

# STUDENTS PROMOTE RECYCLING PROGRAM

Last summer, when Dawn Leuning attended the four-day summer professional development with the South Dakota Innovation Lab, she designed a transdisciplinary learning experience for her fourth grade students around understanding the importance of reducing, reusing, and recycling.

Leuning created a plan with standards aligned with all disciplines, let her students take ownership of the project and molded the design to best engage their interests to help positively impact the amount of waste generated by the classroom, school and community.

The students started by learning the differences between reducing, reusing and recycling.

Soon, they were able to identify several areas where they needed to improve their habits to take care of the Earth. The fourth graders decided a good place to start was to collect recyclables from their school. They researched recycling programs in other schools, collaborated with the sanitation workers in their community and even partnered with their school janitor as an advisor to the program.

Recycling is a very important part of the green planet equation, but reducing and reusing are equally as important.

The fourth grade students made an effort to employ those strategies into their everyday living. As in most schools, paper is a widely used supply but the kids noticed very few pieces of paper were utilized on both sides. That needed to change.

The class started by saving paper on which only one side had been used by putting it in a tray in their classroom for reuse. Then, they started saving their spelling test sheets to use them over again the following week. They have spread the message of using both sides of paper through announcements and education talks to other classrooms.

Students took their learning outside the classroom with a field trip to Cook's Recycling and the Brookings Landfill.



The recycling experts at Cook's Recycling gave the kids a tour of the facility, helped them understand the guidelines of effective recycling collection and shared the rules for recycled materials to help define what truly can and cannot be recycled. The kids gathered these and more facts and ideas to take back to their school project.

"It was amazing how many things can actually be recycled," Fourth Grade Student Catherine Klein said.

Students also had the opportunity to see what happens to a landfill when it is no longer in use.

Dakota Nature Park in Brookings provides visitors with an opportunity to observe nature at the site that once served as the City of Brookings Landfill. The landfill has since been capped and has fulfilled the environmental monitoring requirements of the South Dakota Department of Environment and Natural Resources.

"I couldn't believe how beautiful Dakota Nature Park in Brookings was," Fourth Grade Student Ellie Koenig said.

The class's latest project was to develop and deliver a presentation to the school board to put recycling receptacles in the school. The class presented results of a survey of the students and teachers in the elementary school which showed there were 20 areas in the building that were in need of a recycling receptacle, including the lunch room where milk cartons can be saved from the garbage and added to recycling.

Deubrook School Board members approved the class's request and the receptacles will be placed in every classroom and other areas around the school.

The efforts of Deubrook's fourth grade class are making a difference in their school. Now the kids are working on expanding their plan to their community. They are brainstorming ways to share recycling information and develop a collection bin system for residents. This will require more research, more time spent consulting with their industry partners and more effort put into writing and preparing their plan for presentation.

Authentic learning with applied practice is the goal of problem based learning and the fourth grade students at Deubrook are realizing this all while doing good for the planet.



# SCHOOL PROGRAM RIGHT “FIT” FOR COMMUNITY

The small communities that make up Deubrook Area Schools do not have easy access to fitness facilities.

Deubrook School District’s Strength and Conditioning class and Health and PE Instructor Tim Cariveau decided this presented an opportunity for them to make a difference in the health and wellbeing of their community.

Cariveau created the community fitness plan this summer during a four day, South Dakota Innovation Lab summer professional development. He developed the framework and let the kids take it from there.

The class set out to design a Tabata program that would meet the needs of all fitness levels. A Tabata workout lasts for only 4 minutes as participants go through four different exercise rotations pushing themselves as hard as they can for 20 seconds, resting for 10 seconds and repeating the process. The exercises focus on the upper body, lower body, core and then whole body. A workout can be completed in 4 minutes with very positive results.

This high intensity interval training was just what the class was looking for to create a low cost, time efficient way to encourage their community to get fit.

Students split up into six teams made up of four students each, devised a plan to make this an opportunity for all levels of fitness and also provided a plan the community members could use wherever they were.

Each team was responsible for developing a Tabata sequence. Their exercise sequence had to consist of the four different exercises, with each member of the team responsible for a different role in the rotation.

Team members were responsible to be one of the following in the videos they created: a leader, a person doing a modified version for lower intensity, a team member performing the regular exercises



and the fourth person performing the activities at a higher intensity level.

In this atypical physical education class, students are meeting standards across a variety of disciplines by writing scripts for the exercise videos, working out a nutrition plan that fits well with the Tabata exercise regimen and partnering with the Multi Media Design class at their school to create quality videos that will be posted to the school website for participants to access.

“These TABATA videos have been a great project, with an even greater reward,” Deubrook High School Senior Jacob Johnson said. “These short work out videos will be great for the busy life of our community members. It’s been a fun experience to create these videos as a class. It’s something different, and will have really cool outcome at the end!”

The students have also learned the importance of preparing your body for intense physical activity and have prepared warm up and cool down exercises for each of their videos as well as step-by-step instructions for performing the exercise tasks. They are also gaining skills in public presentation and video design.

An added bonus to the plan is students will get to demonstrate their learning to an authentic audience.

The goal of providing exercise options and education to their community creates an audience outside the classroom walls, which heightens student engagement and responsibility to producing a quality product. Thinking through every step of the exercise plan and modifying after evaluation embeds the students in the design process that requires collaborative feedback, critical thinking and persistence in a task.

Members of the Strength and Conditioning class initially considered selling the exercise videos. They decided, however, their efforts were not to profit financially, but build equity in the community through encouraging healthier living.

“We are trying to help out anybody who wants to become more physically active,” DHS Senior Evan Sheffield said.





# DEUBROOK'S DIGITAL BRIDGE TO COMMUNITY

## • DEUBROOKLIVE BROADCASTS ACTIVITIES ONLINE

The Deubrook School District built a digital bridge to connect with their community.

Community members can watch a variety of district events through DeubrookLive, an online streaming service operated by students and staff and hosted by High School Cube.

The district began streaming events in 2011 as a way to reach people with ties to the district, but lived out of state and has continued to grow in popularity, said Deubrook Network Administrator, and program coordinator, James Niehus.

"As we have done this we continue to get more and more

an iPad Air and another operates the computer controlling the HighSchool Cube program.

Niehus monitors the students by watching the live stream and are graded on public feedback of the event they are operating the stream for. He said students do an excellent job operating the stream and enjoy watching the events when they're not running the stream

"Students think it's great because if they are not able to get to a game they can still catch it on the DeubrookLive stream," Niehus said.

Students are also encouraged to do play-by-play for an event, if



people being able to watch our Deubrook students," Niehus said.

"We first started with a few relatives in various states being able to watch their nieces and nephews. Now we have students that are foreign exchange students at our school and their parents our able to watch them in our various activities at DeubrookLive."

Niehus said in its first year, DeubrookLive streamed only home basketball games, but now shows all home athletics held in the gym, student music concerts and various school activities, such as prom, grand march, Veterans Day Program and graduation.

Students in Niehus's MultiMedia Design Class operate the DeubrookLive system and earn class credit by participating in at least one live event. Running the live stream requires student collaboration as one controls the camera used for the live stream with

they want to. Niehus said technology student aide Johnny Roelofsen, who has also been instrumental in getting students not even enrolled in the MultiMedia class to help with DeubrookLive, has gained notoriety for his work on the mic during athletic events.

"We have had very good feedback on the great job he does on it," Niehus said.

Feedback from people throughout the years has proven the district's digital connection with the community has been a hit.

"I have received several emails over the years on how much people enjoy it. Overall I think (DeubrookLive) has been a huge success," Niehus said.

"It is one of the ways that Deubrook students and myself give back to the Deubrook community."