

DESIGNING CURRICULUM FOR EMERGING ENGLISH LEARNERS: USING
SCIENCE THEMES TO TEACH PRODUCTIVE ACADEMIC LANGUAGE IN A
HIGH SCHOOL EL CLASSROOM

by

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PROJECT DESCRIPTION

For my project, I designed a unit of curriculum. My research question was *How can a science-themed curriculum be designed for Emerging-level high school English learners that focuses on teaching productive academic language?*

My unit is designed for Emerging-level English learners in grades 9-12. The English learners in my school are a heterogeneous group, with students and their families coming from all over the world. Every year, the linguistic make-up of the class is different, along with students' levels of previous education. However, some of the languages students from the last several years speak Spanish, Arabic, Russian, Ukrainian, Romanian, Burmese, Vietnamese, Thai, Somali, Oromo, Amharic, Hmong, Afghan, Hausa, and Liberian English.

The unit is designed for a sheltered-EL class for students at the emerging level. This class is a science-themed class. The primary focus is on language acquisition, which includes the four linguistic domains of listening, speaking, reading, and writing. However, the science themes that I use are based on Minnesota's science 9 standards. In addition to building academic language, the purpose of the class is to also expose students to some of the academic language they will hear and be required to know in their science 9 class. Since Minnesota is changing its science 9 standards, I needed to redo the curriculum for my EL science class as well.

The unit I designed is centered around the theme of water. It is also based on two of the 2019 Minnesota science 9 standards involving water. However, I am not teaching the exact science 9 standards. Rather, I used the standards as a way to determine what

language and themes I should utilize when designing my unit. This unit is designed to take around 4-6 weeks to teach. It is to be taught the second half of trimester one. The first unit in trimester one includes a short unit on the water cycle. For this water unit, however, the primary theme centers on human impact on water.

In addition, my unit incorporates a lot of speaking and writing activities. This is because as ELs gain more English, they often plateau when it comes to productive academic language development, which is writing and speaking. The unit also includes many argumentative speaking and writing activities using Claim, Evidence, and Reasoning format (CER) (Osborne et al., 2016). I include CER because CER is a type of writing that many science teachers in my school require students to do.

My unit is structured in a modified Understanding by Design (UbD) format (Wiggins & McTighe, 2008). I started with unit understandings, essential questions, and common misunderstandings. Then, I wrote learning targets for my unit, and I classified the learning targets by language domain. Next, I identified the main sub-themes for the unit: water usage and usage rates, runoff and agriculture, wetlands and watersheds, and two case studies that show how humans are impacting water quality.

The entire unit is around 4-6 weeks, with up to a week allotted for each sub-theme. For each sub-theme, there are thematic nonfiction texts, vocabulary words, graphic organizers for reading, analyzing graphs and diagrams, speaking activities, and writing activities. Some of the sub-themes also have listening activities as well. The majority of the activities repeat themselves throughout the unit with different content but the same learning targets. This was done on purpose in order to give students opportunities to practice language and skills multiple times.

There are also many opportunities for formative assessment throughout the unit. Rubrics will be used to assess all CER activities, though many of the CERs will also be assessed formatively. The final unit assessment is a speaking and writing CER, and this CER is a summative assessment.

Link to [Human Impact on Water UbD](#).

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