



DEVELOPING ACEQUIA AND LAND GRANT CURRICULA  
JOB AID AND GUIDANCE DOC  
*PRESENTED TO THE*  
ACEQUIA AND LAND GRANT EDUCATION (ALGE) PROJECT

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# THE JOB AID: ACEQUIAS AND LAND GRANTS CURRICULUM

The purpose of this Job Aid is to help teachers and schools rapidly develop a customized academic curriculum outline related to New Mexico acequias (waterways for irrigation) and/or community land grants. In just a short time, you'll be able to get started on a curriculum that specifically targets the needs of your own local students, classrooms, grades, schools, or communities. This Job Aid will walk you through the process of creating a curriculum outline, large or small. It's your choice, but we recommend that you start with something small and manageable, and after you're familiar with the process, you can begin implementation and gradually flesh out the skeletal outline with your notes or narrative. And you can take it from there.

In addition to this quick-start *Job Aid*, you can refer to the accompanying *Land and Water Guidance Doc* that you can use as a reference or for more elaboration on specific steps in the process. In fact, we recommend that you read the first few pages of the guidance to get a high-level overview of what job aids, acequias, land grants, and curricula are all about. So, don't be hesitant, jump right in. The water in the acequia is just right!

## 1. About Us (The curriculum development team)

*Tip:* For your first project, it may be best to initially involve only a small number of pertinent instructional staff in the curriculum development task. Generally, one-to-three (1-3) team members might be more productive than six or eight (6 or 8), but you can invite others later as needed or desired.

Place a checkmark in ALL relevant boxes.

Administrators	<input type="checkbox"/>	Community & Parent Stakeholders	<input type="checkbox"/>	Educational Assistants	<input type="checkbox"/>	Program Staff	<input type="checkbox"/>
Students	<input type="checkbox"/>	Subject Matter Experts	<input type="checkbox"/>	Teachers	<input type="checkbox"/>	Others	<input type="checkbox"/>

*Elaboration:* Add notes here...

**2. Who Will We Serve?** *Tip:* Focus only on the grade(s) or group(s) with whom you have a working relationship or who may be actively using your instructional curriculum. *Check all grades/levels that apply for your team.*

Pre-K	<input type="checkbox"/>	K	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	<input type="checkbox"/>	8	<input type="checkbox"/>
9	<input type="checkbox"/>	10	<input type="checkbox"/>	11	<input type="checkbox"/>	12	<input type="checkbox"/>	College	<input type="checkbox"/>	Community	<input type="checkbox"/>	Other	<input type="checkbox"/>						

*Elaboration:*

**3. Optional: Your Curriculum Type(s) and Reason(s).** *Check all that apply.*

*What kind of acequia or land grant curriculum do you want? This may be optional for a single classroom curriculum, but highly important if the curriculum is designed to organize academic content across grade levels, community activities and/or college courses and programs. Instead of being like a movie where everything is self-contained, you might think of it like a TV series, where each episode is a semester or multi-year program of study.*

There are different curriculum types and characteristics, and you can customize your own however you wish. To determine a *type*, think about the reason you want a new curriculum. It's best to begin with just one or two (1 or 2) desired *types* or *reasons*. You can always change, reduce or even add more desired types at a *later time*, especially after you gain a sense for how the project is developing. *But for now, keep it short!*

a. <i>To focus our teaching and learning on our grade level personal and performance <b>goals and objectives</b>.</i>	<input type="checkbox"/>
b. <i>To focus on teaching and learning specific <b>content and skills knowledge</b>, including courses, subjects, topics, lessons, and/or modules.</i>	<input type="checkbox"/>
c. <i>To better <b>select and sequence</b> our grade-level subjects, topics, activities, and materials.</i>	<input type="checkbox"/>
d. <i>To sharpen our focus on instructional and experiential <b>strategies and methods</b>.</i>	<input type="checkbox"/>
e. <i>To focus more intentionally on planned or desired <b>outcomes</b>, such as student behaviors, affective/emotional development, and practical experience.</i>	<input type="checkbox"/>
f. <i>To practice and focus more on validation or verification through authentic, cognitive or performance <b>assessments</b>.</i>	<input type="checkbox"/>

Add notes or other reasons here...

*Elaboration:*

**4. Your Anticipated Curriculum Content and/or Performance Outcomes:**

*Really? We have to choose people, types, reasons, and outcomes?*

Outcomes are simply the overall goals and objectives you anticipate as a result of implementing your curriculum with your students. *Try this:* Take five (5) minutes to choose one to three (1-3) kinds of content and/or performance outcomes that you anticipate might be doable for your students. Remember, you can add, subtract, divide, and/or multiply these target outcomes as you go along. However, you don't want to stress out your staff and teachers by trying to think about too many outcomes all at once. Chances are pretty good that you will touch on many, and possibly all of them, along the way.

And, don't forget, later you can focus on subordinate outcomes for specific activities and lessons.

a. To anchor standard grade-level content to authentic local contexts.	<input type="checkbox"/>
b. To boost student interest in academic content and engagement in schooling.	<input type="checkbox"/>
c. To enable participants' cultural and social connectedness.	<input type="checkbox"/>
d. To encourage student reduction in risk behaviors.	<input type="checkbox"/>
e. To enhance student and teacher knowledge and understanding of the local community culture, history, and problem-solving strategies.	<input type="checkbox"/>
f. To foster student relationships and cooperation with the local community.	<input type="checkbox"/>
g. To practice and enhance student communication and presentation skills.	<input type="checkbox"/>
h. To promote student gain in protective factors and/or pro-social behaviors.	<input type="checkbox"/>
i. To provide context for student learning in academic content standards and skills knowledge.	<input type="checkbox"/>
j. To raise student performance on academic assessments.	<input type="checkbox"/>

Other / Elaboration:

**5. Your Acequia and Land Grant Educational Content.** *What do you want students to learn?* Check all that apply, but don't add any that you're unsure of because you can add them later if needed.

a. <b>Facts:</b> These are simply things we know or believe to be true.	<input type="checkbox"/>
b. <b>Concepts and Definitions:</b> Redefining something based on combinations of facts and ideas.	<input type="checkbox"/>
c. <b>Literacy Skills:</b> Reading, writing, speaking, and listening.	<input type="checkbox"/>
d. <b>Rules and Procedures:</b> Learning about steps or procedures or processes to accomplish certain tasks.	<input type="checkbox"/>
e. <b>Problem-Solving Skills:</b> Learning how to figure out solutions to problems and opportunities.	<input type="checkbox"/>
f. <b>Social-Emotional and Personal Development:</b> Learning how to feel better and how to become a better student and person in society.	<input type="checkbox"/>
g. <b>Strategies and/or Principles:</b> Learning combined activities and techniques to accomplish a desired outcome and to know more about correlations and causality for making sense of new knowledge and experiences.	<input type="checkbox"/>
h. <b>Higher-Order Thinking:</b> This level is about putting any or all of the above learning levels together in order to think critically, solve problems, invent solutions, and make sense of new phenomena.	<input type="checkbox"/>

*Other / Elaboration:*

**6. Your Curriculum Instructional Strategy and Methods.** *How will students learn? What will students and teachers do?* Below are some quick examples. As with everything else in developing a curriculum, start with just a few items.

a. Authentic Experience / Situated Learning, and Assessment	<input type="checkbox"/>
b. Cooperative/Collaborative (Group Work) Learning	<input type="checkbox"/>
c. Culturally Responsive Teaching and Learning (CRT)	<input type="checkbox"/>
d. Discovery Learning	<input type="checkbox"/>
e. Direct Instruction (lectures and demonstrations)	<input type="checkbox"/>
f. Expeditionary and/or Experiential Learning	<input type="checkbox"/>
g. Focusing and Enhancing Student Academic Self-Efficacy/Confidence	<input type="checkbox"/>
h. Focusing or Promoting Growth Mindsets	<input type="checkbox"/>
i. Guest Presentation and Q & A	<input type="checkbox"/>
j. Hybrid Online/In-Person Learning	<input type="checkbox"/>
k. Inquiry-Based Learning	<input type="checkbox"/>
l. Language or Bilingual Proficiency Development	<input type="checkbox"/>
m. Literacy Development: Reading, Writing, Speaking, Listening	<input type="checkbox"/>
n. Memorization, Drill and Practice	<input type="checkbox"/>
o. On-line Distance Learning	<input type="checkbox"/>
p. Play-Based Learning	<input type="checkbox"/>
q. Problem-solving skills	<input type="checkbox"/>
r. Product-Based Learning	<input type="checkbox"/>
s. Project-Based Learning (PBL)	<input type="checkbox"/>
t. Service Learning	<input type="checkbox"/>
u. Self-Directed Learning OR Student Learning by Design	<input type="checkbox"/>
v. Skills Development	<input type="checkbox"/>
w. Storytelling	<input type="checkbox"/>
x. Student Performance or Presentation	<input type="checkbox"/>
y. Worksheets (creating, using, or re-purposing)	<input type="checkbox"/>
z. Youth Empowerment and On-the-Job Training (OJT)	<input type="checkbox"/>

*Elaboration:* ...

## 7. The Curriculum Assessment Strategy and Methods.

It is a good idea to determine in advance what kind of assessment(s) you plan to use at certain milestones in your instructional program.

*Check all that apply, but only one or two (1 or 2) should serve as your primary assessments.* Please refer to the *Land and Water Guidance Doc* for more discussion.

a. Authentic content testing	<input type="checkbox"/>
b. Authentic performance	<input type="checkbox"/>
c. Behavioral Assessment	<input type="checkbox"/>
d. Performance Assessment	<input type="checkbox"/>
e. Standards-Based Assessments	<input type="checkbox"/>
f. Student and/or Group Self-Assessment	<input type="checkbox"/>
g. Student Presentation and Feedback Review	<input type="checkbox"/>

...

*Elaboration:*



Part Two: A SAMPLE of a High-Level View of a Curriculum Development and Implementation Calendar

<u>Activity</u>	<u>Date and Time</u>	<u>Participants</u>
Pilot Invitational Meeting	Sept. 16th 10:00 AM	Curriculum Team members:
Kickoff Invitational Celebration	Sept. 23rd 3:00 PM	All interested school persons (including instructional and administrative staff and students), and all interested community stakeholders
Course Lessons Calendar	Every Friday for the Semester	Instructional Staff, Students, and Volunteer Community Supporters
Course Assessments Calendar	Fridays after State Testing	Instructional Staff and Students ( <i>and program evaluators, if applicable</i> )
Family and Community Shared Events Calendar	First Friday of Each Month	All school and family participants
Course Completion Celebration	Dec. 18th 10:00 AM	All school and community participants

...

*Elaboration:*

# NEW MEXICO LAND AND WATER GUIDANCE DOC

## Instructions and Narrative Support for Developing ALG Curricula

### Introduction

This guidance document provides technical and content support for the *Acequias and Land Grants Curriculum JOB AID*. It's kind of like a job aid for the JOB AID. The JOB AID and this Guidance are specifically designed for developing a curriculum outline on the subjects of New Mexico land grants and acequias (*the subjects*). Later, you can flesh out your outline with notes and narrative as you wish using local resources and the extraordinary amount of content readily available on these subjects in the public domain. The missing piece in the available literature on these subjects, however, is information on how educators can select and sequence grade-level content and how they can rapidly develop academic and instructional curricula.

### Acequias and Land Grants — Land and Water

The people of New Mexico have a great appreciation for the elements of the earth that sustain our collective existence. Firstly, the **Native Peoples** of this land managed the ecology in order to foster tremendous achievements in collective and sustainable agriculture and food production over a great many centuries. Later, the Spanish and Mexican settlers — followed by French, American and other colonists and explorers — settled into New Mexico and brought with them their own sets of rules and understandings for managing the land and elements. Land and water management in New Mexico has evolved from a blend of these diverse systems.

**Acequias.** Hundreds of years before the arrival of the Spanish in New Mexico, the Ancestral Puebloans had complex irrigation systems that provided food for large cities such as Chaco Canyon. As early as 1598, Spanish explorer-settlers brought with them the *acequia* (waterway or watercourse)<sup>1</sup> system of water sharing, distribution of water for agricultural irrigation, and ecological management. As they learned about the diverse landscapes and ecologies of the local and unique regional environment, they began to integrate their knowledge of acequias with the irrigation systems that were already in place.

**Land Grants.** In New Mexico, land grants (*mercedes*) were granted to both individuals and communities. Community land grants include those that recognized Pueblo Indian land tenure and many individual land grants that became community land grants over time. For this job aid, we focus specifically

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1 "Acequia" defines both the ditch and the community managing it.

on *community land grants*, where most of the land is owned and managed communally, while individual members may privately own their parcels.

Little is known about land grants before the Pueblo Revolt of 1680, when Pueblos united with surrounding tribes to expel the Spanish from New Mexico because of the abusive practices of civil and ecclesiastic officials. When the Spanish returned in the 1690s, they resettled using private and community lands grants and made a greater effort to protect the land tenure of Pueblos, issuing land grants to Pueblos that recognized their land base. Spain continued issuing land grants through the 1820s, and Mexico granted both private and community land grants beginning with their independence from Spain in 1821 through the 1840s.

In modern times, we're finding that every local community has a somewhat unique system for managing their land and water resources. For land grants and acequias, these systems were mostly characterized by communal self-governance and guardianship, often through democratic or consensual selection of local stewards.

It's essential for the current generation to learn how New Mexico communities have sustained themselves over the years with water sharing and conservation, in addition to learning about cooperative usage and management of communal lands for economic development, community services, recreation, ranching and food production.

It's also important for them to be aware of ongoing issues that involve the ownership, control, and/or stewardship of our lands and water. These issues often involve expensive and emotional legal disputes that affect not only the social relationships among neighbors and communities, but also the relationship between communities and the federal, state and local governments. Formal education about these issues holds significant promise for reducing future complications and finding new pathways for resolving differences in mutually beneficial ways. It also ensures that younger generations maintain their stewardship New Mexico's land and water informed by the traditions and values of their ancestors.

### **Land and Water Curricula**

Although there is a great deal of related content knowledge within the acequia and land grant subject domains, there is very little available in terms of documented, structured and/or formalized educational curricula. Acequia and land grant domains are broad knowledge systems; they are *ill-structured domains* because they lack well-defined grade-level instructional content for universal purposes. Also, the same content doesn't necessarily mean the same thing in different locales.

The study of these subjects involves a great deal of unique details and characteristics at the local level. As a result, the instructional topics for these subjects may vary, sometimes considerably, for different communities. For example, the topics may be uniquely different across various counties, school districts, cities and townships within the state.

Instructional designers and curriculum developers would likely determine that the basic, general, and historical study of acequias and land grants is well suited for the lower grades. And they're right, because the study of these subjects requires that all grade/education levels have at least a basic understanding of the general facts and concepts. However, the localized philosophical, contemporary, and practical purposes of acequias and land grants might be more academically suitable for the middle-to-upper grades.

At the college and graduate-professional levels, students may still need some of the same general elementary and preparatory sequence of courses, subjects and topics, but at a much faster pace. Additionally, at the higher intellectual levels of study, particularly within the institutions of higher education, students may need to interpret statistics, statutes, standards, case law, agrarian and agricultural issues, and community rights and regulations at both the community administrative level, as well as vis-à-vis state and federal policy.

The levels of understanding of our relationships with land and water begin at birth and continue, unfinished, into succeeding generations. The study of land and water issues should therefore be of paramount importance in public education.

**The curriculum experts.** The educational **experts** in a school, at any level, are the instructional staff. They're the ones who work with students on a daily basis and have most likely spent years studying educational philosophy and theory, including instructional design, classroom strategies, and assessment methods. Therefore, it's better to leverage the experts' years of training and education, as well as their local knowledge and relationships from within the community. They're the ones who can best improve the educational system where they are.

Moreover, there are guideposts that we can take advantage of related to creating an acequia and/or land grant curriculum, and that's what this job aid is all about. In the process of completing the skeletal job aid, staff members can brainstorm, suggest ideas, and remind themselves some of what they already know, or thought they knew, or need to know, regarding curriculum development.

### **So, what's a Job Aid?**

A *job aid* has many synonyms, such as *task aid*, *performance aid*, and even digitally as an *Electronic Performance Support System (EPSS)*. A *JOB AID* is simply a two-syllable way of stating the obvious: it's a way of making a task, or set of tasks, simpler, more straightforward, easier to understand, and also quicker to understand and implement.

What we're trying to do with this particular job aid is to make the task simpler, easier, and more efficient for your curriculum development team. We propose, therefore, that you consider our limited-steps, flexible approach, which makes it possible to launch the process in an afternoon and begin implementing the curriculum in your school soon thereafter. This rapid implementation of curriculum is possible because you are allowed the flexibility to learn and modify your curriculum as you try it out over time. After learning by doing, soon you will have the curriculum that works for students at your particular grade level(s) in your relevant communities.

### **So, what's a curriculum?**

Communities everywhere have been working on *educational or academic curricula* since time immemorial. It's an expansive field, and that can mean just about anything one might wish it to. For some, a *curriculum* is a semester-long academic course. For others, it might be a six-part expeditionary learning series designed to engage students in experiencing educational content with the dual-purpose of making it so transformative that they are re-energized to become better and more motivated students and life-long learners. A curriculum can also be something that can be conducted in as little as a few parts, involving a school-community partnership, a couple of field trips involving some mini-tours and hands-on tasks that explore the local acequias and community land grants, culminating in a school-community workshop or celebration.

The definitions can vary depending on the intentions of the author. And you can also create your own definition. Wikipedia, citing Kelly (2009) and Wiles (2008)<sup>2</sup> summarizes it like this:

*In education, a curriculum is broadly defined as the totality of student experiences that occur in the educational process. The term often refers specifically to a planned sequence of instruction, or to a view of the student's experiences in terms of the educator's or school's instructional goals.*

The instructional staff is also likely to benefit in planned or untold ways as well. So, there you have it, you're free to define your intentions for a curriculum that meets the needs of your students and your instructional staff, and in some

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<sup>2</sup> <https://en.wikipedia.org/wiki/Curriculum>

cases, the needs of your administration and the local community. Let's get started.

### Advanced Organizer

Obviously, it behooves a school-based curriculum design team to first figure out what they wish to do, with whom, and to what effect. The process sounds complicated at first, but once the team gets started, you could realistically move relatively swiftly through the process.

#### ***Do this, Don't do that***

As you proceed step by step, don't over-complicate it:

1. Think about the shortest and quickest path to get through each step (we're talking minutes, not anything longer than that to begin with):
  - **Don't over do it.** Otherwise, you'll enter the zone of *cognitive overload*, where your project ideas get too big and complex, therefore impeding your ability to even get started.
  - **Do it chunk by chunk.** Today's instructional designers are less stodgy and fastidious than their predecessors. Instead of a fixated linear process, they tend to believe that we should do what we need to do when we need it, not everything at once, and only the parts that we really need to do. The same should go for *initially* creating a curriculum.
  - **Remember.** You can still change or add more aspects to your curriculum concept later. And you can count on the fact that you probably will.
2. **Give yourself and your students credit** for having some expertise and/or life experience related to the subject matter. If you have a better idea for your curriculum purpose than the choices given below in this guidance, don't be afraid to use your own ideas. No doubt, your students will still be immersed in rigid, inflexible curricula in other subjects. You can use *acequias* and *land grant learning* to step out of the brick and mortar box and let your students explore and experience new ways of thinking, seeing, learning and creating; including outdoors whenever possible.
3. **Give the local community members and its elders credit** for their subject matter and life experience expertise. Consider bringing community members into your classroom to promote cross-generational learning and connectedness.

## 1. About Us

The job aid asks you to determine who should be part of your curriculum development team. We recommend that you focus on a core team of instructional staff, simply because curriculum content is designed to be instructional, and they're the ones who know how to do it. Again, we recommend that you choose a limited number, such as one-to-three (1-3) team members.

Administrators	<input type="checkbox"/>	Community & Parent Stakeholders	<input type="checkbox"/>	Educational Assistants	<input type="checkbox"/>	Program Staff	<input type="checkbox"/>
Students	<input type="checkbox"/>	Subject Matter Experts	<input type="checkbox"/>	Teachers	<input type="checkbox"/>	Others	<input type="checkbox"/>

## 2. Who we Serve

The job aid asks you to determine the grade range your acequias and land grant curriculum will serve. Don't try to do it all, try to do it **well** for the students you serve. The grade level experts include the classroom specific teachers and their students. Therefore, it's often a good idea to allow these day-to-day subject-matter experts to have significant input about how the curriculum can best focus on their needs.

Pre-K	<input type="checkbox"/>	K	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input type="checkbox"/>	6	<input type="checkbox"/>	7	<input type="checkbox"/>	8	<input type="checkbox"/>
9	<input type="checkbox"/>	10	<input type="checkbox"/>	11	<input type="checkbox"/>	12	<input type="checkbox"/>	College	<input type="checkbox"/>	Community	<input type="checkbox"/>	Other	<input type="checkbox"/>						

## 3. Your Curriculum Type(s) and Reason(s)

*Instructions.* As it says on the job aid, it's a good idea to think in advance about the *reason(s)* you even want a new instructional curriculum. In some cases, it might be important to sequence or arrange instructional content in a school or across grades or where you're working with multiple curricula. For a single classroom curriculum, or even just a conference or workshop series, this step may be optional.

This should not be confused with the academic outcomes that you're going to aim for in the next step. It can be a little tricky, but don't get carried away! Trying to focus too much on why you even need a curriculum can result in *momentary brain freeze!*

Think about it this way? Somebody in the elevator is going to ask *you WHY are you developing an acequia or land grant curriculum?* You know, your elevator speech. You want to tell them the reason in the short time you have. And remember, the reasons are optional for single-classroom or lower grade-level curricula.

It's best to pick just a couple of types or reasons to get started. That way you can aim for more specific and greater results on targeted academic outcomes

than if you try to do it all. In some rare cases, it might be the school or district administrators or curriculum specialists who want to know how your academic content is organized before you announce your targeted instructional outcomes.

And, if desired, you can add or subtract more 'reasons' as you go along, including after the project is well underway.

**Here we go.** If this applies to you, think about picking one or two (1 or 2) of the general curriculum types or reasons below:

- g. *To focus our teaching and learning on our grade level personal and performance **goals and objectives**.*
- h. *To focus on teaching and learning specific **content and skills knowledge**, including courses, subjects, topics, lessons, and/or modules.*
- i. *To better **select and sequence** our grade-level subjects, topics, activities, and materials.*
- j. *To sharpen our focus on instructional and experiential **strategies and methods**.*
- k. *To focus more intentionally on planned or desired **outcomes**, such as student behaviors, affective/emotional development, and practical experience.*
- l. *To practice and focus more on validation or verification through authentic, cognitive or performance **assessments**.*

#### 4. Your curriculum content and/or performance Outcomes

Now, take five to 10 (5-10) minutes to choose one to three (1-3) kinds of content and/or performance outcomes. Remember, be selective to begin with and then expand your target outcomes after you are easily meeting the ones you chose to focus on.

- a. To anchor standard grade-level content to authentic local contexts.
- b. To boost student interest in academic content and engagement in schooling.
- c. To further enable participants' cultural and social connectedness with the local community.
- d. To encourage student reduction in risk behaviors.
- e. To enhance student and teacher knowledge and understanding of the local community culture, history, and problem-solving strategies.
- f. To foster student relationships and cooperation with the local community.
- g. To practice and enhance student communication and presentation skills.
- h. To promote student gain in protective factors and/or pro-social behaviors.



- i. To provide context for student learning in academic content standards and skills knowledge.
- j. To raise student performance on academic assessments.

## 5. Your Acequia and Land Grant academic content

Early on, you want to start focusing on your Acequia and Land Grant academic content. You can change the content whenever you wish, so don't worry about getting it perfect in advance. The point is to maximize the educational experience and education of your students. For example, in the beginning you might not realize how much support and learning can be gained from the local community. Stay open to opportunities to improve the education of your students!

Keep in mind a couple of points: Educational content is best differentiated by grade level. Remember the learning taxonomies you were told to memorize in college? Some of the mainstays include Bloom's *Taxonomy*, or Gagne's *Nine Events of Instruction*, or even Wiggins and McTighe's *Six Facets of Understanding*. In general, they proceed from facts to concepts, to rules and procedures, and on to strategies and principles, and eventually higher order thinking.

For the early grades, for example, students will learn historical facts and definitions related to the given content, and in later grades, on through graduate and professional school, they'll need to practice more problem-solving, critical thinking, and invention. Nonetheless, every student, at every level, needs facts and knowledge to build upon. Younger students, such as grades K-3, need simpler facts than older students. However, every student, no matter the age, needs to learn on the spectrum from facts to principles. For example, preschoolers need to know the principle that water runs downhill, while college students need to know the principle that the ecosystem requires a constant balance of all beings and elements within the physical environment.

In general, when we consider the scope from kindergarten throughout higher (K-19) education, it gets a little easier to conceptualize. But learning still ranges from the broadly holistic (any combination of educational experiences) to the more descriptive and/or prescriptive.

If all of this is taken into consideration, it will make sense that we need to sequence our topics and subject matter from the simple to the more complex, all tied, of course, to grade-level instructional material.

**One word of caution as you get started:** Don't get carried away by trying to do too much too soon! Trying to focus on engineering your curriculum may result in didactic and narrow-minded instruction. Now, set all of that aside, and think of your students. Obviously, your first instructional lessons in the curriculum should probably proceed like the 1950s and '60s TV police show *Dragnet* investigation, with "*just the facts, ma'am.*"

Later, of course, you will gradually upgrade the lesson instructional and content sophistication. To start with, however, for your grade level, jot down some ideas related to your grade or group at the beginning levels. Of course, facts and concepts in kindergarten will be different from those at the college level.

**Everyone needs facts.** Acequia and land grant facts in the early grades might include some history and definitions, but in the upper grades the fact-based material might also include weights and measures for water allocation, sharing, and distribution or uses of common lands or how communities were traditionally laid out and organized. Both of these examples can help students understand the relationship of land grants and acequias with the local ecosystem and New Mexico history.

So, as an example, perhaps the younger students can do hands-on exploration of the water running through the local acequias and have some fun afterwards learning some on-site history while the older kids explore water safety through a microscope. Professional adults in higher education can analyze New Mexico's long history of land and water case law as well as strategies for countering climate disruptions.

Where do we get grade-level content material? It's all over the place. If you use a search engine on the term "acequias in education," you'll get about 298,000 results (try it out). And for "land grants in education?" There are literally millions of hits. We can search for acequias and "New Mexico" in quotes and the results are still enormous. Most contemporary educators, however, moonlight at home as search engine and social media specialists, so they'll have no problem gathering information in a targeted search. One can immediately see that the topics are of critical importance to our state, for many different reasons!

Luckily, in New Mexico we have a number of subject-matter experts (SMEs) and educational material resources to help us sift through the content. We provide a starter list of some instructional examples and SMEs in a separate document that complements this job aid. See also the following resource documents: *ALGE Exemplars*, *ALGE Acequia Resources*, and *ALGE Land Grants Resources* wherever you find this guidance.

## Learning Taxonomy Definitions and Examples

- a. **Facts:** These are simply things we know or believe to be true. They are usually not disputable, like a date that something happened, a person or place name, or a location on a map. Some quick examples are provided below:
- **Example of K-3 grade level factual study question.** Who are the *mayordomos* (leadership) and *parciantes* (members) of the local acequia? Regarding land grants, who are the heirs and *comisionados* (commission members elected by *parciantes*) of the land grant?
  - **College-level question.** What are the landmark legal and policy documents that regulate the sharing and distribution of water for irrigation purposes in our state?
  - ***What are some examples for your curriculum grade level?***
- b. **Concepts and Definitions:** Redefining something based on combinations of facts and ideas.
- **Example study question.** How do local acequias fit in with the overall infrastructural water management system in our state?
  - ***Your examples:***
- c. **Literacy Skills:** Reading, writing, speaking, and listening.
- **Example.** Read a grade-level story about acequias or land grants, write something about it, and then present something about it to the class.
  - ***Your examples:***
- d. **Rules and Procedures:** Learning about steps or procedures or processes to accomplish certain tasks.
- **Example.** What steps do we need to take to organize a community effort to clear brush and debris from community land and water systems?
  - ***Your examples:***

e. **Problem-Solving Skills:** Learning how to figure out solutions to problems and opportunities.

- **Example.** What are some analyses and communication techniques we can use for resolving land or water usage disagreements due to lack of understanding?
- **Your examples:**

f. **Social-Emotional and Personal Development:** Learning how to feel better and how to be a better person.

- **Example study activity for adolescents and adults:** Watch a movie like **The Milagro Beanfield War** and then discuss questions like this: *Why was it important to the Milagro community that all or most of its citizenry be involved in local water issues? Why should everyone care? What value is it to an individual to be part of social effort to accomplish something for the community? What else can we get out of the story?*
- **Your examples:**

g. **Strategies and/or Principles:** Learning combined techniques or procedures to accomplish a desired outcome and to know more about relationships and causality for making sense of new knowledge and experiences.

- **Example of a college level principles study question:** How do local community land grants fit in with the overall infrastructural land management system in our state? Are these parcels of land endangered?
- Regarding land grants, in what ways do the *comisionados* oversee the work of the *mayordomos*? What are various roles and services they provide in coordination with the local community, and why might this be an effective hybrid communal-private property management system?
- How and why does depleting a water source without replenishing it result in potential problems?

h. **Higher-Order Thinking:** This is about putting any or all of the above learning levels together in order to think critically, solve problems, invent solutions, and make sense of new phenomena.

- **Example.** How do we mitigate the effects of widespread drought and climate change to ensure continued farming in our state?
- **Other examples:**

## 6. Your curriculum instructional strategy and methods

*Instructions.* As with purposes, it's best to pick just a few strategies and methods to get started. In this way, you can take advantage of the flexibility you might need to adjust to the realities of the school day. Of course, you can add, delete, or modify your strategies as you learn more and get a feel for how it's going, including after the project is well underway.

There is no shortage of instructional design models and teaching and learning strategies. No doubt, your instructional team members already know about most of them.

In many cases, such as learning new or unfamiliar content, it might be best to keep it simple: a) What do you want students to learn, 2) how are you going to get them to learn it, 3) how will you know if they are getting it. Also, don't be so focused on what you, the teacher(s) or professional developer(s) are going to do; the best instruction focuses on what the students are going to do! You might be able to give an awesome presentation, but what will your students be able to do with the information after you've completed your presentation?

As educators, you are no doubt familiar with many of the educational strategies listed below. However, we advise you to choose just one or two strategies that you can do well (and you'll probably end up doing most of the rest anyway).

1. Authentic Experience / Situated Learning, and Place-Based Learning and Assessment
2. Cooperative/Collaborative (Group Work) Learning
3. Culturally Responsive Teaching and Learning (CRT)
4. Discovery Learning
5. Direct Instruction (lectures and demonstrations)
6. Expeditionary and/or Experiential Learning
7. Focusing and Enhancing Student Academic Self-Efficacy/Confidence
8. Focusing or Promoting Growth Mindsets
9. Guest Presentation and Q & A

10. Hybrid Online/In-Person Learning
11. Inquiry-Based Learning
12. Language or Bilingual Proficiency Development
13. Literacy Development: Reading, Writing, Speaking, Listening
14. Memorization, Drill and Practice
15. On-line Distance Learning
16. Play-Based Learning
17. Problem-solving skills
18. Product-Based Learning
19. Project-Based Learning (PBL)
20. Service Learning
21. Self-Directed Learning OR Student Learning by Design
22. Skills Development
23. Storytelling
24. Student Performance or Presentation
25. Worksheets (creating, using, or re-purposing)
26. Youth Empowerment and On-the-Job Training

**Learning by Doing.** Wikipedia summarizes it nicely. Quote: *Learning by doing refers to a theory of education. This theory has been expounded by American philosopher John Dewey and Latin American pedagogue Paulo Freire. It's a hands-on approach to learning, meaning students must interact with their environment in order to adapt and learn.*

**Product-Based Learning.** This makes so much sense in today's world, where students may have to be more self-directed, inventive, and/or entrepreneurial. In summary, this PBL (not Problem or Project-Based) helps students improve their skills at all stages of self-directed learning. Students figure out partly by themselves how to create or invent their own products, and then they may possibly start a little business or operation to share their product(s). The skill learning is endless, and the rewards have great potential.

**Worksheets.** Worksheets are sometimes overused, and they should never become the core of the teaching/learning process. That said, there are many engaging worksheets available with relevant land and water activities that may come in handy for practicing different kinds of learning strategies, such as problem solving, reading, writing, etc. Some worksheets can be re-purposed for specific use with acequia and land grant educational content. For example, you can locate worksheets that deal with waterways or irrigation and see how they fit with your acequia content. Many websites have hundreds of really great

worksheets aligned to grade level subjects and topics, as well as common core state standards. Just browse the term "free worksheets" to get started, but again, instructional experts caution us to be wary of their overuse.

## 7. The curriculum assessment strategy and methods

Finally, it is best to think in advance about your assessment or evaluation methods. Assessment usually means interactive feedback between teachers and students and sometimes others such as parents and school personnel. Educational evaluation is traditionally thought of as a process of using strategies and measures to judge effectiveness or achievement of students, teachers, and school material, and often includes considerations by administrative officials and even government educational systems and the public. That age-old thinking about evaluation, however, is changing, thankfully. New thinking on evaluation considers new strategies of evaluation that inform and support, instead of just judging. These include non-judgmental participatory methods, where evaluators collaborate with the participants to cooperatively learn what a school or program can do to continuously improve.

The goal(s) in these new assessment and evaluation methods is not to judge, but to help everyone get better at what they do.

For this final step in the process of your first draft of a curriculum outline, choose one or two (1-2) assessment methods that match up well with all of the other characteristics of your curriculum. Remember, you can always change up, as you need, to make things better when new opportunities arise, which will certainly occur over time.

- a. **Authentic Content Testing:** Assess students using real content from a real or simulated situation.
- b. **Authentic Performance:** Assess students doing something in "the real world."
- c. **Behavioral Assessment.** Observe students enacting a task.
- d. **Performance Assessment.** Assess how well students accomplish a task.
- e. **Standards-Based Assessments.** Test students using standard or multiple tests or measures against pre-defined criteria.
- f. **Student and/or Group Self-Assessment.** Observe and instruct students on how well they can learn to assess themselves
- g. **Student Presentation and Feedback Review.** Let students experience the act of being a teacher or expert so that they can develop expertise in a given domain. The review process should always be positive, constructive, friendly, and encouraging!

## 8. Developing a High-Level View of Your Curriculum Calendar

<u>Activity</u>	<u>Date and Time</u>	<u>Participants</u>
Pilot Invitational Meeting	Mon. Sept. 11th 10:00 AM	Curriculum Team Members:
Kickoff Invitational Celebration	Tuesday. Sept. 19th 3:00 PM	All interested school persons (including instructional and administrative staff and students), and all interested community stakeholders
Course Lessons Calendar	Every Friday for the Semester	Instructional Staff, Students, and Volunteer Community Supporters
Course Assessments Calendar	Fridays after State Testing	Instructional Staff and Students ( <i>and program evaluators, if applicable</i> )
Family and Community Shared Events Calendar	First Friday of Each Month	All school and family participants
Course Completion Celebration	Last Day of the Year or Semester	All school and community participants

*Other /  
Elaboration:*

*We hope that the job aid and this guidance document have been helpful to you and your team in developing an acequia and/or land grants curriculum!*

Check out our related documents on *ALGE Exemplars*, *ALGE Acequia Resources*, and *ALGE Land Grants Resources*! You'll find them in the same online location as the job aid.



## EXEMPLARS: ALGE CURRICULUM SUPPORT

The following high quality examples were compiled through questionnaire responses, personal communications, and/or by high placement in an online search.

<b>Contributor: Adrian Sandoval, Director, CESDP</b>	
Affiliation	Center for the Education and Study of Diverse Populations
Curricula Title(s) and Description	<b>Drawing From the Well.</b> A comprehensive educational program that integrates academic learning, community research, technology skills and creative expression that benefits students, teachers and community members.
Link	A general description and videos are available at <a href="http://www.cesdp.nmhu.edu/index.php/drawing-from-the-well/">http://www.cesdp.nmhu.edu/index.php/drawing-from-the-well/</a>
Sharing	Full curriculum is available free of charge to the public.
Original Sponsor	The Museum of New Mexico’s Office of Statewide Programs and Education
Collaborators	Peñasco Independent Schools, the Museum of New Mexico, La Jicarita Enterprise Community, CESDP and Viewpoint Productions. The curriculum was developed and directed by <b>Judy Goldberg</b> , along with <b>Marcia Brenden</b> , <b>Sue Sturtevant</b> and <b>Consuelo Gonzales</b> .
Community Partners	See the website for a long list of Northern New Mexico partners.
Education Levels	PreK-19. Specific supports are available to make it more accessible at the lower grades.
Instructional Content	<ul style="list-style-type: none"> <li>• Topics: Language, culture, history</li> <li>• Purpose example: Supports strengthening parent and community partnerships</li> <li>• Aligned to standards and benchmarks</li> <li>• Allows for teacher creativity</li> <li>• Project Based Assessment</li> </ul>

<b>Contributor: Jacobo Baca, Ph.D, Research Historian</b>	
Affiliation	Land Grant Studies Program (LGSP), University of New Mexico
Curricula	LGSP has a collection of short cycle curricula and lesson plans designed to provide students with community-based learning and internship opportunities.
Sharing	Contact the LGSP for more information or support on land grant topics.
About	LGSP provides research, analysis, support services, and dissemination of information to community land grants ( <i>mercedes</i> ) and the broader community as a whole.
Contact	<b>Jacobo Baca, Ph.D</b> , Research Historian at New Mexico Land Grant Council (NMLGC), <a href="https://lgc.unm.edu/">https://lgc.unm.edu/</a> .
Collaborators	Most materials are developed by <b>Venessa Chavez</b> and <b>Vidal Gonzales</b> .
Education Levels	<ul style="list-style-type: none"> <li>• Community youth and adults. The program conducts youth events in conjunction with land grant meetings.</li> <li>• Youth coordinators have used the curriculum for their purposes.</li> </ul>
Instructional Content	Land grant history, including New Mexico customs, cultures and traditions.
Notes	<ul style="list-style-type: none"> <li>• LGSP provides support services to land grant communities statewide.</li> <li>• Research activities include the archiving, describing, analyzing, synthesizing, and mapping of New Mexico community land grants (<i>mercedes</i>).</li> <li>• Products and services include maps and GPS coordinate assessments, and community education and presentations on New Mexico land grants.</li> </ul>

<b>Contributor: Eric Romero Ph.D</b>	
Affiliation	Department of Languages and Culture, New Mexico Highlands University
Curricula Title(s) or Descriptions	New Mexico Land Grant, Acequia and Reservation Communities, Native American/Hispano Cultural Studies (NAHS 375). Other curricula include a variety of related course syllabi, presentation topics and lesson plans.
Education Levels	PreK-19, community children, adolescents, and adults, particularly for high school, undergraduate and graduate level courses and research activity.
Instructional Content	Many of the materials used in NMHU courses are directly relevant to K-19 land grant and acequias curricula.
Instructional Materials	Instructional materials and action-research projects are available to students doing NMHU coursework, particularly in the departments of history, anthropology, and political science. Materials are frequently used by students developing graduate degree theses.
Sharing	Dr. Romero offers to make many of his materials available, including syllabi and guidance on place-based research methodology. He would request a work meeting to determine which materials are most relevant for specific purposes.
Notes	Dr. Romero has a significant personal curriculum vitae related to land grants and acequia topics in education. Of particular note, much of his research involves the integration of environmental and agricultural science and social studies subjects with New Mexico history, language, and culture.

<b>Priority Resource: New Mexico Acequia Association (NMAA)</b>	
About	NMAA's mission is to protect water and local acequias, grow healthy food for families and communities, and to honor the regional cultural heritage.
Link	<a href="https://lasacequias.org/presentations-curriculum/">https://lasacequias.org/presentations-curriculum/</a>
Education Levels	Mostly oriented toward young children and youth.
School and Classroom Presentations	<ul style="list-style-type: none"> <li>• ‘Acequia 101’: The history, uses, and importance of New Mexico’s acequia system</li> <li>• Acequias, the watershed and water cycle</li> <li>• Acequias, ecology, environment and climate change</li> <li>• Acequia music, poetry and art</li> <li>• Local farming and ranching</li> <li>• The magic and power of seeds, seed saving and protection of local seeds</li> <li>• ‘Querencia’: Our memories and stories of growing up on the acequias</li> <li>• Acequia mapping and GIS technology</li> <li>• Community memory and storytelling</li> <li>• Acequia policy, governance and leadership</li> </ul>
Instructional Materials	<ul style="list-style-type: none"> <li>• Acequia Treasure Hunt</li> <li>• Acequia Matching Word Activity</li> <li>• Acequia Storytelling/Interview Activity</li> <li>• Celebrating Acequia Culture Through Poetry – designed for middle/high school aged youth and up</li> <li>• <i>Mayordoma</i> Coloring &amp; Word Search Activity – courtesy of the <i>Manitos</i> Community Memory Project</li> <li>• Suggested Reading on New Mexico’s Acequias</li> <li>• <i>Sembrando Semillas – Somos Gente de la Tierra</i> Coloring Page</li> <li>• Seeds Are Life – Matching Game &amp; Seed Storytelling Activity</li> <li>• <i>Plantitas, Bugs, Birds &amp; Animalitos</i> Who Call My Acequia Home</li> <li>• “<i>Pertenezco a..</i>” – the Acequia Ad-Lib Poetry Challenge</li> <li>• From the <i>Acequia to the Cocina</i> – Family &amp; Community Recipes</li> </ul>
Sharing	Free downloadable Acequia Education Print-Outs

<b>Contributor: Miguel Santistevan, Educator, Taos Academy</b>	
Affiliation	Taos Academy, Sol Feliz Farm
Curricula Descriptions	General acequia education. History, Ecology, Form/Function, Crops, Food Traditions, Permaculture
Education Levels	PreK-19, community children or adults.
Instructional Materials	Materials have been integrated with other curricula, such as YCC, <i>Sembrando Semillas</i> (NMAA), and in adjunct faculty courses on the subjects of Agriculture Ecology & Sustainable Food & Farming.
Sharing	Materials have been used over the last 20 years in multiple contexts: workshops, conferences, classroom, YCC, adjunct faculty. Contact Miguel for availability of materials and presentation.
Contact	See <a href="http://solfelizfarm.org/">http://solfelizfarm.org/</a>

<b>Curriculum Exemplar: Rivers &amp; Birds Environmental Education</b>	
Affiliation	Rivers and Birds ( <i>Teaching the Next Generation of Earth Stewards</i> )
About	A registered 501 (c)(3) organization located in Taos, NM.
Curricula Descriptions	<p>Contains numerous environmental education activities, such as:</p> <ul style="list-style-type: none"> <li>• An award-winning 2004 documentary, <i>Nuestras Acequias</i></li> <li>• <i>The Watershed Learning Project</i></li> <li>• Various outdoor/expeditionary activities</li> <li>• Regenerative Agriculture materials</li> <li>• Storytelling podcasts, videos, and more</li> </ul>
Education Levels	K-12, but adults can also volunteer and become a kid again.
Sharing	<ul style="list-style-type: none"> <li>• <u>Free</u> environmental education educational activities and a storefront for related <i>merch</i>.</li> <li>• Check out their YouTube video collection at <a href="https://www.youtube.com/channel/UCysOIVwOmfzn86MWeqvFM2Q">https://www.youtube.com/channel/UCysOIVwOmfzn86MWeqvFM2Q</a></li> <li>• And a great acequia video at <a href="https://www.youtube.com/watch?v=wXO93riE7-w">https://www.youtube.com/watch?v=wXO93riE7-w</a></li> </ul>
Contact	<a href="http://www.riversandbirds.org/">http://www.riversandbirds.org/</a>

## LAND GRANT RESOURCES: ALGE CURRICULUM SUPPORT

<b>Resource</b>	<b>Acequia and Land Grant Education (ALGE) Project</b>
Partners	<ul style="list-style-type: none"> <li>• <b>Center for the Education and Study of Diverse Populations (CESDP)</b></li> <li>• <b>UNM Land Grant Students Program (LGSP)</b></li> <li>• <b>New Mexico Acequia Association (NMAA)</b></li> </ul>
Information Link	<a href="https://lasacequias.org/wp-content/uploads/2021/10/LGC-Acequia-and-Land-Grant-Education-Project-Presentation.pdf">https://lasacequias.org/wp-content/uploads/2021/10/LGC-Acequia-and-Land-Grant-Education-Project-Presentation.pdf</a>
Objectives of the NM ALGE Land Grant Committee ( <i>paraphrased</i> )	<ul style="list-style-type: none"> <li>• To advocate for experiential, authentic, land-based, place-based, community oriented, and culturally and linguistically responsive education in New Mexico.</li> <li>• To promote the integration of the values above in public schools.</li> <li>• To promote the development and integration of high-quality instructional materials and professional development opportunities.</li> </ul>
Contact	Multiple contacts for the individual project partners are available at the information link above.

<b>Website Name</b>	<b>Welcome to the New Mexico Archives Online</b>
Link	<a href="https://nmarchives.unm.edu">https://nmarchives.unm.edu</a>
Description	New Mexico Archives Online (NMAO) provides access to search aids for archival collections from 19 repositories across the state of New Mexico.
Notes	From there you can explore 509 search results on "land grants."

<b>Website Name</b>	<b>New Mexico Land Grant Council (NMLGC)</b>
Link	<a href="https://lgc.unm.edu">https://lgc.unm.edu</a>
Description	The New Mexico Land Grant Council's purpose is to establish a land grant support program to provide advice and assistance to land grants and to serve as a liaison between land grants and the federal, state and local government.
Notes	<p>GOALS:</p> <p>The goals of the <b>New Mexico Land Grant Council</b> are the following:</p> <ol style="list-style-type: none"> <li>1. Provide financial assistance to community land grants-mercedes through the <i>Land Grant Support Fund</i>.</li> <li>2. Provide direct technical assistance and training to Boards of Trustees.</li> <li>3. Serve as liaison between land grants-mercedes and other government entities.</li> <li>4. Community and economic development support and advocacy.</li> </ol>

<b>Website Name</b>	<b>Resource Guide – Land Grants In New Mexico</b>
Link	<a href="https://lawlibrary.nmcourts.gov/wp-content/uploads/sites/7/2021/10/Land-Grants_Resource-Guide.pdf">https://lawlibrary.nmcourts.gov/wp-content/uploads/sites/7/2021/10/Land-Grants_Resource-Guide.pdf</a>
Publisher	New Mexico Courts
Description	<p>Contains a wealth of information regarding Land Grants in New Mexico, including the following:</p> <ul style="list-style-type: none"> <li>• How to adjudicate matters involving land grants statutes and legal history in NM.</li> <li>• Also contains many annotated references to other sources and databases on the subjects.</li> </ul>
Notes	Downloadable PDF from <a href="https://lawlibrary.nmcourts.gov/land-grants/">https://lawlibrary.nmcourts.gov/land-grants/</a>

<b>Website Name</b>	<b>New Mexico Legislature Search</b>
Link	<a href="https://www.nmlegis.gov">https://www.nmlegis.gov</a>
Publisher	<b>New Mexico Legislature</b>
Description	Contains 4,390 search results on the topic of land grants. Specializes in archiving policy and legislation, including for land grants.



<b>Website Name</b>	<b>Eric.ED.gov search on "New Mexico" "land grants"</b>
Link	<a href="https://eric.ed.gov/?q=" new+mexico"+"land+grants"="">https://eric.ed.gov/?q="New+Mexico"+"land+grants"</a>
Publisher	Education Resources Information Center, US Department of Education
Description	This site features research and write ups for U.S. education in general. NM. Oddly, there are only eight (8) search results for the topic "New Mexico" "land grants" (in quotes).

<b>Website Name</b>	<b>UNM Chicana/o Studies Department</b>
Link	<a href="https://search.unm.edu/search/?q=land+grants">https://search.unm.edu/search/?q=land+grants</a> <a href="https://chicanos.unm.edu">https://chicanos.unm.edu</a>
Publisher	The University of New Mexico
Description	Contains search links to dozens of land grant related webpages in the UNM system.

<b>Website Name</b>	<b>Library of Congress, Congress.gov</b>
Link	<a href="https://www.congress.gov">https://www.congress.gov</a>
Description	Search federal legislative records and archives.
Notes	For example, a current bill in congress would "require the Department of Agriculture (USDA) and the Department of the Interior to issue guidance related to certain community land grants in New Mexico made by Spain or Mexico to individuals, groups, and communities..."

<b>Website Name</b>	<b>American Studies</b>
Link	<a href="https://americanstudies.unm.edu">https://americanstudies.unm.edu</a>
Publisher	The University of New Mexico
Description	This site's search function is basically integrated in the overall university search page and database(s).

<b>Website Name</b>	<b>Congressional Research Service</b>
Link	<a href="https://crsreports.congress.gov">https://crsreports.congress.gov</a>
Publisher	Congress.gov
Description	A source for documents related to congressional debates, including for land and water issues.
Search Terms	"New Mexico" "Land Grants"

<b>Website Name</b>	<b>Institute of American Indian Arts (IAIA)</b>
Link	<a href="https://iaia.edu">https://iaia.edu</a>
Publisher	IAIA is a land-grant institution (not a community land grant); however, it addresses many of the same issues of land rights from an indigenous perspective.

<b>Website Name</b>	<b>National Agricultural Library Digital Collections</b>
Link	<a href="https://naldc.nal.usda.gov">https://naldc.nal.usda.gov</a>
Publisher	U.S. Department of Agriculture
Description	NALDC provides searchable access to full-text historical documents in the agricultural and food sciences.
Notes	While most of this site's contents related to land grants are specific to "land-grant institutions," the site does offer a wealth of information related to climate change and agricultural research.

<b>Website Name</b>	<b>U.S. Bureau of Reclamation</b>
Link	<a href="https://www.usbr.gov">https://www.usbr.gov</a>
Publisher	U.S. Bureau of Reclamation
Description	Addresses drought and conservation issues that could be useful to anyone managing community lands. <i>The public may apply to use Reclamation land, facilities, and waterbodies...</i>
Notes	Not related specifically to community land grants, but contains a good deal of resource information regarding the use and management of public lands.

<b>Website Name</b>	<b>Rural Placemaking Innovation Challenge</b>
Link	<a href="https://www.rd.usda.gov">https://www.rd.usda.gov</a>
Publisher	United States Department of Agriculture
Description	Provides resources, support, and training on rural development, and management of agriculture, food, and natural resources.
Notes	

<b>Website Name</b>	<b>One of the Nation's Top STEM Schools</b>
Link	<a href="https://nmt.edu/search.php?q=Land+grants">https://nmt.edu/search.php?q=Land+grants</a> <a href="https://nmt.edu">https://nmt.edu</a>
Publisher	New Mexico Tech
Description	Contains search links to many land grant related webpages in the New Mexico Tech system.

<b>Website Name</b>	<b>New Mexico Public Education Department</b>
Link	<a href="https://webnew.ped.state.nm.us">https://webnew.ped.state.nm.us</a>
Description	Search results for "land grants" come up short.

<b>Website Name</b>	<b>New Mexico Higher Education Department</b>
Link	<a href="https://hed.state.nm.us">https://hed.state.nm.us</a>
Description	Search results turned up 13 items, but none related to "land grants" as an instructional subject.

<b>Government Document</b>	<b>Treaty of Guadalupe Hidalgo</b>
Link	<a href="https://www.gao.gov/assets/gao-01-951.pdf">https://www.gao.gov/assets/gao-01-951.pdf</a>
Publisher	United States General Accounting Office (GAO)
Description	Definition and List of Community Land Grants in New Mexico, Sept. 2001
Sample Content	<p><b>The Honorable Tom Udall House of Representatives</b> From the end of the seventeenth century to the mid-nineteenth century, Spain (and later México) made land grants to individuals, towns, and groups to promote development in the frontier lands that now constitute the American Southwest.</p> <p>Our research identified a total of 295 grants made by Spain and México during this period. Appendix I contains a list of these grants and Appendix II contains a list of alternate grant identifiers.</p> <p>Approximately 52 Percent of All New Mexico Land Grants May Be Classified as Community Land Grants.</p>

*Note.* This is an excellent resource; however, regarding "The Cruzate Grants" (land grants to the Pueblo Indigenous Nations): Some scholars have countered that descriptions like the one in this document are incorrect, and that some original and very old descriptions may be fraudulent. See, for example:

Mathews-Lamb, Sandra K.. "Designing and Mischievous Individuals: The Cruzate Grants and the Office of the Surveyor General." *New Mexico Historical Review* 71, 4 (1996).  
<https://digitalrepository.unm.edu/nmhr/vol71/iss4/3>

## Acequia Resources: ALGE Curriculum Support

<b>Resource</b>	<b>Reclaiming Our Past, Sustaining Our Future: Envisioning a New Mexico Land Grant and Acequia Curriculum. A White Paper.</b>
Link	<a href="https://its.nmhu.edu/includes/onlinedocs/display.html?quicklink=7370">https://its.nmhu.edu/includes/onlinedocs/display.html?quicklink=7370</a>
Author	<b>Elena V. Valdez, Ph.D.</b> with collaborative support from the Acequia and Land Grant Education (ALGE) Project partners.
Sponsors and Supporters	<b>ALGE partners and the Leadership Institute at the Santa Fe Indian School</b> , and New Mexico Highlands University (NMHU), and others.
Description	<p>This is a 37-page elaborate research paper and contains sections on</p> <ul style="list-style-type: none"> <li>• Decolonial Frameworks and Future Possibilities</li> <li>• Land Grants and Acequias</li> <li>• Land and Water Literacy</li> <li>• Addenda including findings and recommendations by the <b>Center for Positive Practices</b> for organizing projected educational outcomes and instructional content. The findings are based on an in-depth synthesis from several focus groups conducted with numerous stakeholders and advisory group members.</li> <li>• Another addendum features paraphrased statements and quotes from a multi-generational mix of youth and subject-matter experts.</li> </ul>
Notes	The paper also contains a selective bibliography, a list of books and a section on acequia and land grant resources.

<b>Blog Post</b>	<b>Acequias: a forgotten history</b>
Link	<a href="https://kurlytlapoyawa.medium.com/acequias-a-forgotten-history-4fbf1801945d">https://kurlytlapoyawa.medium.com/acequias-a-forgotten-history-4fbf1801945d</a>
Publisher	Medium
Description	<i>Mesoamerican agriculture was a system of irrigation ditches and canals known as Apantli (or Apantle). The Apantli formed a network of irrigation ditches that were fed by the Huey Apantli ("great canal"), which was used to distribute water to individual fields, or milpas.</i>
Notes	Also mentions the ancient and "vast system of irrigation ditches" used by the Hohokam and Ancestral Puebloans of present day Arizona and New Mexico.
Reference Note	This post also references a <i>National Geographic</i> article: <i>Centuries-old Irrigation System Shows How to Manage Scarce Water</i> at <a href="https://www.nationalgeographic.com/environment/article/acequias">https://www.nationalgeographic.com/environment/article/acequias</a>

<b>Website Name</b>	<b>Acequia Waters By Ernest Atencio</b>
Link	<a href="https://www.taosacequias.org/acequias">https://www.taosacequias.org/acequias</a>
Publisher	Taos Acequias: Protecting Water Rights and Preserving Tradition
Description	A succinct, single-page overview of the Acequia tradition and meaning in Northern New Mexico.
Notes	Contains a helpful glossary of Spanish-English acequia terminology.

<b>Website Name</b>	<b>Wikipedia: Land Grants in New Mexico</b>
Link	<a href="https://en.wikipedia.org/wiki/Land_grants_in_New_Mexico">https://en.wikipedia.org/wiki/Land_grants_in_New_Mexico</a>
Publisher	Land grants in New Mexico
Description	A concise, sound-bite level overview of the history and current status of some select Spanish and Mexican land grants in New Mexico.

<b>Resource</b>	<b>The New Mexico Acequia Commission</b>
Link	<a href="https://www.newmexicoacequiacommission.com/">https://www.newmexicoacequiacommission.com/</a>
Description	<i>The Acequia Commission is charged with the duties of serving as a facilitator for communication between local acequia organizations and the state and federal governments, and for reviewing plans or legislation that affect acequias and presenting their findings to the governor and the New Mexico Interstate Stream Commission.</i>

<b>Website Name</b>	<b>Office of the State Engineer</b>
Link	<a href="https://www.ose.state.nm.us">https://www.ose.state.nm.us</a>
Description	Provides a wealth of information regarding water distribution, water use and conservation, droughts, water statutes and guidelines, real time water management, and more.
Notes	Also has a major database on water rights and purchase agreements and sections on their website featuring a list of acequia organizations including The Interstate Stream Commission which <i>has broad powers to investigate, protect, conserve, and develop New Mexico's waters including both interstate and intrastate stream systems.</i>
Link	<a href="https://www.ose.state.nm.us/NMAC/organizations.php">https://www.ose.state.nm.us/NMAC/organizations.php</a>
Contact	<ul style="list-style-type: none"> <li>• Main Office 130 South Capitol Street Concha Ortiz y Pino Building, Santa Fe, NM. 87504</li> <li>• Phone: (505) 827-6091 Fax: (505) 827-3806</li> <li>• Public Information Office (Media Inquiries): (505) 383-4070</li> </ul>

<b>Website Name</b>	<b>New Mexico Land Grant Council (NMLGC)</b>
Link	<a href="https://lgc.unm.edu">https://lgc.unm.edu</a>
Publisher	New Mexico Land Grant Council (NMLGC)
Description	The Council provides advice and assistance to land grant recipients and serves as a liaison with federal, state and local governments.

<b>Website Name</b>	<b>Acequia and Community Ditch Fund (NMDA)</b>
Publisher	New Mexico Department of Agriculture
Link	<a href="https://www.nmda.nmsu.edu/nmda-homepage/divisions/apr/acequia-and-community-ditch-fund/">https://www.nmda.nmsu.edu/nmda-homepage/divisions/apr/acequia-and-community-ditch-fund/</a>
Description	Contains a description and link to The <a href="#">Acequia and Community Ditch Fund Act</a> , which provides financial assistance to acequia systems.

<b>Website Name</b>	<b>Yes! Magazine</b>
Article Title	<b>Ancient Traditions Keep Desert Waters Flowing</b>
Link	<a href="https://www.yesmagazine.org/issue/water-solutions/2010/05/13/ancient-traditions-keep-desert-waters-flowing">https://www.yesmagazine.org/issue/water-solutions/2010/05/13/ancient-traditions-keep-desert-waters-flowing</a>
Publisher	<b>YesMagazine.org</b>
Description	<ul style="list-style-type: none"> <li>• Reviews acequia history and importance of communal relationships and locally grown food in the modern world.</li> <li>• Emphasizes relationships with everything as a way of life.</li> </ul>

<b>Website Name</b>	<b>New Mexico Nomad</b>
Title	<i>Lifestyle: Acequias</i>
Link	<a href="https://newmexiconomad.com/acequias/">https://newmexiconomad.com/acequias/</a>
Description	A widely read touristy website with commercial sponsors.
Their Description	<i>New Mexico Nomad is an online platform dedicated to celebrating the beauty, culture, heritage, and history of the Land of Enchantment.</i>
Notes	This webpage provides a brief, exquisitely written overview of the New Mexico acequia nexus and includes some beautiful photographs of acequias. A printout of this page would be great for community discussion, but first get permission from the publisher.
Sharing	<p>Contact the site directly for specific uses or copying that goes beyond simple fair use purposes in education.</p> <ul style="list-style-type: none"> <li>• See this <i>Edutopia</i> article, <i>A Teacher's Guide to Copyright and Fair Use</i>, for a good description of "fair use": <a href="https://www.edutopia.org/article/teachers-guide-copyright-and-fair-use">https://www.edutopia.org/article/teachers-guide-copyright-and-fair-use</a></li> <li>• For a stodgy federal government official description of fair use, see <a href="https://www.copyright.gov/fair-use/more-info.html">https://www.copyright.gov/fair-use/more-info.html</a></li> </ul>



<b>Website</b>	<b>Sangre de Cristo Acequia Association - Colorado</b>
Link	<a href="https://www.coloradoacequias.org/">https://www.coloradoacequias.org/</a>
Publisher	Sangre de Cristo Acequia Association
Description	The Sangre de Cristo Acequia Association (SdCAA) is a 501(c)3 organization representing over 73 acequias, which in turn support approximately 300 families. Their office is located in the town of San Luis, Colorado.
Notes: includes many nicely designed lesson plans	<ul style="list-style-type: none"> <li>• <a href="#">Curriculum PPT for highschool.pptx</a></li> <li>• <a href="#">Land Grant Lessons 3-5 Final.pdf</a></li> <li>• <a href="#">Land Grant Lessons 6-8 Final.pdf</a></li> <li>• <a href="#">Land Grant Lessons High School Final.pdf</a></li> <li>• <a href="#">Land Grant Lessons K-2 Final.pdf</a></li> <li>• <a href="#">The Acequia Community - Colorado's First Settlements Grade 3-5 Visual Library Presentation Files 7.31.21.pptx</a></li> <li>• <a href="#">The Acequia Community - Colorado's First Settlements Grade 6-8 Visual Library Presentation Files 8.14.21.pptx</a></li> <li>• <a href="#">The Acequia Community - Colorado's First Settlements Grade K-2 Visual Library Presentation Files 7.31.21.pptx</a></li> </ul>
Video	<ul style="list-style-type: none"> <li>• Excellent short video on Vimeo of a SLV girl describing her acequia</li> </ul>
Handbook	<ul style="list-style-type: none"> <li>• The Colorado Acequia Handbook</li> </ul>
<b>Document</b>	<b>The History of the Acequia</b>
Publisher	United States Department of Agriculture
Link	<a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_067306.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_067306.pdf</a>
Description	A 2-page write-up based on an interview with <b>Patrick Jaramillo</b> , formerly of the New Mexico Acequia Association, on the history and function of acequias in New Mexico.
Notes	Includes interesting facts and worth the 5-minute read.

<b>Website Name</b>	<b>The Acequia Institute - Colorado</b>
Link	<a href="http://www.acequiainstitute.org/index.html">http://www.acequiainstitute.org/index.html</a>
Publisher	The Acequia Institute
Description	The Acequia Institute is located on Caputa Ute homeland territory at the <i>Almuniyah de las Dos Acequias</i> , a 181-acre acequia/riparian long-lot farm in the bottom lands of Viejo San Acacio, Colorado.
Notes	TAI offers educational services focused on acequia agroecology, biodynamics, and indigenous permaculture.

<b>Website Name</b>	<b>Acequia Assistance Project - Colorado</b>
Link	<a href="https://www.getches-wilkinsoncenter.cu.law/curriculum/curriculum-and-student-info/acequia-assistance-project/">https://www.getches-wilkinsoncenter.cu.law/curriculum/curriculum-and-student-info/acequia-assistance-project/</a>
Publisher	Getches-Wilkinson Center — For natural resources, energy, and the environment.
Description	The Acequia Project is a joint effort by the Getches-Wilkinson Center, Colorado Open Lands, and the Sangre de Cristo Acequia Association to provide low or no-cost legal assistance and educational materials to Colorado's acequia communities.
Notes	Colorado Law is known for its renowned faculty and curriculum addressing environmental, energy, and natural resources law