Stories of Home and Place

A Cultural Perspective on the Socioeconomic Impacts of Uranium Mining on Diné

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Context

As a young Diné male growing up on the Navajo Reservation, with parents who were a product of the tail end of the "boarding school system", I had many experiences that shaped my perception of the world around me. I have good and bad memories of growing up in the heart of the reservation. One memory is the excitement of going into "town." The border town most visited back then and even today is Gallup, New Mexico. I enjoyed the conveniences of urban life such as movie theatres, different retail stores and especially fast food which today we know is very unhealthy for you but they are happy to make money off of your own demise. That is one theme that would influence me as I grew and matured over the years. Sometimes the greater society, economic structure or government may not have the best interests of people or groups of people in mind, only the overriding idea of money and profits at any cost.

I had many influences growing up as a young Diné male. Most notably, of course, are my family. My parents showed how they loved us by working hard and providing for myself and my seven siblings. They hardly ever said "I love you" but as in our culture the actions and intentions conveyed the message and it was understood. As I went through formal schooling, my parents knew the importance of structured/non-native education toward our goals for the new future and continued shift away from a traditional way of life. Another influence were teachers, most non-native, they made an impression on me as a young native learner. Aside from the corporal punishment from principals and teachers, ideas were the main influence. One influence was the narrow interpretations, at times, of colonization and how we arrived where we found ourselves at that time. One impression I questioned in my head and affected my own self-concept for the longest time and wouldn't change until I started my post-secondary education career, was the "fact" that early settlers to the west were murdered in cold blood. They were massacred by the "savages" or "heathens" that were found in the west and southwest areas of the expanding United States of America.

When I arrived at Northern Arizona University during summer 1990, it took a bit of time before I adjusted to being away from *home* and being able to focus on my studies. When I finally made that transition, I advanced by leaps and bounds. I metaphorically lived in the newly constructed Cline Library, second floor reference section way in back, reading books and articles toward what I was studying and other subjects about my Navajo culture. There in the book stacks of N.A.U. this enlightened Diné university student found his calling...I am going to become a teacher and "change history!" Well, not literally, but metaphorically. I found my direction to where I wanted to teach young Diné students BOTH perspectives in United States history and have them realize and question ideas in history, the good and the bad. Most times of course it was bad or horrible for Diné. From ethnic genocide (killing off Indigenous populations) to cultural genocide (kill off our connections to language, oral history, ceremonies...) and everything in between. The motives and purviews of the larger majority culture at most times did not have our best interests in mind. "One study concluded that because of the lack of education there was a substantial human capital loss to the Navajo tribe due to the lack of investment in schooling. Rudolf Marshall powerfully argues that had the Diné received the educational benefits they were guaranteed by the treaty, they would have been in a much better position to trade with

the larger society and manage their natural resources." (Wilkins, 2013, p.190). Most times it did exactly deal with natural resources, still does today. And trying to exploit the Navajo for as little payment or compensation as possible regardless of the impacts or legacy it may create for the people. Therefore, my intention was to hopefully create young learners who are critically thinking and driven to do something to remember true indigenous history and advocate for our society and communities and people as our past ancestors and leaders did generations ago. And even some contemporary leaders of the Navajo Nation have done when they were in office. Some of the lessons touch on how the process of our government has evolved through the years by social changes and more advocacy to obtain that ideal of true sovereignty. "In the 1970s and 1980s, tribal leaders like Peter MacDonald and Peterson Zah, both of whom had college degrees, challenged the way business had been done with mining companies. For one, until the 1970s, the Navajo Nation did not collect taxes to finance operations, although it was entitled to do so. Amazingly, while the Navajo Nation was not collecting taxes on non-Indian businesses operating on its land, the states of Arizona, New Mexico, and Utah were taxing these businesses. In fact, these governments were receiving more income for the development of Navajo Nation resources than the Nation was earning" (Denetdale, 2011 p.120).

Where I live and work is Chinle, Arizona. Known today for its tourist attraction called, in nonnative words, Canyon de Chelly. In the area the stories, as I see it, are slowly fading away of what happened in the canyon prior to the 1868 treaty and the Long Walk. Colonel Carson of the U.S. military launched the campaign against the Navajo right here in the canyon. "As the pressure against the Diné increased, Colonel Carson planned a two-pronged attack against Canyon de Chelly. One force under the command of ex-Ute agent, A.W. Pheiffer, would attack the east entrance of the canyon, known today as Canyon del Muerto, while Carson, with nearly 400 men would strike at the west entrance near present-day Chinle, Arizona" (Acrey, 2002 p.42). The town of Chinle, is a Navajo word as well. Its literal translation may vary from Navajo to Navajo, but the consensus is, "where the water flows out." The history of this settlement much as other Diné settlements are influenced by early colonialism and the influence of early Christian and Catholic values. The people today practice varied religions but still try to preserve the traditional culture and belief systems. "When we speak of common values, essentially we are saying that many Navajo people, in general, view the world through a similar, though certainly not fixed, cultural prism. Values, then, are integrated throughout the entire Diné cultural system, and grow out of the group's past experiences. And while holding some values that are similar to those of other Native peoples, the Navajos also abide by a distinctive, if malleable, value system which is unlike any held by other Native nations or ethnic groups" (Wilkins, 2013, p.50).

The school district is the largest Native American school district in North America. Chinle High School serves more indigenous students than any other secondary school in North America. I work at the middle school, Chinle Jr. High School Home of the Bobcats! In this community the importance and creation of the schools' vision and mission has to address the culturally responsive framework for the 21st century. The mission and vision statements of Chinle Unified School District #24 is as follows: "*Our vision is to empower all students to be Competitive, Unique, Successful, and Driven through an effective team of teachers, staff, school board, parents, and community; in an environment dedicated to the value of continuous learning."* At

the middle school level, we serve roughly 350-400 students within the district. As a school we achieved a grade of "C" based on student performance on the standardized tests for school year 2019-2020. With increased demands on staff and changing needs within the school the maintenance of the grade for C.J.H.S. will be a challenge to maintain and build on toward a "B" grading. The changes happened due to extraordinary changes in our district efforts within the past 3-4 years. Due in part by the efforts of a local Diné educator who dedicated his professional life to improving the quality of education on the Navajo Nation. First as a math teacher at Chinle High School developing advanced placement math courses to prepare students for college. Then as a Principal of the same high school. And in the past couple of years, as the assistant Superintendent of Chinle Unified School District #24. He has recently earned his doctorate through Northern Arizona University, Dr. Clauschee! He is one of my role models, and my other older brother who is currently teaching in Mesa Arizona School District. They are the reasons why I am in this field of education and working to make a difference in my part of the Rez'.

The district hires qualified Native teachers when possible, so the makeup of the staff may hover around 60-70% of teachers at C.J.H.S. are Navajo or of Native American background. I teach 8th grade social studies and average about 15-20 students in a traditional class setting. We have switched recently from a split schedule meaning one day half the students we see on an "A" schedule and the other half on the "B" schedule. We currently follow a full day with 8 periods with no split schedule. So the time for instruction went from about 90 minutes with split schedule to about a 55 minute schedule. With world events happening today the district does have a plan when first day of instruction arrives, it will involve more of the online delivery of educational services. This will present many challenges being a reservation school but we will rise to this "new normal."

Rationale

As I started this fellowship, summer of 2020, I had a purpose of challenging myself and to refine my skills toward curriculum writing. During the extraordinary events of this global pandemic, I created this curriculum in the hopes of teaching it in front of my students in a physical classroom setting. This works best with the genuine interactions of teacher to student and student to student. Although you may adapt some of the lessons for virtual learning, it is the immediate feedback and nonverbal communication that goes on in a learning setting that I hoped would be present. So, with that said this is my curriculum. The 8th grade social studies department at C.J.H.S. started this process of addressing culturally responsive curriculum with the assistance of the district's Federal Projects program. In the summer of 2019, teachers in social studies, math, language arts, Navajo culture and elementary grades were asked to participate in this Diné/ Navajo Timeline project. Why take on task such as this? Well, we live right by the stronghold of the Navajo during the Kit Carson's Navajo Campaign that would have traditional enemies like the Utes of Southern Utah being used by the U.S. military to hunt down their traditional enemy in the canyons. "The Fearing Time" as it came to be known. So with history like that for us right down the road, it makes sense to stay true to who we are and know our history of resistance and fighting for our way of life we had before colonization and reservation systems.

The gist of the initiative is to continue the work started by prior educators and paraprofessionals with presenting Navajo history aligned with United States history using a visual representation (timeline) to give students a frame of reference with themes they may know in U.S. history and compare that with what was happening at that time in Diné history. The added expectation was to align Navajo Nation Department of Education standards with Arizona State standards and objectives. Where eventually when pulling up the district curriculum, Beyond Textbooks, there would be the unwrapped document which would provide the connections between the state and Navajo Nation standards and be able to construct daily or weekly lesson plans. My colleague and I at C.J.H.S. that teach 8th grade social studies took on the challenge with other educators from the high school and schools in Many Farms and Tsaile. We all came out of the work sessions that summer with new perspectives and motivation to incorporate culturally responsive instruction so in the future students will have a curriculum that concurrently addresses the objectives of U.S. history along with Diné history. The process has started but there is still a long road ahead toward ideally achieving the goals set forth.

My intentions to creating a culturally responsive curriculum starts with this endeavor through Northern Arizona University Diné Institute, Fellowship program. I knew I wanted to address the history, impacts and contemporary trends involving mineral extraction on Navajo land and the corruption when it comes to the perverse value of property rights in the Americanized way of life. "Native peoples have continually battled the common Western misconception that they lacked 'property' rights, when, in reality they hold concepts that are normatively distinct from the analogous European constructs of these concepts. For example, like Senator Dawes, outsiders routinely described the Indians' property systems as communal, when in fact the systems were far more complex. In a comprehensive analysis of tribal property regimes, Professor Kenneth Bobroff notes that within the broad understanding of land as a sacred gift, Native nations as a group manifest nearly every element of Anglo-American private property except the right to alienate land to those outside the nation" (Goldberg, et.al, 2015 p. 974). One in particular has impacted many generations, just as the Japanese people were affected after World War 2, it is the "monster" Diné call, Leetso (yellow dirt). In the mining industry they refine the radioactive element Uranium until it appears yellow in color and they call it "yellow cake" for further processing depending on its use. It has been used in U.S. history primarily as a source of nuclear weapons during the Cold War Era. Today, it is still a valuable resource used primarily for energy production in nuclear power plants.

Insights made by N.A.U. professor Dr. Angelina Castagno in a lecture about Culturally Responsive Schooling she asserts, "Culturally responsive schooling is a best practice...culturally responsive professional development will in turn improve the educational attainment of Diné and other Indigenous youth, which is a necessary component for tribal nation (re)building goals of sovereign Native Nations in the U.S" (Castagno, 2020). In Diné culture and storytelling elders came up with a name of the element that was soon to disrupt the lives of many Diné at the start of the U.S. Cold War with the Soviet Union. The Diné once seeing the impacts of Uranium after years of lies and deception by their own federal government considered it a *monster*. "Timothy Benally, director of the Navajo Uranium Workers office [1951] in Shiprock, recalled: 'Right after they decided to mine some of those areas and a lot of it was found on the reservation. People just went crazy looking for uranium, prospecting all over the reservation.' He added, 'The Vanadium Corporation of America and Kerr-McGee were the principal owners of these mines and they have taken advantage of the Navajo workers. Not only with paying low wages but by not informing the workers about the hazardous effects that uranium has on their lives" (Iverson, 2002, p.219). One book that does an excellent job of relating what happened to Diné over time because of the haphazard way the uranium was mined from Navajo mines. The authors of the book, "The Navajo People and Uranium Mining" provide the cultural connections to the story of uranium and its transformation into a "monster" to the Diné. One section of the book Brugge, Benally and Yazzie-Lewis explain: The name of the monster, the birth of leetso, the victims of leetso, and slaying the monster. They state, "The Navajo word for monster is *Nayee*. The literal translation for this word is, "that which gets in the way of a successful life." They explain the importance in Diné culture why you give bad or evil things or monsters a name, like this yellow dirt that would come to hurt many Navajo. One of the main points that I take from the book is, "Navajo people also believe that one of the best ways to start to overcome or weaken a monster as a barrier to life is to name it.

The standard that I would connect to Uranium mining on Navajo land and the eventual impacts on the land and people would be:

UW.8.SS.G1.01: Use geographic tools and representations to analyze historical and modern political and economic issues and events. An introduction I would do (I Do) for students is build their vocabulary of the issues. Then I would cover some background history of mining and uranium mining on Navajo land. Asking questions to myself, thinking aloud to spark curiosity about the subject. One student objective I would be assessing with writing prompts such as an exit ticket at the end of the session or a think, pair and share with the class. The prompt of purpose to the learning in this section would be, "At the end of the class session, I can give three examples of how natural resources became an important issue for the Navajo people."

Next session I would review from the previous class and highlight again the purpose to the learning that day. Then I would have an anticipatory set, maybe a picture or a writing prompt to get the students focused on the objective today. It would expand on prior learning and states, "I will compare and contrast how Hopi and Navajo land issues such as mining, have impacted families and communities." Using a video clip on coal, uranium mining and forced relocation based on mining speculation of big energy companies. One video I have used is called, "Broken Rainbow" (https://www.youtube.com/watch?v=W5z8OgMfXXc">https://www.youtube.com/watch?v=W5z8OgMfXXc) It explains the exploitation of energy resources from Navajo and Hopi lands. The pure profit driven outcomes show Natives losing not just their land, but way of life. There are also articles that deal with mining on Navajo or Hopi land can be used to build and extend students understanding of the issues. I have read passages to my classes from the book, "*The Navajo People and Uranium Mining*." The authors, Brugge, Benally and Yazzie-Lewis use events of Uranium mining back during the height of the Cold War Era as a backdrop for cultural

connections to what they term as the "monster." The passages I read to students involve the comparison of this radioactive substance disrupting the lives of Diné and how traditionally Navajo people dealt with evil that would disrupt or get in the way of a successful life in the Navajo perspective. It sparks a genuine relevance as students hear personal accounts of how uranium mining negatively impacted families, communities, the environment and animals.

Approaching the end of the lesson for the week, students will be able to compare and contrast the development of early Diné Tribal government and U.S. government. This connection is crucial to see the history of our own Navajo government and how it made possible the situation where Diné were lied to about the dangers of leetso' or "yellow dirt" and they were exploited. First by the mining companies enticing eager Navajo miners and withholding the health dangers of this radioactive substance. The other is by practically stealing the resource by paying very little to the Navajo and keeping the profits from the misery and generational demise of not just the people but the environment.

Content Objectives

When I connect ideas of Diné history to U.S. history I make sure I give plenty of background knowledge to my students when we begin a new lesson or standard during the school year. That begins with the beginning lessons front loading content specific vocabulary. Some practice students have are shown below with the visual organizer. While other methods are purely for student reinforcement and opportunities to work with their peer group in a less haughty situation in class. One activity that students regularly get "very competitive" in is an activity I call, "Heads Up." The vocabulary reinforcement game is like charades or Pictionary. It goes like this: students are randomly selected on two teams. Students choose their team name (also very entertaining, but have to give guidelines toward appropriateness). Points will be awarded if a team guesses the key term within a set time limit (one minute works for me). Next, rules the dos and don'ts. The rules are very simple. One team member comes up picks from the stack of vocabulary terms they have been learning about in class. Stack is face down. Team member who comes up brings card to their forehead whereby they can't see the word, but their team can see the term. They will in essence depend on their team to give him/her verbal or "charade-like" clues. They can't spell out words, or say it sounds like ... " Any team cheating will forfeit their turn. Any team that shouts out the term as part of the clue gives other team a point. The game like aspect of the activity the students really enjoy. Plus the embedded learning is that either more advanced learners or even the struggling learners get to master their comprehension of the vocabulary by teaching what they know and how they understand it to their peers through the clues given.

The preparation that is involved is my task analysis of the state standards and then connecting learning to the Navajo curriculum standards for middle school learners. It is a moral imperative, as I see it, to not just simply complement Navajo history and perspectives with American

historical perspectives but to fundamentally get at and finally achieve true sovereignty in our society. "Given that writing history has been mostly a Western tradition that requires mastery of Euro-American intellectual practices, those who live outside of Western societies find themselves excluded in the writing of their own histories. This chapter is a discussion of my own endeavor to recover Diné intellectual traditions, first, by examining how Navajo history has been constructed, and, second, by proposing yet another way to write a Navajo history. Writing about the Navajo past requires sifting through my own education processes, identifying standard history conventions that have created portrayals of Navajos that perpetuate colonist frameworks, and then articulating a history model that better reflects Diné understandings of the past. Furthermore, as many Native scholars have declared, our intellectual endeavors should support Native sovereignty" (Denetdale, 2007, p.17-18). So one example is as follows:

UW.8.SS.C2.03 "I can analyze concepts and ideals such as minority and majority rights, civil dissent, and the rule of law." Now the connection I want to make toward my Navajo curriculum standard is, "I will develop an understanding of Diné way of life." So as I indicated before, you have to have a plan in the beginning and follow it if you are going to make meaningful connections with the students toward Navajo culture. Many teachers have read the standards, concepts and performance objectives listed in Navajo and English in the Diné curriculum. And quite honestly many get overwhelmed, disillusioned, and quite frankly frustrated. They contemplate, as I have, "How does this link to what I am teaching?" Well, as I stated before you have to have a plan and be prepared to cover some aspects of local events in the past, the pain and suffering endured by possibly their own family members, and why it's important to remember these events so they don't ever happen again to the people and communities. So the concept for this particular Navajo standard is number 4 which reads, "I will apply and practice the Diné way of life with confidence." And performance objective #1 I use reads, "I will live by the fundamental standards of living in harmony." The connection I make toward the state standard is how Navajo have had a reverence or respect for the land because it is sacred. This concept is fundamental in traditional teachings and stories they may have learned in their Navajo culture classes in elementary school (prior knowledge). So they have a grounding of living in harmony and how Navajo have done this for many generations. I connect that to our learning with U.S. laws and how minority issues and rights needed to be fought for in the courts because first of all the unique status of the Navajo Nation as a sovereign entity but at the same time still under the stewardship of the federal government under the reservation system. Many students don't realize the Navajo government and people do not technically "own" the land or its resources. So this is the focus I have in instruction and assessments. The will of the country and the U.S. government sometimes supersedes what is right or even fair when it comes to the rights of minorities living on their sacred land and let's take mining for uranium for the sake of national interests. Online references that can be used to highlight the history of uranium needed for weapons during the "Cold War Era" and later eventual impacts on the Navajo people and government compensation (R.E.C.A.) for the mishandling or deception of the federal government of warning the miners and families of the known dangers uranium poses to humans, animals/livestock and the environment. Also, other links to give students a better cross

curriculum understanding of uranium and some engaging activities to reinforce the science of radiation and radioactivity.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222290/ http://umich.edu/~snre492/sdancy.html

http://te.csmspace.com/register.php?cat=10&s=yes/desp5a.html

It is important to take that time to teach students the far reaching impacts of majority group rights over minority rights. As the teacher you have an opportunity to make it more understandable for them and to give them that opportunity to make up their own mind and come to conclusions with the facts from history.

Teaching Strategies

I teach the content in our instructional calendar during the school year aligned to the social and economic impacts of mining on Navajo populations using state standards and Navajo curriculum standards. In our school district it is mandated we need to present instruction based on the (5 E instructional model*).

Engagement:

The teacher or a curriculum task accesses the learners' prior knowledge and helps them become engaged in a new concept through the use of short activities that promote curiosity and elicit prior knowledge. The activity should make connections between past and present learning experiences, expose prior conceptions, and organize students' thinking toward the learning outcomes of current activities. (SEE Appendix A).

When starting a new lesson, I preview important vocabulary terms involving mining, uranium and economics. Building content specific vocabulary during the school year is challenging but well worth the effort. One consistent way to ensure students get the knowledge and build their personal vocabularies is daily practice. There are many formats to word maps which we use to reinforce vocabulary and build their own personal vocabulary. The attachment is one of many formats to the vocabulary instruction and reinforcement used in my classroom for students and the directions given when doing this vocabulary assignment during "We Do" or "You Do" portions of the lesson. The directions on using the word map are as follows:

How to use word maps:

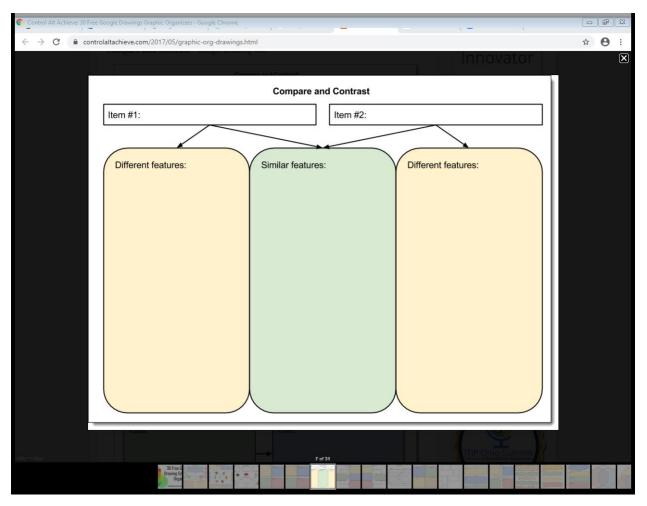
- 1. Introduce the vocabulary word and the map to the students.
- 2. Teach them how to use the map by putting the target word in the central box.

- 3. Ask students to suggest words or phrases to put in the other boxes which answer the following questions: "What is it?" "What is it like?" and "What are some examples?"
- 4. Encourage students to use synonyms, antonyms, and a picture to help illustrate the new target word or concept.
- 5. Model how to write a definition using the information on the word map.

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			Vocabular	y Word			
	Creat	e an original sentence u	ising word:	Draw a pic	cture of the word:		
PAGE 1 OF 1 20 WORDS						.	+ 100%

Screenshot of general information on word map templates found online.

As I build students understanding of the key ideas and they interpret the vocabulary and are using the academic language in their writing prompts and group discussions, I extend on the main ideas. I have students also do compare and contrast assignments. I give them two polar concepts or in this lesson about uranium mining and how it impacted Diné and their land and resources, I give them to sides from the presentation. I tell them to compare and contrast Navajos who sought employment with the mines vs. Navajos that did not work for mines but still got sick.



(Online alternative template for Venn diagram)

One of the documents we use in Arizona toward our instructional planning is the "unwrapped document." It is part of the curriculum calendar our district utilizes (*Beyond Textbooks*) along with other school districts in the state. On top of the document are of course the state standards and below is the standard in student friendly terms. As you go down the document one part we are attempting to incorporate at our school site in social studies is the Navajo Curriculum Standards. The objective is to align learning using standard from the state and connect ideas and relate it in a way that gives learners a better historical perspective with the other viewpoint in history.

When attempting to incorporate the Navajo standard with state standards they don't exactly match up verbatim. So, to think in terms of THEMES work best. The example in the template below shows how religious controversy in the past regarding laws that forbade certain substances that are crucial in the ceremonies of that religion were in question. So it took the case going to the U.S. Supreme Court to decide that when it comes to Native American religions that they were protected under the U.S. Constitution. Other pieces of information on the document useful to teachers are the key terms (concepts), skills, knowledge, and cognitive process-D.O.K. level.

Toward the end of the document you have the "big ideas", "essential questions" and "disciplinary skills and processes."

All of this information is used to aid in structuring your weekly lesson to hit the important/essential parts of the standard. Along with the teacher's content knowledge, a lesson can be developed to teach students the important facts, ideas, and details and make meaningful connections, in this case, to how it relates to them and their culture. As I mentioned earlier in my curriculum unit, the need for more "*culturally responsive schooling*" is much needed. As an educator on the Navajo Nation for over 20 years, I have experienced several "Aha!" moments that students have had when incorporating and connecting new content to a cultural perspective. The learning is more relevant and inspires the learners to want to learn more. Here is an example of the template and another state standard I was developing toward alignment with Navajo curriculum (**Refer to Appendix C**).

Classroom Activities

So as a teacher progresses from introducing the standard to teaching the standard, the emphasis in my school is toward a school wide focus in one of the content areas either math or ELA. Last year it was language arts and developing students' writing abilities. As I planned for my lessons, I incorporated that focus. I would use sentence strips or sentence starters to first guide students what direction I want them to go to get to the learning goal but also aid in developing confident writers. We as teachers at our school seen some of our students struggle to get started with writing prompts in class and also low test scores when it came to the writing portions on standardized tests. With issues toward mining and uranium and the historical impacts of this event I would prompt students with scenarios and "what if" questions in small groups and whole group instruction based on if I was on the "I Do" part of my lesson or the "We Do" part or "You Do" part. The modeling of my lesson usually goes with a hook or the anticipatory set. I use photos, quotes or political cartoons to pique the interest of the students and I progress into thinking aloud. One example toward the mining issue, I would have is a picture of a foreboding sign and possible dangers to humans:



(The "Hook"/ Anticipatory Set)

(Photo retrieved on Internet 12news.com: 7/22/20)

Depending on where a teacher may be in their lesson, beginning, middle or end, students need to have that background information to be able to connect ideas you are presenting them and will be able to analyze and synthesize information in a way to connect it to local communities and their culture. With this "hook" I know my students will be able to make connections toward the learning. After my "I Do", thinking out loud (not answering student questions or comments just yet) but focusing on what I see in the picture. Also, dissecting the picture identifying key things in the photo. If I use a political cartoon I point out symbols and question or ponder their possible meanings to the class. "Who is this sign intended for? Is this for humans? Is this for livestock? No, livestock can't read!" (Seed planted). As I go through my "I Do" I inevitably hear students talking and asserting their ideas. I go on and say, "I think local people and when they may see this...possibly out hiking, possibly out recreation riding on ATV's, possibly out herding sheep?" So with these prompts toward getting them to think about who else might be in danger of the remnants of uranium mining, besides humans, I transition into the "We Do" part of the lesson. I do mix it up in this part of the lesson, if I want more group work I will assign students into pairs. Keeping the accountability of learning in each group, I instruct them to assign jobs within each group. One person has to be the "recorder" and the other the "presenter." So the recorder brainstorms with their partner about the prompt or sentence starter I give them and they write down those ideas, after an assigned amount of time (usually 3-5 minutes) the class will come back together and the "presenter" from each group is going to share out their groups responses.

On some days during the "We Do" part of the lesson, I may have a whole group activity, such as a short video and facilitate a discussion about the video. One video I did list on YouTube is the documentary titled, "Broken Rainbow." Another I use for the PowerPoint presentation is, "How the U.S. Poisoned the Navajo Nation" "Broken Rainbow" video covers much back story to not just topics like the Hopi-Navajo land dispute, but the motives of mining companies displacing Native Americans off their traditional lands in order to shore up mining leases on both sides, Navajo and Hopi lands. The other video, "How the U.S. Poisoned the Navajo Nation" gives personal accounts of the victims such as the Navajos that worked for the minds but also people living in around the community of these abandoned uranium mines. The learners get a first-hand account from Navajo elders today who are dealing with many health issues from the tailings and the secondary contamination in the surrounding environment. There is an exemplar for a weekly lesson plan for the Navajo Uranium Mining objective aligned with the Arizona State standard (SEE APPENDIX B).

While other days I may use a power point presentation giving same background but have another learning objective for the students for instance, note taking using different formats to see how well they do listening and identifying the key information out of the presentation. I distribute a graphic organizer or notes that they fill in missing pieces of information as we go along in the presentation. Any power points have cited information and references used for educational purposes. By all means borrow ideas from the slides to benefit students engaging in culturally responsive schooling. The following slides are ones I have used with 8th graders in our second semester of the school year:



(Slide 1-Clauschee)

With the opening slide, you can be intentional and use a picture you want to be as a discussion starter, or as your anticipatory set. With the picture I use I do use it as a discussion starter and gauge or assess student's prior knowledge on simple mining issues or mining in general. Some of the vocabulary you could start getting into as well. For this picture, last year I asked the student questions and got into types of mining. I asked if they knew difference between "open-pit mining" vs. "in-situ mining?" With content specific vocabulary, it is always good to look for those teaching moments in your lessons.

With the following slide show presentation, I created this when we were in school (physically) and had a school class schedule with 90 minute classes. The duration and challenge of sustaining student's mental focus for such a length of time needed creativity. Along with breaking up session half way with a needed water/restroom break, the other ways I chunked this allotment of time was to use varied modes to learning and presenting my information. This slide show included many opportunities for group brainstorming. Some other presentations have links to quick videos for discussion starters of if it was toward the end of class time, used as a "ticket out" or quick writing assessment to see what students retained. Also, I have given them a prompt for video clips and they actively are engaged looking for the main idea or key point in video. So this presentation can definitely be broken up into chunks and used over a week long lesson (SEE Appendix D).

Alignment with Standards

As teachers we are bound to teach toward the mandated state standards. Every lesson or unit I plan to teach to my students has to have the essential parts to meet those mandates. But as I go on further into creating a curriculum unit and lessons to do off of that plan we know as teachers we know our students best. We know what will catch their attention and create that curiosity to where hopefully they do their own further research or even just share with their family, parents, and siblings. I get great pleasure during parent teacher conferences when a parent or guardian brings up a situation where their child asked them or shared with them at let say, the dinner table some of the ideas we shared in class about an event in history! That's what keeps me motivated to continue to align relevant cultural curriculum to the mandated state standards. To keep making it fresh, student centered, interesting and yes...fun. Yes, I did say history and social studies fun. It does take some creative insight to match up themes from the two standards and begin the process of identifying similar themes, historical and cultural contexts, and right down to similar vocabulary terminology. Along with addressing any and all other needs such as students who are at risk, or students with disabilities to ensure full inclusion and at the same time not to lower or amend the learning outcomes and its rigor.

Navajo Curriculum, Diné Culture Standards (7-8 grades)

Standard-"I will develop an understanding of Diné way of life." / Concept 4- "I will apply and practice the Diné way of life with confidence." /P.O. 1- "I will live by the fundamental standards of living in harmony."

Navajo Curriculum, Character Building Standards (7-8 grades)

Standard- "I will develop and apply critical thinking to establish relationships with the environment." / Concept 1- "I will apply critical thinking to establish relationships with the environment." / P.O. 1- "I will apply my thinking to build strong life skills."

Arizona State Standards

8.SS.G3.01 - I can evaluate the impact of economic, political, and social decisions that have caused conflict or promoted cooperation throughout time.

8.SS.H3.04 - I can investigate a significant historical topic from US history that has significance to an issue or topic today.

8.SS.H2.03 - I can explain how geographic and environmental factors have shaped communities and affected government policies.

Resources

Teacher Background Reading

References:

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Appendix

Appendix A

5E Model Teacher's Role and Actions in the 5E Teaching Model

"5E"s Consistent with Model Inconsistent with Model

Exploration:

Exploration experiences provide students with a common base of activities within which current concepts (i.e., misconceptions), processes, and skills are identified and conceptual change is facilitated. Learners may complete lab activities that help them use prior knowledge to generate new ideas, explore questions and possibilities, and design and conduct a preliminary investigation.

Explanation:

The explanation phase focuses students' attention on a particular aspect of their engagement and exploration experiences and provides opportunities to demonstrate their conceptual understanding, process skills, or behaviors. This phase also provides opportunities for teachers to directly introduce a concept, process, or skill. Learners explain their understanding of the concept. An explanation from the teacher or the curriculum may guide them toward a deeper understanding, which is a critical part of this phase.

Elaboration:

Teachers challenge and extend students' conceptual understanding and skills. Through new experiences, the students develop deeper and broader understanding, more information, and adequate skills. Students apply their understanding of the concept by conducting additional activities.

Evaluation:

The evaluation phase encourages students to assess their understanding and abilities and provides opportunities for teachers to evaluate student progress toward achieving the educational objectives.

(What to do/ What not to do)

Engage

• Creates curiosity • Raises questions • Elicits responses that uncover what the students know or think about the concepts

• Explains concepts prematurely • Provides definitions and answers • States conclusions

Explore

• Encourages students to work together without direct instruction • Observes and listens to students' interactions • Asks probing questions to redirect students' investigations when necessary • Acts as consultant for students

• Provides answers and closure • Lectures as a main delivery • Informs students about mistakes

• Leads students step by step to a solution • Acts as the sole source of information

Explain

• Encourages students to explain concepts and definitions in their own words • Asks for justification (evidence) and clarification from students • Formally provides definitions, explanations, and new labels • Uses students' previous experiences as basis for explaining concepts

• Neglects to solicit students' explanations • Accepts explanations that have no justification • Introduces unrelated concepts or skills. • "Plays around" with no goal in mind

Elaborate

• Expects students to use formal labels, definitions, and explanations provided previously • Encourages students to apply or extend concepts and skills in new situations • Refers students to existing data and evidence and asks questions such as "What do you already know? Why do you think so?"

• Provides definitive answers • Tells students that they are wrong • Lectures • Leads students step by step to a solution • Explains how to work through problems

Evaluate

• Observes students as they apply new concepts and skills • Assesses students' knowledge and skills • Provides students with formative feedback to enhance their thinking or behaviors • Allows students to assess their own learning and group-process skills • Asks open-ended questions such as "What do you know about x? How would you explain x? Based on what evidence?"

• Tests vocabulary words, terms, and isolated facts • Introduces new ideas or concepts • Creates ambiguity • Promotes open-ended discussion unrelated to concepts or skills • Provides only summative feedback

Students' Role and Actions in the 5E Learning Model

"5E"s Consistent with Model Inconsistent with Model

Engage

• Asks questions such as" why did this happen? What do I already know about this? What can I find out about this?" • Shows interest in the topic

• Asks for the "right" answer • Offers the "right" answer • Insists on answers or explanations • Seeks one solution

Explore

• Thinks freely but within limits of the activity • Tests predictions and hypotheses • Forms new predictions and hypotheses • Tries alternatives and discusses them with others • Records observations and ideas • Suspends judgment

• Passive involvement • Works quietly with little or no interaction with others • "Plays around" indiscriminately with no goal in mind • Stops with one solution

Explain

• Explains possible solutions or answers to others • Listens critically to others' explanations • Questions others' explanations • Listens to and tries to comprehend explanations offered by teacher • Refers to previous activities • Uses recorded observations in explanations

• Proposes explanations from "thin air", with no relationship to previous experiences • Brings up irrelevant experiences and examples • Accepts explanations without justification • Does not attend to other plausible explanations

Elaborate

Applies new labels, definitions, explanations and skills in a new but similar situation
Uses previous information to ask questions, propose solutions, make decisions and design experiments
Draws reasonable conclusions from evidence
Records observations and explanations
Checks for understanding among peers

• "Plays around" with no goal in mind • Ignores previous information or evidence • Draws conclusions from "thin air" • In discussion, uses only labels provided by teacher

Evaluate

• Answers open-ended questions by using observations, evidence, and previously accepted explanations • Demonstrates understanding or knowledge of concept or skill • Evaluates his or her own progress and knowledge • Asks related questions that would encourage future investigations

• Draws conclusions without using evidence or previously accepted explanation • Offers only "yes" or "no" answers and memorized definitions or explanations as answers • Fails to express satisfactory explanations in his or her own words • Introduces new, irrelevant topics

*Reference retrieved on 6/27/20:

file:///F:/5%20E%20instructional%20model%20SUMMARY.pdf

APPENDIX B

(Sample weekly lesson plan with daily objectives)

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				1	Neekly Sta	ndard			_	Studies	ELP Standards			
		UW.8	.SS.H3.0							IV-LS-1: HI-5 (Sequ	encing events from information p	resented in read aloud,		
		• '	ʻl can inv	estigate a s nat has sign	-					presentations, and Language instructi	conversations). on focus: grammar and vocabular	<u>ry.</u>		
			Student	Engagement/9	Social Emo	tional Intera	action Stra	tegies		E	L/ESS Modifications/Accommoda	ations		
		 Share-out (during conferences, or on discussion boards): Have students share moments when they have demonstrated a growth and fixed mindset. Quote of the day: Introduce a quote relevant to what students are learning or to a shared experience in Navajo/Dine' history Critical Thinking: Have a "thought question" for students to reflect on and connect ideas to how it's relevant to themselves or Dine' culture. 						and fixed udents are V to reflect		Modified grade sc auditory websites manipulatives if a routine if internet as needed and use ****SEI Instruction				
				Monday		Tues	day		We	ednesday	Thursday	Friday		
		Daily Purpose	students one exai term im	end of this sess will be able to mple of the pacts of uran n the people, on ment."	give stud long som nium con	the end of th lents will be le of the hea sequences of nium."	able to exp lth	plain compare and contrast the way U.S. government deceived		vill be able to d contrast the way rnment deceived ers and how they mpted to correct	"At the end of this session, students will be able to cite (3) impacts to Navajo people and the land by mining for Uranium."	DFA/QUIZ time		
			working v using a gi - define/ -	ry building- with (3) key ter raphic organize	rns er. Rea a Po	nchronous: ding compre E strategy . S werPoint pr r the danger:	Students gi esentation	sing Voo iven usir n to i	ng key ter Ilustrate	us: review- Students rms from Monday the connecting tamination,	Asynchronous: Reading comprehension review, students will use article and answer the thought question about the history of Uranium mining for Navajo people and the land and if the	Asynchronous: Review, make up any work missed from the week and administer the DFA /QUIZ.		
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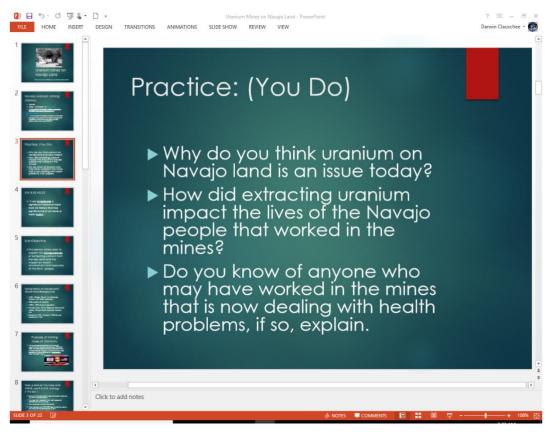
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				Chinle Ju	nior High School Lesson	Plan		
	[Synchronous(Direct	mining, with a thought	radioactivity, open-pi	t mining, same mistake would have been		
			Instruction):	question.	and health problems.	made if all the facts are known		
			Focus on photo of Uranium	(Restate, Answer, Cite	Synchronous(Direct	in the beginning?		
			contamination to	Evidence)	Instruction):			
			environment (HOOK)	Synchronous(Direct	Focus on quote, "Ura			
			I DO (Virtually modeling to		really dangerous	Instruction):		
			students):	Focus on quote, (continue on	Why did they not t	ell us		
			Model the think aloud to	into next session) "Uranium	this?" - Floyd Frank			
			reading terms in context and using CONTEXT CLUES	is really dangerous	American & former ur			
			to get the meaning of the	Why did they not tell us	miner, watched his tw brothers die of cance			
			key terms in the article.	this?" - Floyd Frank, a Native	bioliters die of calice	***Grammar Quiz (5) terms		
			key terms in the article.	American & former uranium miner, watched his two	***Grammar Quiz (5			
			We DO (Providing another	brothers die of cancer.	I DO (Virtually mode			
			example for guided	(HOOK)	students):	Model the think aloud toward		
			practice)		Model the think alou	d as I analyzing pictures and getting		
			Break into groups and give	***Grammar Quiz (5) terms	interpret symbols of	radiation implicit meanings from		
			them a list of key words	I DO (Virtually modeling to	and radioactivity.	symbols, markings, facial		
			with definitions and match	students):		expressions, signs, or my prior		
			up term to definition. Use	Model the think aloud toward	We DO (Providing an			
			Padlet or break out rooms.	connecting ideas with key	example for guided p			
				terms and how synthesizing	Make a graphic orga			
			Closure:	information creates	categorizing the impa			
			Exit ticket- The need for	connections from terms to ideas and vice-a-versa.	land, people, water, f	ood Practice in groups with two pictures of human illness		
			Uranium was sparked by the Cold War and nuclear	Ideas alla vice-a-versa.	sources, and future generations	caused by radiation exposure		
			technology to use it in	Closure:	Closure:	and radioactivity.		
			weapons. What could have	Exit ticket- How do you feel	Exit Ticket- Why is rac			
			been done to keep Navajo	about our own government	so dangerous? Ide			
			miners SAFE, if they still	lying to Navajo miners back	characteristics.	Nation mine again? Even if it		
			decided to work at mines?	then?		means more money? Explain.		
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Appendix C

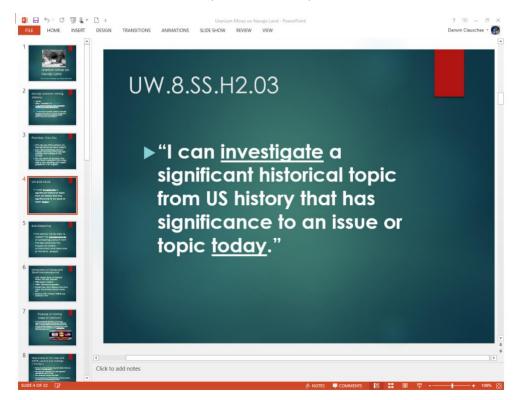
Uranium Mines on Navajo Land (PPT presentation)



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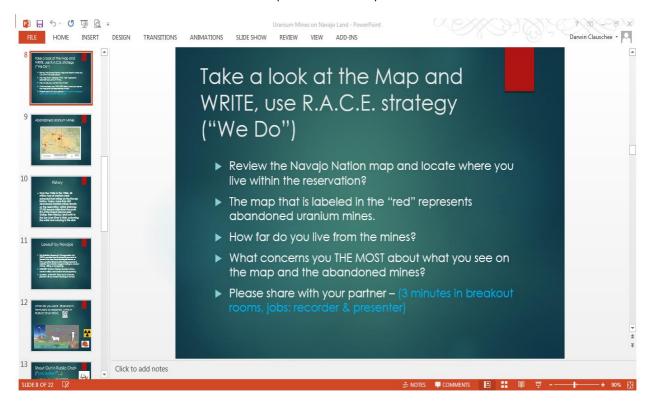
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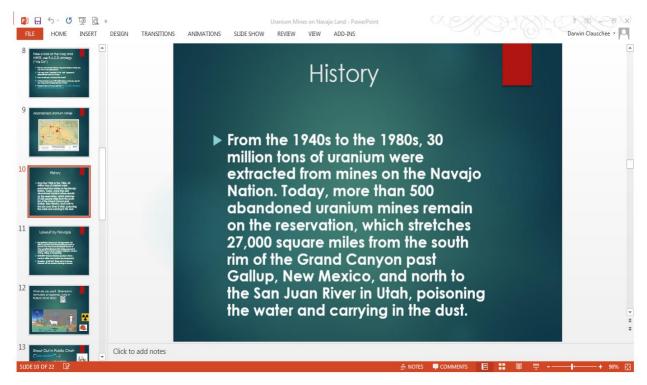
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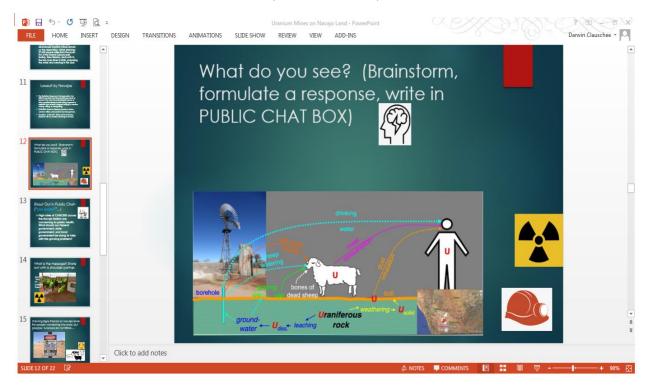
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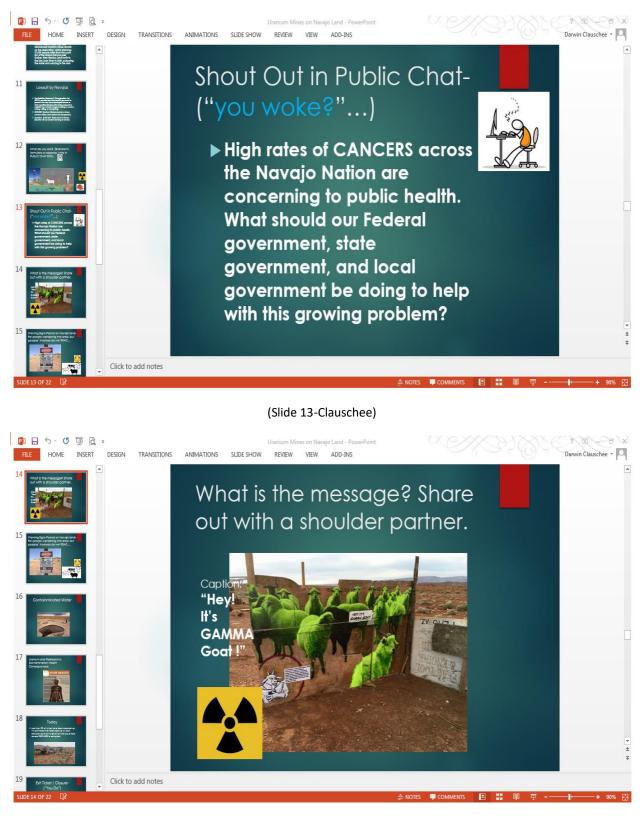
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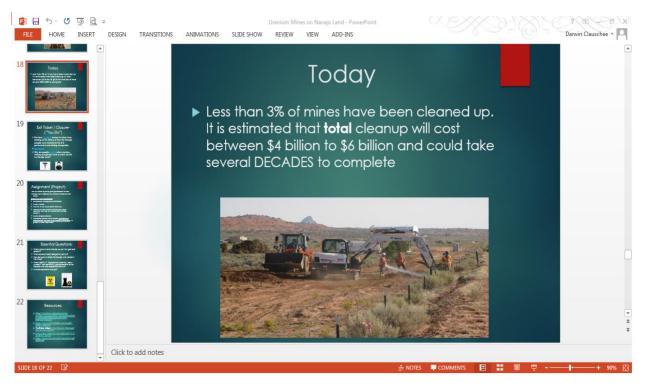
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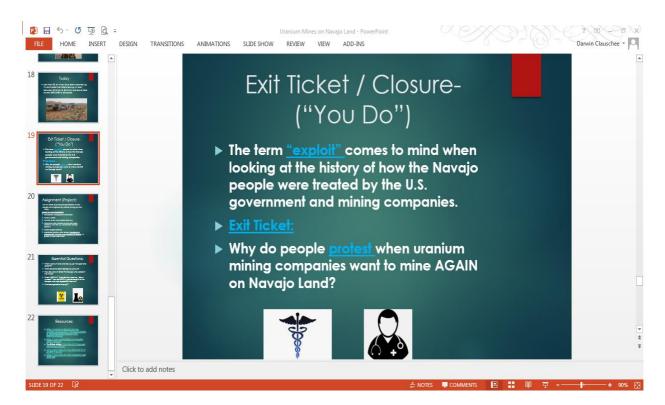
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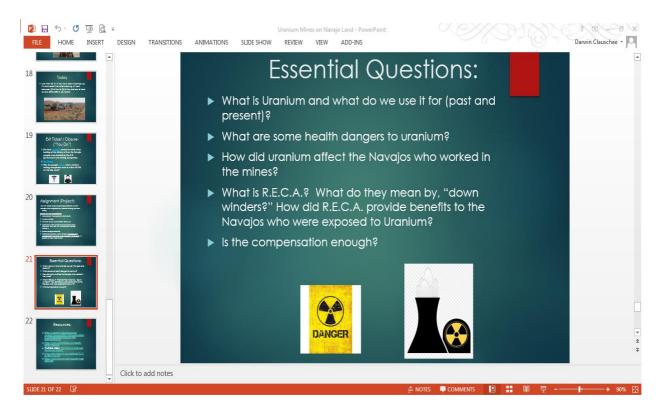
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Appendix D

Unwrapped Document

Unwrapping Essential Standard 8th grade Social Studies

Essential Performance Objective:

UW.8.SS.C3.03 - I can compare the structures, powers, and limits of government at the federal, state, and local levels.

Student Friendly:

"I can compare the structures, powers, and limits of government at the federal, state, and local levels."

<mark>Dine History/Govern</mark>	ment Standard(s):	Navajo historical ev	Navajo historical event(s):					
<mark>7/8 gr,(H),C1-</mark>		1940= The Navajo Tr	1940= The Navajo Tribal Council enacts a					
"I will research how L	<mark>)iné and events have</mark>	resolution outlawing	peyote use on the					
influenced the develop	<mark>ment of Navajo</mark>	Reservation. The Nat	ive American					
communities and cultu	re to the present day.	" Church(NAC) challer	Church(NAC) challenged this resolution in					
	1 1	federal court on grou	federal court on grounds that it was an					
		unconstitutional viola						
		Amendment right to	freedom of religion.					
		In NAC Inc. v. Nava	In NAC Inc. v. Navajo Tribal Council					
		(1959), a federal cour						
			Amendment applied only to Congress and the					
			states and that "no provision in the					
			constitution makes the First Amendment					
			applicable to Indian nations.					
Concepts (Nouns)	Skills (Verbs)	Knowledge	Cognitive Process					
Executive	Compare	□ Factual	□ Remember					
Legislative	Identify		□ Understand					
Judicial	Define	X Conceptual	□ Apply					
Checks & balances	Evaluate	-	□ Analyze					
Separation of powers		□ Procedural	X Evaluate					
Tribal entity			□ Create					
Sovereign powers		□ Meta –Cognitive	DOK Level					
jurisdiction			3 – Strategic Thinking					
Big Ideas								

1. The US government is composed of 3 branches: executive, legislative, and judicial.

2. Each branch has its own powers and responsibilities, including working with the other branches.

3. There are checks and balances in place to limit the powers of each branch.

4. Diné have a unique CITIZENSHIP, due to the fact of occupying at the federal, state and tribal level. This "triple citizenship" is unique among U.S. Citizens. On the other hand, poses some unique challenges to jurisdiction issues.

Essential Questions

1. What is the executive branch? What powers and responsibilities are assigned to this branch? How is it checked and balanced by the other two branches?

2. What is the legislative branch? What powers and responsibilities are assigned to this branch? How is it checked and balanced by the other two branches?

3. What is the judicial branch? What powers and responsibilities are assigned to this branch? How is it checked and balanced by the other two branches?

4. Is it possible that when the Judicial branch of government "misinterprets" laws that apply to indigenous people living on a reservation, that there is a possibility of denial of constitutional rights?

Disciplinary Skills and Processes

8.SP4.6 – Construct and present arguments based on claims and counterclaims while pointing out the strengths and limitations of the arguments.

8.SP4.1 – Explain the multiple causes and effects of events and developments in the past. 8.SP4.2 – Evaluate the influence of various causes of events and developments in the past.

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