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Hamburg Community School District  
Research & Innovation

2016-2021

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## Research & Innovation

The Hamburg Community School District has a desire to conduct educational research in our school which allows us to be on the cutting-edge of educational reform. Rather than following traditional educational paths, we will be creating new paths which are more engaging for children and more enjoyable for educators.

We approached Northwest Missouri State University about about a partnership and helping us create a comprehensive school setting. Spring 2016, we met with professors and proposed several opportunities that would be mutually beneficial. We are seeking a partnership with Northwest Missouri State University to develop the following programs/initiatives:

a) **Farm School** (Northwest Missouri State University)

We have met with Northwest Missouri State University, but at this point, we do not have a commitment or agreement. We have a meeting scheduled for September 2, 2016 to continue our work in this area.

Northwest Missouri State University has an excellent agricultural program which provides an great opportunity for us to learn from their experience. The university can use our school as a proving grounds for their research and provide an opportunity for their students to engage with children and our school gains by having experienced agricultural folks to guide us in our program development.

The Farm School setting allows us to teach math, reading, and science through farming experiences. Such experiences break the current paradigms of "sit and get"

education and allows students to learn through an active learning model. In 2015-2016, students learned about the life cycle of chickens and ducks. This process demonstrated the excitement children have with “real-life” learning experiences because children incubated eggs and cared for the chicks once they were hatched. Students will construct several buildings to house the animals for the farm school including a chicken/duck house, a swine building, lamb/sheep structure, and a dairy barn.

At the beginning of each school year the school will acquire a couple of piglets, a few sheep/goats, and a bottle calf. The children will be responsible for the daily care of the animals. At the end of each school year, all of these animals will be sold and the funds will be deposited into the “Farm School” account. The chickens/ducks will be kept because of the maturation of chickens to the egg laying stage requires six months. Students will collect eggs and use them in our school’s nutritional program, sell them on farmers markets, and provide them for the less fortunate in our community.

We would like to create a dairy operation and will need the universities assistance in creating a dairy program. Our goal is to have one dairy cow for experimenting with pasteurizing milk, making cream, butter, and ice cream. A dairy program allows us to have a unique educational program while providing a healthy product. These products can be used in our nutritional program and sold to create revenue sources to maintain our operation.

The school will develop a large vegetable garden, raised flower beds, and a greenhouse program. Students will learn how to grow and maintain plants through our vocational agriculture program. They will sell plants and vegetables as part of the program.

b) **Integrated Learning Centers.** (University of Northern Iowa)

We are seeking a partnership with the University of Northern Iowa to help us create our Integrated Learning Classrooms (Mrs. Duncan) and provide professional development in teaching a high tech environment. Dr. Leigh Zeitz will provide our school with the necessary supports to assure successful implementation of 21<sup>st</sup> century skills.

c) **Classroom Supports.** (Northwest Missouri State University)

We are seeking a partnership in reading instruction through student teachers, field experience students, and classroom instructional practices. University professors are well versed in the latest reading research and can provide much needed classroom "coaching" for our educators.

d) **Pathways to Reading Excellence in School Sites (PRESS).** (University of Minnesota)

In 2015-2016, we implemented PRESS which required two full days of training from the University of Minnesota. The PRESS program allows our teachers to identify specific weaknesses a student may have in reading and develop an individual correction plan through targeted interventions. PRESS identifies classroom core instructional issues as well and helps correct whole class instruction.

These four initiatives will guide our research and innovation for the next five years. Each summer we will review these partnerships to determine if they are progressing in the manner in which we want and make necessary changes.

*Integrated Learning Centers*  
*(ILC)*

# 21st Century Classroom Principles

ILC at Hamburg

- Flexible--Mobile
  - Multiple seating arrangements
  - Easily change room arrangement
  - Multipurpose Furnishings

**The Concept**

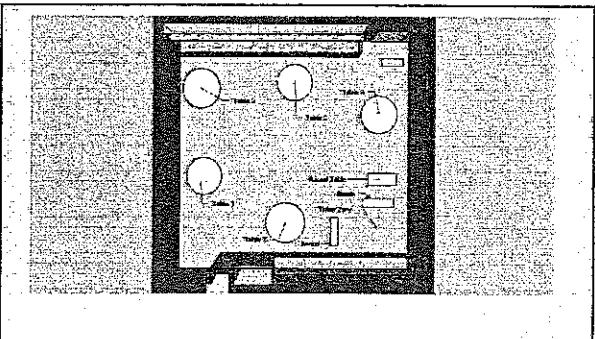
Original Idea Based on TILE Classrooms at the University of Iowa. Transform, Interact, Learn, and Engage.

Iowa TILE Classroom

We Set Out to Design a Smaller Concept that Would Meet our Design Principles.

University of Iowa Classrooms are Hard Wired. This was an Issue in Our Space as We Were Looking For Flexibility and Mobility Within the Classroom.

In a Concentrated Group Effort We Were Able to Put Together A Wireless Version of the TILE Room that We Named ILC (Integrated Learning Center.)



- ## 21st Century Learning Design Principles
- Flexible--Mobile
  - Technology Enhances and Accelerates Student Learning
  - Teacher Directed Student Led
  - Teacher Introduces Content Through a Problem

- 60 inch Round Pedestal Table with Locking Casters or Special Kidney shaped tables (TBD)
- Whiteboard Top for Brainstorming
- Banded T-molding to Match Color of Chairs. Teacher Can Group and Regroup by Color for Fast Transitions
- 5 Colors for 5 Tables
- 2 Groups of Three at Each Table
- Seating for 30 Students

**Node Chairs**


5 Colors to match T-molding on the 5 Tables to Quickly Allow Teacher to Use Colors to Group and Regroup Students

Swivels, Flexes which Allows for Student Comfort and Release of Nervous Energy

Rolls and Allows for Ease of Moving Students Anywhere in the Room

Students "Shuff" Easily Fits in Lower Bin and Goes with the Student. No Clutter in Room or on Table

Node Chair



- Technology Enhances and Accelerates Students Ability to:
  - Connect
  - Communicate
  - Collaborate
  - Create

**White Boards**

Portable and Freely Movable Throughout the Room

Double Sided and Magnetic

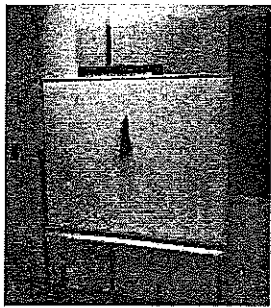
One Board Per Table

Serve as Brainstorming Center or for Recording Ideas

Used for Easily Displaying Group Work or Presenting of Group Findings

Serve as Room Dividers Between Groups to Create Small Group Centers

Used For Backdrop for Green Screen Productions on EduView



Each Group Will Have a Ipad Mini

Use of Creative Apps will allow for Ease of Creation and Production

Wirelessly connected to Table Monitor or all Monitors in Room

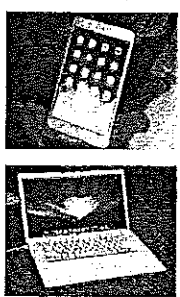
Serve as a Document Camera

Each Group Will Have a Laptop

Productivity Tool

Allows for Instant Research and Collaboration

Implementation of Gradual Release as Students Have Instant Access to Information

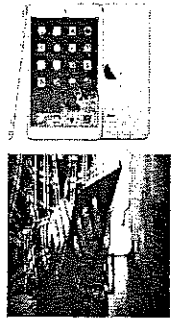


Teacher will be Equipped with an Ipad Air.

With App, Teacher will be Able to Control Everything in the Room from the Ipad including Monitors, Projector, Video Resources, Sound, and Even Lights.

Allows Teacher to Control Room and Yet be Completely Mobile in the Room.

Ipad Case Allows for the Teacher to Keep One Hand Free While Maintaining Possession of the Ipad Throughout the Room.



Each Will Have a 55 Inch Flat Screen Monitor Dedicated to it.


Monitor Allows for Displaying of Student Work

Wireless Applications Allow Students or Teachers to Show Work on Their Screen or the Teacher can Show a Group's Work on Any or All Screens. This can be Done from Either the Ipad, Laptop, or Classroom Video Resources Wirelessly.

Allows for the Ability to have up to 5 Separate Teaching Stations Within the Room.

Allows for the use of Video and Net Resources at Each Table Individually or at all Tables Simultaneously.

Allows for Ease of Presentations from Each Station.





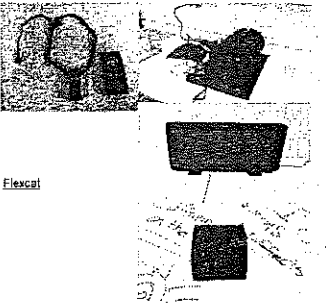
Classroom Will be Equipped With the Flexcat Wireless Sound System.

Flat Panel Speaker Evenly Distributes Sound Throughout the Room at a Pleasant Listening Volume.

Each Table has a Speaker/Microphone Pod. Sound can be Sent Through the Speaker. The Pod can Serve as a Microphone for Individual or Group Questions and/or Presentations.

Teacher Headset, Earpiece, and Remote Allows the Teacher to Control all Pieces of Equipment and Listen to any Group in the Room from any Location in the Room.

Call Button on Pod Notifies the Teacher When a group has a question.

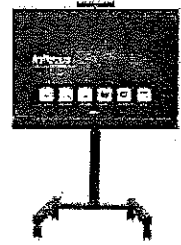


Flexcat

Room will Contain 55 Inch Mondopad and Portable Touch Screen Computer Contains Built in Video and Audio Capabilities

Allows for Small Group Instruction Anywhere

Allows for Ease in Collaborating and Creating at a Large Group Level Through Skype, GoToMeeting, and Other Video Conferencing Tools



Mondopad

Classroom Equipped with Optoma EH300 1080P 3D Projector 3500 Lumens


Economical native full HD

2.3 times larger than standard XGA

Extremely high fill factor

Replicates tablet visual experience in a projector

D.65" 1080p DLP Chip



DLP Technology

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