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https://sites.google.com/zips.uakron.edu/ancient-trade-routes/home

Lesson Plan Title:

Exploring geography and trade routes in Empires in Africa (Ghana, Mali and Songhay) and Asia (Byzantine, Ottoman, Mughal and China) and how the growth of these routes as commercial and cultural centers were impacted by their geographic location.

Describe audience, context, constraints:

The intended audience is 7th grade students enrolled in a social studies class. The intended audience for the lesson plan can also be applied to any grade in the spectrum of 7-12, social studies, when aligned with age and grade appropriate social studies strands and Ohio State Standards. For the purposes of this project, students will be grade 7. Students will belong to general education, special education or developmentally challenged groups due to diverse public school student populations. The intended audience will be a diverse group of students from different racial and cultural backgrounds, male or female, from any socioeconomic statuses, approximately 12 years old and in the 7th grade and from all learning levels (*modifiable). The lesson plan centers on the idea of whether learning characteristics help or hinder the use of technology.

The context of the instructional environment includes a 7th grade curriculum in a public school Social Studies classroom aligning with Ohio State Content Standards in History and Geography and incorporates a lesson plan using Google Earth Pro Software to administer instruction on the history of ancient global trade routes and the cultural group contributions associated with those

routes. The context also includes that students will use technology integration in group format of four groups for 24 students to locate geographic region and major cultural contribution of African and Asia empires (six students per group, 2 groups for Africa and 2 groups for Asia). The constraints of the instructional environment are varied. Constraints can be funding for the software as each computer will be required to have Google Earth Pro software installed and available for upgrades and periodic updates. A constraint can also be lack of knowledge on how to navigate the software and learning the proper use of functions. Instructors may not have the experience or knowledge of proper planning of the group activity. The instructor may have a limited understanding of group dynamics such as how groups interact and engage with the software. Another constraint is lack of computers and the issue of whether each student will have the ability to use the technology individually in an on-hands way. In many groups, there is just one person in the group operating the computer while other students are watching over one student's shoulder. One-to-one computing is a program that many educational institutions already have implemented providing one computer per student for the purposes of technology integration. The one-to-one computing would better allow students to gain familiarity in the short frame of time of a lesson in group format. The constraints can also include whether information is delivered in a concise, time conscientious manner a 42 minute social studies class session. The constraints could also be the rotation of the groups and maintaining of classroom management during the period of time group interacts.

Content

Objectives/Indicators

What are the Ohio Content Standards for this lesson—indicator level.
ISTE or other standards for your area of focus

Ohio Content Standard for the Instruction is a dual integration of history and geography from Ohio Department of Education, New Learning Standards, and Social Studies Standards K-12.

Grade 7, Social Studies, History Strand

Content Statement

8. Empires in Africa (Ghana, Mali and Songhay) and Asia (Byzantine, Ottoman, Mughal and China) grew as commercial and cultural centers along trade routes.

Grade 7, Social Studies, Geography Strand

Topic Spatial Thinking and Skills

Content Statement

12. Maps and other geographic representations can be used to trace the development of human settlement over time.

ISTE NETS for Students (NETS-S)

1 Creativity and Innovation

2 Community and Collaboration

3 Research and Information Fluency

4 Critical Thinking, Problem Solving and Decision Making

6 Technology Operations and Concepts

Prior Knowledge/Prerequisites

List the prior knowledge students must have to be successful with this lesson.

The students must have an understanding of the Google Earth technology. The students will need to have prior knowledge and complete an online tutorial describing Google Earth Pro technology software. The tutorial would be a prerequisite for the lesson. **(Tutorial is included in the WebQuest)**. The students must also have basic computer skills understanding (Uploading and submitting files) in order to navigate through and complete the WebQuest activity.

Pedagogy

Identify and Discuss Pedagogical Decisions

The historical trade routes will be taught by the use of Power Point presentations in the classroom through guided instruction. Guided instruction will be used to teach the students about geographical locations of the early trade route centers. Each trade route station is known for certain cultural contributions. The students will learn why each trade route station is significant in terms of early trade. The students will identify natural resources that were traded or exchanged. From the classroom instruction, students will complete the interactive WebQuest that has worksheets included and mini quizzes (embedded google docs) on the trade routes. **(Lecture PowerPoints, worksheets and Quizzes are included in the WebQuest)**

The Google Earth Pro software will demonstrate how to use the balloon features to describe the trade route center stations and label them. The marker feature will show how to construct and create paths. For each trade route station in a culture, Google Earth Pro software will allow students to zoom into a specific location. From this software, students will be able to visualize and identify landmark and geographic locations.

Students will learn how to use geospatial technology (Google Earth Pro) and learn how this technology tool is applicable to solving real world problems and finding solutions. According to the article entitled, "Geospatial Technology as a core tool," Cimons (2011) suggests that "geospatial technology refers to equipment used in visualization, measurement, and analysis of earth's features, typically involving such systems as GPS (global positioning systems), GIS (geographical information systems), and RS (remote sensing)." Google Earth Pro will be used to improve student spatial learning skills. In this lesson, students will use Google Earth Pro to highlight historical events and geographic locations. Students will chronologically sequence historical events and use Google Earth Pro software to bridge the gap in student comprehension of geographic relevance and importance of the historical significance. Students will pinpoint locations (using place marks) of where events occurred and learn about the cultural contributions along global trade routes. Students will measure distance between trade route centers and help develop a visual understanding of history. The students will work in groups to create map connections that improve their understanding of how history was shaped by cultural groups of people. The students will learn how empires and kingdoms interacted during the period of early global trade. The students will also learn how to visualize the extent of the journey entailed by measuring the distance using Google Earth Pro.

The Google Earth Pro software will be learned by a tutorial that will be viewed by the students in the WebQuest. The tutorial will show students how to use balloons, markers, and will help them to identify landmarks and geographical locations. The Google Earth Pro software will be added as a hyperlink for the students to watch as a tutorial. All of the needed information for the students will be in the tutorial. The purpose of the Google Earth Pro software is to complete the project on the historical trade routes that will be used as the assessment tool.

Assessment

Pre-Assessment-will you pre-assess?

1. Yes, I will pre-assess students on their familiarity with Google Earth Pro Software.
2. I will also use clicker technology (KAHOOT) to assess the students understanding of the content.

Why?

1. Students should have basic understanding of how the software works in order to maneuver through the lesson.
2. I will use clicker technology (KAHOOT) whereby students can use their cell phones to answer the pre-assessment questions. Using this type of technology keeps the students engaged in the learning.

How will data be used?

1. The data will be used in order to prepare additional classroom instruction based on student prior knowledge of Google Pro Software. Students can be paired based upon their knowledge or lack thereof and activities can be developed to address familiarity.
2. The data from the clicker technology allows me to see what the students know and what they don't know. So, I can reiterate and focus on the content information that they are struggling with, then I will lecture over the material again.

Formative and Summative Assessments

How will you evaluate the students?

The students will complete a quiz (formative), a test (summative) that I embedded in the WebQuest using Google Docs, and the students will have to complete a final project (summative) that's also included in the WebQuest to demonstrate their knowledge of the lesson. The quiz, test, and final project (using Google Earth Pro Software) will be the evaluation methods. I will use a rubric to grade the Google Earth Pro final projects **(Rubric is also included as an attachment in the WebQuest).**

Why have you chosen these methods?

These methods were selected because they allow me to use technology to grade and provide feedback to each individual student. Also, it allows students to learn different methods of submitting and uploading files using computers and technology. I wanted to improve my student's computer literacy skills. I decided to create this WebQuest for the students because most students in public schools and in urban areas are lacking behind (digital divide) their peer counterparts who attend schools in rural and suburb areas. Also, by using pre-assessments (Clicker Technology) and formative assessments (Google Docs), I am able to monitor the students learning of the material as they complete the assessments. I used Google Docs so that I can get the students replies and answers that they submitted on the quizzes right away directly to my email. I used clicker technology because clickers or cell phone technology promotes active learning. It states in the Article entitled, *Clickers in the Classroom: An Active Learning Approach*, by Margie Martyn, that "clickers provide a mechanism for students to participate

anonymously." It also states that "clickers integrate a game approach that may engage students more than traditional class discussion."

Is technology used for or included in the evaluation process?

Yes, technology is used for the evaluation process. I will use clicker technology (KAHOOT) for the pre-assessment and (Google Docs) for the formative assessment to evaluate my students' mastery of the content. The goal of the lesson is to impact student learning positively by helping students use technology. I also included a (Google Earth Pro) final project so that the students can use 21st Century technology tools to locate the geographic region where history takes place measuring distances. Using geospatial technology, students will be able to zoom into the areas studied. Using critical thinking skills, students will measure the space in between trade route centers and describe the historical location and what it was most known for. Students will learn about cultural interactions that were had within differing cultures along the trade route and give a description of cultural contributions, resources and identify what they learned in the group settings.

How will you share data with students/others and why?

I will share data by having students upload final project to the schools Learning Management System (School's Website), then I will provide feedback to each student (either in the LMS or by Email). I will not share any of the data with the students as a whole. I will only provide each student their grade and my individual feedback to them only.

Models of Instruction/Instructional Strategies

Identify the instructional models or strategies you will use for this plan.

- Direct Instruction (lecture) in the classroom
- Student-centered (intrinsic motivation) will be the instructional strategy used to complete the WebQuest.

Procedures/Activities

What activities have you planned? Include detailed description of the activities and how the resources are being used to support learning.

During the classroom lecture, students will use clicker technology (KAHOOT) to complete the pre-assessment questions that I have prepared. I will use clicker technology because clickers or cell phone technology promotes active learning. Students will have to complete an interactive WebQuest using the internet pertaining to the ancient trade routes. Embedded in the WebQuest is a formative assessment quiz that I created using Google Docs. By using Google Docs, I am able to receive the students answers immediately upon submission. This way I can see what material the students know and what ares they are struggling in. Then I can give the students feedback and reiterate on any of the content to ensure that the students understand and know it. The final project that the students must complete, is an interactive project that requires using Google Earth Pro software. Students will learn how to use geospatial technology (Google Earth Pro) and learn how this technology tool is applicable to solving real world problems and finding solutions. According to the article entitled, "Geospatial Technology as a core tool," Cimons (2011) suggests that "geospatial technology refers to equipment used in visualization, measurement, and analysis of earth's features, typically involving such systems as GPS (global positioning systems), GIS (geographical information systems), and RS (remote sensing)." Google Earth Pro

will be used to improve student spatial learning skills. In this lesson, students will use Google Earth Pro to highlight historical events and geographic locations. Students will chronologically sequence historical events and use Google Earth Pro software to bridge the gap in student comprehension of geographic relevance and importance of the historical significance. Students will pinpoint locations (using place marks) of where events occurred and learn about the cultural contributions along global trade routes. Students will measure distance between trade route centers and help develop a visual understanding of history by use of balloons within the software that tracks collected information. The students will work in groups to create map connections that improve their understanding of how history was shaped by cultural groups of people. The students will learn how empires and kingdoms interacted during the period of early global trade. The students will also learn how to visualize the extent of the journey entailed by measuring the distance using Google Earth Pro.

Identify and Discuss Technological Decisions

Technology/Resources

Resources

What resources do you need to support the activities?

The resources that are needed to complete this lesson are laptop computers, Smartboards, projector, projector screen, cell phones, internet access, Google Earth Pro software, and the schools Learning Management System.

One-to-one computing is a program that many educational institutions already have implemented providing one computer per student for the purposes of technology integration. The one-to-one computing would better allow students to gain familiarity in the short frame of time of a lesson in group format. Smartboards or projectors are needed to facilitate guided instruction.

Smartboards or projectors would allow for the clicker technology pre-assessment questions and the Google Earth Pro Software tutorial to be shown on the projector screen.

I used clicker technology because clickers or cell phone technology promotes active learning. It states in the Article entitled, *Clickers in the Classroom: An Active Learning Approach,* by Margie Martyn, that "clickers provide a mechanism for students to participate anonymously." It also states that "clickers integrate a game approach that may engage students more than traditional class discussion."

How do the resources help students achieve the objectives?

The technology resources allow the students to engage with the lesson and stay on task. By using Backwards Design TPACK lesson plan, I ensured that the questions that are asked in the pre-assessment and in the formative assessment all align with the objectives of the lesson. By using this design model development, the assessment is created first which guarantees that the objectives of the lesson and benchmarks from the Ohio Content Standards and the ISTE Standards are met.

Technology Resources

List technology resources and describe specifically why they were chose, how the resources help students achieve the objectives and how the use will be evaluated.

In comparing what technology to use, two options to choose from were Google Earth Pro versus Microsoft Power Point.

Google Earth Pro	Microsoft Power Point
3-D Imaging	No 3-D Imaging
Interactive Technology	Lack of Interactive Traits
Uses state of the art technology	Uses video, picture or voice only
Uses video, picture, voice, digital imaging and geospatial technology	Lacks digital imaging and geospatial technology

Replica of Real World	Partially replicates real world
Hands-On with state of art technology	Hands-On
Zoom Quality	Inability to Zoom in

3-D Imaging helps students have a visual tool where they can visualize and become more involved with seeing the lesson materialize. It gives students a different dimension of how to interpret data. Classroom material using 3-D imagery is likened to a hologram. 3-D Imaging also helps to increase levels of cognition. Interactive technology allows students the ability to enhance the learning process by combining learning styles. The students control the learning process and the learning is student centered. With state of the art technology, students stay informed on digital updates of technology and are exposed to the most recent and credible information while achieving state content standards. Video, voice, imaging and pictures give students a tool to connect to classroom instruction and technology. Google Earth Pro is a form of visual, satellite imagery that acts as a replica of the real world where images occur in real time and are used in the process of collecting physical data. Google Earth Pro is also a hands-on technology form that allows students to participate in the learning process. Zoom quality allows the students to see the landscape up close. The final project will consist of a completed task (file) that demonstrates the student's mastery of the knowledge on ancient trade routes and their ability to use Google Earth Pro Software (technology) to better understand and grasp the geography and social studies lessons.

If technology is used for evaluation or data collection, describe how it will be used.

The technology will allow for the evaluation of student proficiency in geography and social studies based on Ohio state standards in Education and ISTE NETS for students. The data

collection can help teachers to develop lessons that blend curricula and fulfill state requirements in age appropriate subject content and school curricula.

Lesson Reflection

Discuss your thought process in the development of this lesson. After learning about TPACK how has this knowledge influenced the way you developed this lesson?

I wanted to use technology in my classroom that helps students to grasp content. I also wanted my students to be able to become technologically advanced to have knowledge of Google Earth Pro Software due to the 21st century technology age and digital learning. With technology advances changing often, it is important for all students to have a working knowledge of skills necessary that are necessary to fulfill new learning opportunities. TPACK allows for a variety of instructional strategies that teachers may use to deliver instruction in their classrooms. Technology is a part of every student's education. Whether its digital media, computer software or technology advances- technology plays a major role in how communication takes place. This lesson was developed with TPACK in mind.

How is the development of your planning with the use of technology changed in terms of how you integrate technology into your classroom?

As a pre-service teacher, I have not had an opportunity to implement technology but am learning how important it is and how I can use it in my classroom once I complete my program.

How do you measure the impact that technology has on your student learning?

I believe that the impact that technology has can be measured by how students respond to Pre-Assessment (did the clicker technology keep the students engaged, and I will analyze and use the data to see and measure how well the students performed). For the formative assessment quiz, I

will use the results from the Google Doc that are forwarded immediately to my email and examine the students results. For the final project, I will determine the grades and the results of how the students' scored based off the rubric for the final project. This is how I can determine and assess the impact of the technology. If the students score well and pass all the assessments and requirements of the final project, then I know that student learning was a success.

If you will not be able to actually implement this lesson, write a scenario of what you predict will happen when the lesson is implemented. Include a student sample product and what you predict your data collection will look like.

I will be able to complete this lesson in my upcoming student teaching.

Lesson Step by Step Scenario

1. Lecture Overview – the students will listen to presentation by the teacher that will include an outlining of what resources will be used including overview of Google Earth Pro Software and view the 2 power point presentations that will outline the early trade routes in the Global Era of Trade. The trade routes will be described for Ghana, Mali and Songhai. The following empire trade routes will also be explored including the Asia (Byzantine, Ottoman, Mughal) and China.
2. The students will review specific PDF worksheets and Quizzes that will be used in the lesson.
3. The students will obtain computers and complete the WebQuest by first viewing all of the content (PowerPoints) and tutorials on Google Earth Pro software, complete the prerequisite tutorials and familiarize themselves with the features of the software.
4. The students will listen to guided instruction on the overview and guidelines on the project. The students will be instructed on the goals and expectations of the class project.

The students will also be formally introduced to the assessment process, be shown how to demonstrate the knowledge that they learn and will be given the rubric that the scoring will be based on.

5. The students will complete the assigned projects independently.
6. The students will upload completed final projects to their class folder in their school's Learning Management System.
7. The teacher will assess the pre-assessment, formative assessment, and final projects for the students and then provide feedback.

For future lesson development, the students will work together in groups and will collectively learn until the one to one computing is instituted for the activity. At that time, a student sample would consist of the three evaluation methods including pre-assessment of trade routes, formative assessment covering the material, and final project. A prediction of the data collection would support increases in knowledge of Google Earth Pro software, from the pre-assessment and formative activities, and the final project.

Description: I created a lesson for my students on the historical trade routes that will be taught by the use of Power Point presentations in the classroom through guided instruction and with technology (a student centered WebQuest using the internet). The students will learn about geographical locations of the early trade route centers. Each trade route station is known for certain cultural contributions. The students will learn why each trade route station is significant in terms of early trade. The students will identify natural resources that were traded or exchanged. Following the classroom instruction, students will complete the interactive

WebQuest that has assessment mini quizzes (embedded google docs), and a final project assignment (Google Earth Pro) covering all the material pertaining to the ancient trade routes. This WebQuest interactive lesson also meets both the Ohio Content Standards and the ISTE Technology Standards guidelines.

Impact: This technology infused WebQuest employs a variety of instructional tools and resources that helps to impact student learning. The students will learn and see how technology can be implemented and incorporated into lessons to make them more engaging. The instructional design and interactive content of this interactive WebQuest helps to create a visual component that is sometimes missing in books and lectures. This WebQuest uses videos, informational websites, online assessments, and Google Suite tools to give students a variety of learning tools. The videos embedded will provide the students with a visual learning that helps them to better see and understand the historical ancient trade routes. The use of WebQuests that incorporate technology gives students hands on learning experiences, while also incorporating audio and visual technology that students are accustomed to using on a regular day to day basis that will keep them engaged and motivated.

Intent: Preparation of educators in all technology areas is critical to the task of contributing to and improving academic achievement levels. Integrating technology into lessons is vital for educators considering how technology is steadily improving and increasingly impacting how students learn in today's society. WebQuests that incorporate technology are useful for teachers to use as an educational tool to fully engage students with content knowledge-based lessons. The purpose and intent for creating this interactive technology infused WebQuest was to let inner-

city urban (public school) children have access to computers and the internet so that they can gain 21st Century skills. This is also an effort put forth to eliminate the digital divide that we see a lot of urban inner-city children facing on a consistent basis. With the use of many forms of multimedia and technology, this WebQuest gives students a variety of ways to learn the historical ancient trade routes. This WebQuest is an effective means by creating a student-centered approach to learning. Teachers must have the understanding that students learn in different ways and have various learning styles. I believe that this is an excellent tool and an innovative approach to education. I understand the importance of technology, pedagogy, and content for teachers when developing lessons. This WebQuest is an example of how to successfully incorporate technology and social studies content.