of a trained botanist, American, and native American community member. Kimmerer draws important comparisons between the narrative storytelling of native peoples with modern understandings as a scientist. Kimmerer demonstrates how indigenous environmental caretaking reflects current environmental protection recommendations.

Martínez Rocío, Jon Cox, and Roger Mustalish. *Ancestral Lands of the Ese'Eja: the True People*. Amazon Center for Environmental Education and Research (ACEER), 2017.

This book is a detailed account of the Ese'Eja indigenous group in South America. The book details this indigenous groups' customs, daily life, and ancestral lands that have been influenced by the surrounding environment, as well as how these facets of life have been affected by encroaching development in the 20th and 21st centuries.

Nabhan, Gary. (1989). Enduring Seeds: Native American Agriculture and Wild Plant Conservation. Tucson, AZ: University of Arizona Press.

Botanist Gary Nabhan details accounts of observing and collecting seeds cultivated by Native American indigenous groups. Nahban discusses the importance of preserving indigenous seed varieties that are being threatened by monocrop culture that now dominates American agriculture.

Peterson, Daudi. (2013). *Hadzabe: By the Light of a Million Fires*. Edited by Richard Baalow and Jon Cox. Mkuki na Nyota Publishers.

Peterson's book is a space in which Hadzabe indigenous tribe members share their beliefs, traditions, and daily life in their own words. Through images, stories, and descriptions, the Hadzabe people illustrate a way of life that is interconnected with their ancestral lands.

Rinkevich, S., Greenwood, K., & Leonetti, C. (2011, February). Traditional Ecological Knowledge for Application by Service Scientists. Retrieved December 07, 2020, from https://www.fws.gov/nativeamerican/pdf/tek-fact-sheet.pdf

This factsheet defines Traditional Ecological Knowledge, explains how TEK has influenced modern biology, and outlines how TEK contributes to successful environmental preservation projects.

"The Legend of the Three Sisters." Oneida Indian Nation, January 18, 2018. https://www.oneidaindiannation.com/the-legend-of-the-three-sisters/.

This website has a wealth of information about the Oneida Indian Nation, including the group's history, traditions, and core beliefs, as well as the group's vision for the future of its members.

Turner, Nancy and Bhattacharyya, Jonaki. *Salmonberry Bird and Goose Woman: Birds, Plants, and People in Indigenous Peoples' Lifeways in Northwestern North America*. Journal of Ethnobiology Vol. 36.4 pp. 717-745. Society of Ethnobiology. https://doi.org/10.2993/0278-0771-36.4.717

This ethnobiological study analyzes how birds aided indigenous groups in discovering edible and/or medicinal plants, and have served as helpful propagators of plants that are important to an indigenous diet or culture; this study goes on to identify birds as common characters in indigenous mythology and storytelling because of their key role in the lives of indigenous cultures.

Waude, A. (2016, January 22). How Carl Jung's Archetypes And Collective Consciousness Affect Our Psyche. Retrieved December 08, 2020, from https://www.psychologistworld.com/cognitive/carl-jung-analytical-psychology An article on Carl Jung's theories as they relate to archetypes and the collective unconscious.

Winkler, Matthew. "What Makes a Hero?" TED, December 2012. https://www.ted.com/talks/matthew_winkler_what_makes_a_hero?language=en. A visual representation of the hero's journey archetype.

Appendix: Implementing District Standards

The standards I will address in this unit will include standards from the World Class Instructional Design and Assessment (WIDA) consortium and the English Language Arts Common Core. I will target WIDA English Language Development standards 2 and 4. Standard 2 states that English language learners will communicate information, ideas, and concepts necessary for academic success in the content area of Language Arts. Standard 4 states that English language learners will communicate information, ideas, and concepts necessary for academic success in the content area of science. Further, this unit will address CCSS.ELA-LITERACY.W.9-10.6 which states that students will use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. The last standard this unit will target is CCSS.ELA-LITERACY.W.9-10.9 which states that students will draw evidence from literary or informational texts to support analysis, reflection, and research.

Notes

https://reportcard.doe.k12.de.us/detail.html#aboutpage?scope=school&district=32&school=290

¹ Delaware Report Card: Educational Data for Delaware Citizens. (n.d.) Retrieved October 9, 2020, from

² Allender, Dale. (2002). The Myth Ritual Theory and the Teaching of Multicultural Literature. The English Journal, May, 2002, Vol. 91, No. 5, *The World of Literature* (May, 2002), pp. 52-55. National Council of Teachers of English Stable. http://www.jstor.com/stable/821398

³ Kimmerer, Robin Wall. (2013). *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants.* Canada: Milkweed Editions.

⁴ Rinkevich, S., Greenwood, K., & Leonetti, C. (2011, February). Traditional Ecological Knowledge for Application by Service Scientists. Retrieved December 07, 2020, from https://www.fws.gov/nativeamerican/pdf/tek-fact-sheet.pdf

⁵ Turner, Nancy and Bhattacharyya, Jonaki. *Salmonberry Bird and Goose Woman: Birds, Plants, and People in Indigenous Peoples' Lifeways in Northwestern North America*. Journal of Ethnobiology Vol. 36.4 pp. 717-745. Society of Ethnobiology. https://doi.org/10.2993/0278-0771-36.4.717

⁶ Turner, Nancy and Bhattacharyya, Jonaki. *Salmonberry Bird and Goose Woman: Birds, Plants, and People in Indigenous Peoples' Lifeways in Northwestern North America*. Journal of Ethnobiology Vol. 36.4 pp. 717-745. Society of Ethnobiology. https://doi.org/10.2993/0278-0771-36.4.717

⁷ Nabhan, Gary. (1989). *Enduring Seeds: Native American Agriculture and Wild Plant Conservation*. Tucson, AZ: University of Arizona Press.

⁸ Peterson, Daudi. (2013). *Hadzabe: By the Light of a Million Fires*. Edited by Richard Baalow and Jon Cox. Mkuki na Nyota Publishers.

⁹ Huntington, H. P. (2000). Using Traditional Ecological Knowledge In Science: Methods And Applications. *Ecological Applications*, *10*(5), 1270-1274. (2000)

¹⁰ Waude, A. (2016, January 22). How Carl Jung's Archetypes And Collective Consciousness Affect Our Psyche. Retrieved December 08, 2020, from https://www.psychologistworld.com/cognitive/carl-jung-analytical-psychology

¹¹ Educational Broadcasting Corporation. PBS https://www.pbs.org/mythsandheroes/myths.html

¹² House, Jeff. (1992). *The Modern Quest: Teaching Myths and Folktales*. The English Journal. Vol. 81, No. 1 (Jan., 1992), pp. 72-74

¹³ Educational Broadcasting Corporation. PBS https://www.pbs.org/mythsandheroes/myths.html

¹⁴ Caplan, Nigel and Farling, Monica. (2016). A Dozen Heads Are Better Than One: Collaborative Writing in Genre-Based Pedagogy. TESOL Journal, 8.3

¹⁵ Frey, Nancy and Fisher, Douglas. (2013). *Gradual Release of Responsibility Instructional Framework*. ASCD. Retrieved October 12, 2020 from https://pdo.ascd.org/lmscourses/pd13oc005/media/formativeassessmentandccswithelaliter-acymod-3-reading3.pdf

¹⁶ Caplan, Nigel and Farling, Monica. (2016). A Dozen Heads Are Better Than One: Collaborative Writing in Genre-Based Pedagogy. TESOL Journal, 8.3

¹⁷ Coe, Cindy A. (2019). *Utilizing Gallery Walks and Stations of Foster Inquiry, Compelling Questions, and Academic Discourse in Social Studies Classrooms*. Oregon Journal of the Social Studies, Fall, 2019, Vol. 7, No. 2.

¹⁸ Fisher, Douglas and Frey, Nancy. (2014). *Close Reading as an Intervention for Struggling Middle School Readers*. Journal of Adolescent and Adult Literacy, February, 2014. pp. 367-376.

¹⁹ Martínez Rocío, Jon Cox, and Roger Mustalish. *Ancestral Lands of the Ese'Eja: the True People*. Amazon Center for Environmental Education and Research (ACEER), 2017.

²⁰ "The Legend of the Three Sisters." Oneida Indian Nation, January 18, 2018. https://www.oneidaindiannation.com/the-legend-of-the-three-sisters/.

²¹ Hill, George A, and Jim Rementer. "Delaware Ethnobotany." The Official Website of the Delaware Tribe of Indians, 2015. http://delawaretribe.org/wp-content/uploads/DEL-ETHNOBOTANY-Hill.pdf.

²² Educational Broadcasting Corporation. PBS https://www.pbs.org/mythsandheroes/myths.html

²³ Winkler, Matthew. "What Makes a Hero?" TED, December 2012. https://www.ted.com/talks/matthew winkler what makes a hero?language=en.