Living and Breathing Common Core Curriculum
Through School---Wide Enterprise

Barnes County North
Wimbledon, North Dakota

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Need and Purpose

Common Core curriculum is mandating that students are college and career ready when they leave high school. This mandates a need for Barnes County North to (a) adjust our curriculum to meet the seven goals of college and career readiness, (b) broaden the way we as teachers interpret "text," and (c) use a gradual release of responsibility to ensure the success of the students. The Barnes County North School wants to conform our classes into a structured enterprise that brings the real world enterprising process into every middle school and high school classroom using the new technology acquired.

Explanatory Video

bit.ly/1cvbliD

Adjusting our Curriculum

We will be adjusting our curriculum to implement a School---Wide Enterprise that meets the seven goals of college and career readiness. Figure 1.1 lists the seven goals.

Figure 1.2 illustrates how our School---Wide Enterprise will meet these goals. By collecting anecdotal data from faculty and administration, we have identified our need to provide a structure in which students can master the goals of college and career readiness. The School---Wide Enterprise places groups of students into departments. Each department will work toward a goal.

Figure 1.1 The Portrait of a Literate Student
Living and Breathing Common Core Curriculum Through School-Wide Enterprise: Making Students College and Career Ready

Figure 1.2 How School-Wide Enterprise will meet college and career ready goals.
Table 1.3 displays the matrix of the enterprise. The columns show the departments included in the system. The rows show the different products being developed, therefore, subdividing each department to produce one of the three products. As students work in their department, they will exhibit the desired outcomes and see how their contribution fits into the process.

<table>
<thead>
<tr>
<th>Products</th>
<th>Research</th>
<th>Marketing</th>
<th>Design</th>
<th>Production Control</th>
<th>Manufacturing</th>
<th>Quality Control</th>
<th>Packaging &amp; Delivery</th>
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</thead>
<tbody>
<tr>
<td>Printing Services</td>
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<td>Community Support</td>
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Table 1.3 --- A matrix of the enterprise departments.

Broadening our Definition of Text

Common Core curriculum mandates that students be expected to approach a text and be able to build knowledge about the world through that text rather than through questioning a teacher or completing activities such as worksheets or tests. In our School---Wide Enterprise, we are broadening our definition of "text" to include the products and services we will create. We are expecting students to build understanding of the world through creating a product in the enterprise. They will study the product, much like students study a text in class. For example, students in the Quality Control department will critique the value of the product to the consumer much like students in an English class critique the purpose of a text to the audience. The concrete, real world experience in the enterprise will provide a bridge to the abstract class work that students do.
**Gradual Release of Responsibility**

The gradual release of responsibility model of instruction will guide our enterprise. Figure 1.4 shows how the responsibility for learning shifts from the teacher to the students. At the beginning of the school year, the daily work of the enterprise will need to be explained and monitored by a teacher. Throughout the year, the responsibility will shift to the students.

![Gradual Release of Responsibility Diagram](https://www.literacyleader.com)

*Figure 1.4 Gradual Release of Responsibility*

*Source: Molony, Connie. "Curriculum Companion English Language Arts." PowerPoint presentation. Southeast Education Cooperative. 2 May 2013*

The enterprise will provide inquiry projects and collaborative group work that are an authentic experience, as a real product will be made and sold. Students will receive individualized feedback from peers within their departments and from other departments as needed. Students will grow in their independence as well.
Description of the Project

Our project will implement a School-Wide Enterprise in grades six through twelve. The following matrix shows the different areas that will be implemented. This is a reflection of a real world manufacturing setting. There will be teams of all age groups comprising the different departments of research, marketing, design, production control, manufacturing, quality control, and packaging and delivery. There will also be students managing each of these departments as Department Manager, Department Engineer, and Product Managers.

The matrix implements a dual management system with a Product Manager for each row as well as a Department Manager for each column. The products are printing services, perishable goods, and community services. A teacher will also be assigned to either a department or a product so that the matrix management system is implemented for staff as well, creating an interdisciplinary process throughout the project. These staff members are called Staff Leaders.

<table>
<thead>
<tr>
<th>Products</th>
<th>Departments</th>
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<tr>
<td></td>
<td>Research</td>
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<td>Printing Services</td>
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<td>Perishable Goods</td>
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<td>Community Support</td>
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</tbody>
</table>

Products

1. Printing Services –
   a. **3-D Printing** – The 3-D printer will be shared among Technology and Engineering Education, Math, and Science curriculums to give students an understanding of how models are built. For example, a model of an artificial heart valve could be made, held in your hand, and even put in a complete heart model to see if all the dimensions are correct and if the product will work as intended. Products will be made in the Engineering curriculum to give students an understanding of what is now done in a true manufacturing setting. In time, special order products can be developed and produced.
b. **Screen Printing** – A screen printing system will be purchased and incorporated into the curriculum to teach students:
   - How to use the design software to effectively design items that would be of interest to others by separating colors and integrating layering techniques
   - How to develop screens to get the process ready
   - How to use a screen print system to transfer ink to clothing and other items such as signs and water bottles like students have seen while on tour of our local Newman Sign business.

c. **Embroidery** – Two embroidery machines will be purchased and incorporated into the curriculum to teach students:
   - How to use the design software to design items that would be of interest to others
   - How to set up and run a commercial quality embroidery machine that would provide entry-level skills for students looking for future production employment
   - How to set up and run a home embroidery machine system

2. **Perishable Goods** –
   a. A portion of the FACS room will be upgraded to qualify as a commercial kitchen to enable students to prepare foods for purchase after using software programs to conduct nutrition analysis, cost analysis, marketing and advertising plans. The students will practice safe food-handling skills. Some examples of products include:
      - Snack foods
      - Athlete energy snacks
      - School banquets
      - Community refreshments

3. **Community Support** –
   a. Because of the rural location of our school, our school community has to travel to get basic goods and services. The students will identify and offer beneficial goods and services to the community that would lessen patrons’ need to drive elsewhere. Some examples of products include:
      - Concession stand
      - Helium balloons
      - Frozen pizzas
Explanation of Departments

Research
The Research Department will:
- Discover where wholesale items can be purchased
  - Apparel to be screen printed
  - Inks and other screen print supplies
  - Threads and other embroidery materials
  - Ingredients for perishable goods
  - Packaging materials for the different products
- Discover which items were the best quality and best received
- Be in direct contact with Production Control Department telling them where to order the quantities Production Control has determined necessary

Marketing
The Marketing Department will:
- Advertise the available services
- Actively seek out the printing needs of the public (*For example: producing 100 t-shirts for a local family reunion*)
- Actively seek out the perishable food needs of the public (*For example: making 100 Monster Cookies for a graduation party*)
- Be in contact with the Research Department informing them what they are finding the public desires
- Be in contact with the customer answering their questions and asking appropriate follow-up questions to deliver a quality product
- Set the manufacturing order in motion
- Be knowledgeable in using the bar code system to track their customers’ orders

Design
The Design Department team will:
- Be fluent in using the design software to produce high quality screens
- Be fluent in using the design software to produce high quality embroidery
- Design pleasing yet efficient packaging for the products
- Be in contact with the Research Department determining if their designs are desirable in general
- Be in contact with the Marketing Department determining if their designs are what the customer ordered and giving ideas of what to advertise

Production Control
The Production Control Department will:
- Determine the steps the manufacturing process will take for each type of product and track those steps through the bar code system
• Meet with the Quality Control Department to effectively inspect the steps in the process
• Set the pace of the manufacturing orders
• Determine the batch quantities
• Determine the inventory needed to produce each product through the life cycle

**Manufacturing**
The Manufacturing Department will:
• Use the technology necessary to produce what is required
• Use the bar code system to record and track the stage of the process
• Professionally write an Action Item to Production Control to request an improvement on the process

**Quality Control**
The Quality Control Department will determine the quality of:
• The inventory coming in
• The product going out
• The packaging of the product
• The inspection steps along the manufacturing process

**Packaging and Delivery**
The Packaging and Delivery Department will:
• Set up methods of delivering orders to the customers
• Package products in a method that passes inspection
• Properly store all finished items until delivery
• Professionally write an Action Item to Research Department on improvement suggestions of packaging materials

**Implementation**

**Staff**
The staff will go through several levels of in-service training. Every 6th through 12th grade teacher will be assigned a department or product line that they are responsible for overseeing based upon their strengths. Webinars, in-house training, and in-service training will be used to give the staff an understanding of their roles and student expectations. In-service will also be used for the staff to develop the training materials needed to train the students the first two weeks of school during Enterprise time.

**Students**
At the beginning of the school year we will have an assembly showing the students a video of real world manufacturing. We will then explain to them the School-Wide Enterprise. Each product and department will be explained. The responsibilities of each area will be
revealed as well as the opportunities to apply for Product Manager, Department Manager, and Department Engineer. We will have predetermined the balance of students needed in each department. Prior to this assembly, the staff will have met to predetermine three departments in which each student best fits. Students will be given a piece of paper that has these three departments listed. They can choose their work area from this list. If the numbers fall out of balance, preference will be given to upper classmen.

Enterprise time will be thirty minutes before lunch each day. Students and Staff Leaders will go to their work areas. The first two weeks will be thorough training in each department. BCN Bison screen printed t-shirts will be the first product to go through the enterprise system. This will be closely monitored by the Operations Manager to see where there are opportunities for improvement. Each Department Manager will also see what additional requirements are necessary for a successful department. The Department Engineers will correct problems and implement improvements in the manufacturing order. Student leaders will meet with manufacturing personnel at local industries to further understanding of their leadership roles.

The Operations Manager will continually assess the Enterprise for areas of improvement in order to ensure the sustainability of the project. In addition, the funds generated from the sale of the products will flow back into the Enterprise system sustaining restocking of inventory, maintenance of equipment, updates to technology, and training; therefore, the School---Wide Enterprise will be sustained.

How the School---Wide Enterprise will meet the Grant Goals

Goal 1:  
To continuously improve the way teachers and students use technology, curriculum resources, and achievement data to meet learning outcomes through individualized instruction.

The technology utilized in this grant includes:

- 3-D printer
- Screen print system with joystick
- Two digital embroidery machines
- Bar code equipment and software
- CorelDRAW Graphics Suite X6 software
- ACCURip design software
- Artistic Suite V.6 software.

These new technologies will be used alongside the systems we already implement (iPads, Edmodo, Dropbox, Keynote, iTools, Notability, Pages, etc.). The combinations of these technologies will provide a deeper application of instruction, improving the way technology is used by teachers and students.
We realize that technology components are not the magic solution, but devices to aid instruction. Technology is viewed as more than a tool; it changes reading and reading instruction. The School--Wide Enterprise will be linked to the ELA Common Core standards and the shift in ELA focus (Figure 1.5) as we apply text diversity, critical thinking, and problem solving strategies to real world scenarios. This philosophy will rely heavily upon informational texts, product research, vocabulary knowledge, and student engagement. Those daily activities will have a direct correlation to the Smarter Balanced State Assessment results, as this enterprise follows the rigor required to be successful with Common Core standards.

**Goal 2:**

*To initiate new processes, activities or programs which will create systemic changes in a school building or district.*

The high school schedule will be redesigned to support this cross-curricular and mixed-age system. Rather than discussing interdisciplinary approaches and how to bring them into our classrooms from time to time, we will have a real working system that incorporates authentic learning from all school subjects.

Teachers will have an opportunity to work as a team, instead of being isolated by subject area. True collaboration will take place each week, uniting our staff in new ways.

We believe this groundbreaking model will become an example to other schools, a demonstration of real world learning that we can pilot for others. Our teachers have presented curriculum for others (LabLearner Science, Flipped Classrooms, iPad one-to-one initiatives, NDATL Road Show, Legislative Showcase) and have visited other campuses to learn from others (Guided Reading, Common Core practices, Math curriculums). We know that demonstrating and seeing a theory in action brings about change. Our School--Wide Enterprise will impact the way education is delivered and internalized.

Barnes County North Public School
Goal 3: To have an entire team attend the State and National Learning Forward Conferences along with the North Dakota Educational Academy in order to develop a professional development plan linked to the professional learning standards and school improvement indicators.

We are excited to receive additional training, knowing this will enhance the success of our program. Without the appropriate structure, a plan cannot sustain long-term viability. It is our goal to add to this system yearly, changing with the abilities that technology will lead.

We have budgeted for substitute teachers in our proposal, to cover the expenses we will incur from training. Our budget has detailed additional expenditures so that our school board is prepared to support this endeavor. We have also entered all dates into our calendars, to be sure our team of six is available at all training times.

Professional Development for the School---Wide Enterprise

Professional development is a necessary component to any successful project. Barnes County North has invested in teacher stipends previously, investing in four paid days to teachers for Common Core training. We value the practice of adding summer training with pay, to fully prepare our teaching staff for collaborative endeavors.

The Grant Team has spent hours proactively creating an Enterprise System. With the research conducted and the resources gathered, three days of in-service will begin for all teachers in grades 6 through 12 at the close of the current school year.

Additional training will be achieved through the Learning Forward Conferences, the North Dakota Educational Academy, continued summer in-service, school in-service days, bi-monthly staff meetings, Management Mondays and early release days.

Management Monday will convene at 7:50 a.m. weekly, with each teacher presenting a short summary of the specific team’s weekly progress. This informal Professional Development plan for Staff Leaders ensures communication, on-going support, and opportunities for continued improvements. We have also added checkpoints into the timeline for students to showcase their group’s activities. We believe that sharing between groups supports our school’s continued Professional Development, and helps us learn from one another.

InStep Training was formerly implemented by our district during the 2012-2013 school year with great success. We welcome additional InStep training to maximize the success of our Enterprise. The preparation that was previously executed with our district one-to-one iPad initiative pairs well with this next venture.
Finally, Webinars will be shown throughout the school year to educate our student workers on pertinent topics. The American Management Association (AMA) has a website www.amanet.org that provides helpful topics, such as:

- 5 Choices for Extraordinary Productivity
- iPad at Work: Tools for Business Productivity and Time Management
- How to Project Confidence with Demanding People
- Sponsoring Women to Career Success
- Managing Your Workload: How to Prioritize When Everything is Important

### Roles for Students, Teachers, Administrators and Community Members

**Students** are the dominant portion of the matrix, because our system will create an environment where research, design, production and distribution will be student led. After a detailed training about the School---Wide Enterprise, each student in grades 6 through 12 will select a department and begin the work of that department.

Some students will choose to interview with their Staff Leader for the roles of *Department Manager*, *Department Engineer*, and *Product Manager*. These seventeen students will hold leadership positions and drive their department or product.

Screen printed Bison t-shirts have been chosen as the initial September 2014 project. Complete guidance is available for all departments at start-up. Once operational, students will follow the specific work of their enterprise branch. Students will participate in monthly business meetings to share group progress and learn from other groups.

Students will use technology daily, working cooperatively to accomplish group goals. The student leaders of each group will orchestrate the group’s direction and serve as communicators with the other groups.

**Staff Leaders and Administration** are the supervisors of the groups. Their jobs are to keep all students engaged and ask the probing questions when direction is needed. Their questions will utilize Common Core strategies as they direct students to problem solve and work independently. Example questions will include: “Where could you find that information?” “What have you already tried?” “Is there another way to accomplish your goal?”

Staff Leaders will participate in weekly Management Monday meetings to share group progress and help direct the progress of their group. They will also help with Open House arrangements and direct the business meetings that are held after each semester.

- **Operations Manager ~ Joan Klein, Principal**
- **Research Manager ~ Tess Smith, Paraprofessional**
- **Marketing Manager ~ Lauren Ressler, English Teacher**
- **Design Manager ~ Dale Undem, Science Teacher**
- **Production Control Manager ~ Annette Beattie, Technology & Engineering Teacher**
- **Manufacturing Manager ~ Jim Hare, Head Custodian**
- **Quality Control/Inspection Manager ~ Stacy Schaffer, Math Teacher**
Parents and Community Members will become eventual partners in our enterprise. We would like to partner with community business people to expand this learning opportunity, but realize that is more than a year away.

Parents and Community Members will be our customer base, so are crucial members of this operation, but won’t have involvement in the beginning stages. We will spend a great deal of time and energy advertising for the Open House events, and foresee the attendance of many interested community members. As they learn more about the School-Wide Enterprise, we will welcome their suggestions and product ideas so we can better serve and involve them.
How the School---Wide Enterprise will be evaluated to determine success

Evaluation will be an integral part of this project, based on the objectives listed below. All assessments will provide us with needed feedback to determine whether our project is achieving the goals and/or help us identify areas of improvement.

Goal 1:
To continuously improve the way teachers and students use technology, curriculum resources, and achievement data to meet learning outcomes through individualized instruction.

Objectives:
- Students will use new technology for creativity, communication and real world problem solving skills.
- Students will demonstrate college and career ready skills.
- Students will read informational texts, conduct product research, apply vocabulary knowledge, and enhance student engagement, to correlate with the Smarter Balanced State Assessment standards.
- Eighty percent of our students in grades seven, eight and eleven will rate as Proficient or Advanced in the Smarter Balanced State Assessment.

Measure:
- Adherence to grant timeline
- Collection of monthly data (surveys, student documentation logs)
- Video documentaries with text rich vocabulary, created monthly by students
- Bi-annual business report presentations
- English and Language Usage MAP results
- English and Reading ACT scores (plot historically + add new data)
- Smarter Balanced assessment results

Goal 2:
To initiate new processes, activities or programs, which will create systemic changes in a school building or district.

Objectives:
- New design of high school schedule to include daily Enterprise
- Stakeholder participation (students, staff, community members)
- Research, creation, sale and distribution of products and services
- Student centered learning is emphasized over teacher driven instruction
Measure:
- Training schedule adherence
- Weekly Management Monday staff summaries
- Participation evaluations from staff leaders (qualitative feedback, weekly)
- Department managers use student led evaluations and self-assessments to drive future Enterprise decisions

Goal 3:
To have an entire team attend the State and National Learning Forward Conferences along with the North Dakota Educational Academy in order to develop a professional development plan linked to the professional learning standards and school improvement indicators.

Objective:
- Form a team to develop the School-Wide Enterprise system
- Attend all training opportunities (Learning Forward, ND Educational Academy, In-Step, Staff Meetings, Business Meetings, Management Monday Meetings
- Student Webinar attendance (monthly)
- Apply new practices to enhance program success

Measure:
- Team members present applicable information to all staff members
- Training summaries written and disseminated
- Adherence to grant timeline
- Weekly Management Monday meetings to share information
- Written webinar reaction papers, citing evidence