Education in Catawba County

Catawba County Board of Commissioners

November 7, 2016
Proposed by CVCC President Garrett Hinshaw and endorsed by all three school systems, the goal of K64 is to provide all students in Catawba County with equal opportunities to be college and career ready.

To do this, the initiative aims to create collaborative partnerships between all entities of public K-12 education and post-secondary education in Catawba County, private employers, and County government.
K64 may include primary program components such as:

1. Leader in Me
2. 1:1 Technology
3. STEM Labs in all Schools
4. Project-Based Learning
5. Virtual Reality Integration
6. Career Cruising
7. Talent Assessment, Development, and Engagement
8. Access to Credentialing and Higher Education
9. Work Experience Integration
10. Intensive Faculty, Staff, Employer, and Family Education and Training
11. Program Alignment and Systematic Implementation and Evaluation
12. Instructional/Student Support
BENCHMARK FACTORS

Overall Achievement

> Catawba County’s school systems are ranked roughly in the middle of statewide achievement indicators.
> The selected peers are for the most part top 20 in math, science, and reading across EOC, EOG, ACT, and graduation rates.

Population

> Catawba County’s school systems total approximately 24,000 students, and individual districts range from 3,000 to 17,000 students.
> The selected peers represent a range of district sizes, similar to the makeup of Catawba County’s systems.

Income

> Catawba County’s school systems have 20-30% poverty rate among students, but the County’s overall population is in the top third statewide in wealth indicators.
> Generally, selected peer districts are similar with regard to poverty rate and overall wealth indicators.

Geography

> Both Catawba County and selected peers are within 90 minutes of multiple metropolitan areas and major interstate / state roads.
BENCHMARK DISTRICTS

- Asheville City
- Buncombe County
- Elkin City
- Haywood County
- Henderson County
- Iredell-Statesville
- Mooresville City
- Mount Airy City
- Surry County
- Transylvania County
- Union County
- Watauga County
- Yancey County
Tools used by interviewed peer districts generally fell into three categories:
RESOURCES AND TOOLS

1:1 Technology
Learning Management System (LMS)
STE(A)M Lab
Career Development Software
Virtual Reality Integration
<table>
<thead>
<tr>
<th>School Districts</th>
<th>1:1 Technology</th>
<th>LMS</th>
<th>STE(A)M Labs</th>
<th>Career Develop. Software</th>
<th>Virtual Reality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asheville City</td>
<td>Grades 6 – 12</td>
<td>Moodle/Google Apps</td>
<td>Makerspace Lab</td>
<td>No</td>
<td>No response</td>
</tr>
<tr>
<td>Buncombe County</td>
<td>Grades 4 – 12</td>
<td>NCED Cloud</td>
<td>Innovation Zones</td>
<td>Yes, Career Cruising</td>
<td>No</td>
</tr>
<tr>
<td>Elkin City</td>
<td>No</td>
<td>Canvas</td>
<td>Makerspace Lab</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Haywood County</td>
<td>No</td>
<td>Canvas</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Henderson County</td>
<td>Grades 9 – 12</td>
<td>Canvas</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Iredell-Statesville</td>
<td>Grades 6 – 12</td>
<td>Canvas</td>
<td>Middle Schools</td>
<td>Yes, Career Cruising</td>
<td>Yes – CTE</td>
</tr>
<tr>
<td>Mooresville City</td>
<td>All Grades System-Wide</td>
<td>Blackboard</td>
<td>No, some Makerspace</td>
<td>Yes, Career Cruising</td>
<td>Yes</td>
</tr>
<tr>
<td>Mount Airy City</td>
<td>Grades 6 – 12</td>
<td>Schoology</td>
<td>All Schools</td>
<td>Yes, free through CFNC</td>
<td>High Schools</td>
</tr>
<tr>
<td>Surry County</td>
<td>Grades 6 – 12</td>
<td>Haiku</td>
<td>No lab, Science Institute</td>
<td>Yes, Career Cruising</td>
<td>Magnet High School</td>
</tr>
<tr>
<td>Transylvania County</td>
<td>Grades 4 – 12</td>
<td>No LMS, uses Home Base</td>
<td>No labs, Magnet School</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Union County</td>
<td>Grades 5 – 12</td>
<td>Canvas</td>
<td>No labs</td>
<td>Yes, Naviance</td>
<td>Maybe</td>
</tr>
<tr>
<td>Watauga County</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yancey County</td>
<td>Grades 3 – 12, BYOD</td>
<td>Canvas</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
One-to-one technology is a program that provides all students in a classroom, school, or district with their own internet-connected mobile computing device.

**Highlights from Peer Districts**

Mooresville City
- System-wide technology access, with constant staff development

Henderson County
- 1:1 initiative in progress, students will not take devices home

Yancey County
- Bring Your Own Device (BYOD) Policy

**Partners & Funding Sources**

**Partners**
- School District Foundation

**Funding Sources**
- Local Funds
- School District Foundation Grant
- E-Rate
- Race to the Top Grant
- Voter-approved Supplemental Education Tax Levy
- Article 40 & 42 Sales Tax
- Appalachian Regional Commission Workforce Development Grant
Moving toward full 1:1 implementation; piecemeal devices as funding allows across district. Backbone infrastructure is not fully implemented, as there are not enough wireless drops to meet increased demand.

Four year 1:1 proposal recently presented to School Board that would add about 2,000 devices to the 3,000 current devices in schools, double technology staff, and provide teacher training. Backbone infrastructure issues have been resolved.

1:1 implemented at Discovery High School. Newton-Conover High School is technology rich having more than 1000 devices. Bring Your Own Device initiatives are active at Discovery and Shuford Elementary. During the summer, NCCS redesigned their network infrastructure to accommodate a 1:1 environment.
A software application for the administration, documentation, tracking, reporting, and delivery of electronic educational technology, courses, or training programs.

**Highlights from Peer Districts**

**Surry County**
- Haiku, entered into system prior to Canvas’ arrangement with the State
- Houses all course content

**Iredell-Statesville**
- Using Canvas, created online course work that saved district money by not using NC VPS material

**Funding Sources**
- State and Local Funds
- Race to the Top Grant (2012)
Using Canvas, but decentralized utilization. Some high schools have created courses, and students in alternative settings (CREC) can participate in classroom settings at home schools.

Using Canvas and PowerSchool platforms, popular for classes in fifth grade and above. Using Ingenuity software to access NC Virtual Public School courses. HHS homework uploaded on Canvas.

Using Canvas system-wide which allows parents and students access to lessons, materials, and open source materials online from home. Micro-credentialing staff in LMS course development.
Designated space / technology for applied curriculum based on the idea of educating students in five specific disciplines – science, technology, engineering, **arts**, and mathematics.

Click here to watch a short video on STEM labs!
Highlights from Peer Districts

Mt. Airy City
- Labs/STEAM teacher at every school
- Business and Arts community support
- STEAM camps every summer

Buncombe County
- Innovation zones

Elkin City
- MakerSpaces

Partners & Funding Sources

Partners
- School District Foundation
- Wake Forest University

Funding Sources
- Local Funds
- Project Lead the Way Grant
- Lowes Hometown Community Grant
- State CTE Funding
- Duke Energy Grant
- ZF-Community Outreach
Balls Creek Elementary has been a STEM lab pilot for the past 2 years. Focusing heavily on professional development for teachers regarding technology.

There is one STEM lab at Longview, with plans to implement an engineering-focused lab at HCAM. That program would include internships with local industries and would tap CVCC to help teach courses.

Newton-Conover Middle School is seeking to have its MakerSpace certified by the state. It includes 3D printers, laser engravers, veneer probe, green screens for digital news casting, and coding resources.
Software that assists students in building a plan that connects their schoolwork to real life. Students take career assessments which are connected to vocation and education pathway information.

**Highlights from Peer Districts**

**Surry County**
- Uses Career Cruising software starting in middle school to design a four-year high school plan.

**Mooresville City**
- Uses Next Tier to design a timeline aimed at junior and senior years

**Funding Sources**
- State CTE Funding
- State and Local Funds
Career development software is targeted for middle school. Entering high school students engage in work-based learning (job shadowing) as part of a career development plan.

Using an older freeware model of career development software.

Using Career Choices software, which was purchased by local business owner. Software promotes career exploration and planning. Starting in 9th grade, students complete 10-year plans (4 years of high school and 6 years post graduation).
Technology which allows students to experience activities or scenarios without having to be physically present.

**Highlights from Peer Districts**

**Mooresville City**
- Virtual labs, trips, and dissections
- All grade levels exposed

**Asheville City**
- Virtual field trips and employment exercises

**Henderson County**
- Google Cardboard and teacher iPhones

**Funding Sources**
- State and Local Funds
Piecemeal implementation; there are a limited number of virtual reality sets and accompanying phones which are used throughout the district.

Not used at this time.

Limited throughout the district. Discovery High School purchased headsets for students through a district Innovation Grant. Educational application is still being determined.
REAL WORLD LEARNING

- PROJECT-BASED LEARNING
- WORK EXPERIENCE INTEGRATION
- CREDENTIALING & HIGHER EDUCATION ACCESS
<table>
<thead>
<tr>
<th>School Districts</th>
<th>Project Based Learning</th>
<th>Work Experience Integration</th>
<th>Credentialing &amp; Higher Education Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asheville City</td>
<td>High Schools – SILSA</td>
<td>CTE</td>
<td>RACE Program</td>
</tr>
<tr>
<td>Buncombe County</td>
<td>Yes – Not Formalized</td>
<td>CTE</td>
<td>College to Career Promise</td>
</tr>
<tr>
<td>Elkin City</td>
<td>All Grades via Makerspace</td>
<td>CTE</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Haywood County</td>
<td>Pre-K and 1 in High School</td>
<td>CTE</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Henderson County</td>
<td>Middle Schools</td>
<td>CTE</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Iredell-Statesville</td>
<td>STEM-Focused Schools</td>
<td>CTE</td>
<td>College to Career Promise</td>
</tr>
<tr>
<td>Mooresville City</td>
<td>All Grades</td>
<td>Yes</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Mount Airy City</td>
<td>Grades K-8</td>
<td>Yes</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Surry County</td>
<td>Grades 6-8</td>
<td>CTE</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Transylvania County</td>
<td>Grades 4-5</td>
<td>CTE</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Union County</td>
<td>Yes</td>
<td>CTE</td>
<td>CTE &amp; Community College</td>
</tr>
<tr>
<td>Watauga County</td>
<td></td>
<td>No Response</td>
<td></td>
</tr>
<tr>
<td>Yancey County</td>
<td>Yes – Not Formalized</td>
<td>CTE</td>
<td>College to Career Promise</td>
</tr>
</tbody>
</table>
A teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging and complex question, problem, or challenge.

### Highlights from Peer Districts

<table>
<thead>
<tr>
<th>Elkin City</th>
<th>Henderson County</th>
</tr>
</thead>
<tbody>
<tr>
<td>– MakerSpace access for K-12</td>
<td>– Used in middle schools to solve real-world problems. ex. - Model UN on climate change</td>
</tr>
<tr>
<td>– Based on the “4 C’s”:</td>
<td></td>
</tr>
<tr>
<td>&gt; Critical Thinking</td>
<td></td>
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<tr>
<td>&gt; Communication</td>
<td></td>
</tr>
<tr>
<td>&gt; Creativity</td>
<td></td>
</tr>
<tr>
<td>&gt; Collaboration</td>
<td></td>
</tr>
</tbody>
</table>

### Partners & Funding Sources

**Partners**
- Community Colleges
- Universities

**Funding Sources**
- Gates Foundation (SILSA)
- Math & Science Partnership Grant
- Local and State Funds
PROJECT-BASED LEARNING

Working toward broad implementation of PBL, currently taking a grassroots approach district-wide in which pockets of interested teachers attend focus groups to develop skills and ideas.

Used in IB program at Hickory High School and some CTE coursework. Sporadic usage in other schools.

Implemented at Discovery High School. Not based on STEM model of Project-Based Learning. However, uses projects as standard component of curriculum for grades 9-12, culminating in a year-long senior project.
Programs and partnerships developed to ensure that all students have the opportunity to explore and evaluate their career interests during the continuum of their educational experience.

**Highlights from Peer Districts**

Mt. Airy City
- Internships within CTE program and volunteer businesses

Surry County
- Paid internships for students

**Partners & Funding Sources**

Partners
- NASCAR
- Local businesses

Funding Sources
- State CTE Funds
- Local Funds
- Foundation Grants
Largest work-based learning program in North Carolina. Annually placing approx. 700 students into 135 Catawba County businesses to complete jobs shadowing, internships, and apprenticeships.

Dedicated staff member at Hickory High School that focuses on internship opportunities for students.

CTE instructor dedicated to coordinating internship and apprenticeship opportunities.
Programs that allow students access to credentialing or higher education credits during their schooling, generally through partnerships with post-secondary institutions.

**Highlights from Peer Districts**

Surry County
- Carpentry certification free for students

All contacted school districts had programs for students to gain higher education credits (ex. College to Career Promise) and credentialing/certifications (ex. CTE coursework).

**Partners & Funding Sources**

**Partners**
- Community Colleges
- Habitat for Humanity

**Funding Sources**
- State CTE Funds
- Local Funds
- Foundation Grants
Credentialing (e.g. CNA, Microsoft, ServSafe, welding, and soon to come fire safety) is available through CTE courses in high school. In some areas, credentialing is accepted in lieu of final exams.

Dual-enrollment program with Lenoir Rhyne, as well as credentialing tracks (for example CNA Pathway).

Credentialing (e.g. CNA, Microsoft, and ServSafe) is available through CTE courses in high school. District has worked with CVCC to create pathways—alignment of high school and community college classes—allowing credentialing in RN and Welding.
CHANGING MINDSETS

STUDENT DEVELOPMENT & ENGAGEMENT (CHARACTER EDUCATION)

BUSINESS ENGAGEMENT

STAFF DEVELOPMENT

PARENT ENGAGEMENT
<table>
<thead>
<tr>
<th>School Districts</th>
<th>Student Development &amp; Engagement</th>
<th>Business Engagement</th>
<th>Staff Development</th>
<th>Parent Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asheville City</td>
<td>1 Elementary School</td>
<td>Parent U, CTE</td>
<td>Yes</td>
<td>Parent U, District Parent Engagement Coordinator</td>
</tr>
<tr>
<td>Buncombe County</td>
<td>4 Elementary Schools</td>
<td>Career Coordinators</td>
<td>Yes</td>
<td>PTO</td>
</tr>
<tr>
<td>Elkin City</td>
<td>No</td>
<td></td>
<td>Yes</td>
<td>PTO, LMS</td>
</tr>
<tr>
<td>Haywood County</td>
<td>3 Elementary Schools</td>
<td>Yes</td>
<td>Yes</td>
<td>PTA/PTO</td>
</tr>
<tr>
<td>Henderson County</td>
<td>2 Elementary Schools</td>
<td>Yes</td>
<td>Yes</td>
<td>PTO, career tours</td>
</tr>
<tr>
<td>Iredell-Statesville</td>
<td>3 Elementary Schools, Some Middle Schools</td>
<td>CTE Career Coordinator</td>
<td>Yes</td>
<td>PTO – Volunteerism</td>
</tr>
<tr>
<td>Mooresville City</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>PTO, LMS, career tools</td>
</tr>
<tr>
<td>Mount Airy City</td>
<td>In Progress</td>
<td>Some through STEM</td>
<td>Yes</td>
<td>PTO, LMS, character ed</td>
</tr>
<tr>
<td>Surry County</td>
<td>In Progress</td>
<td>Not yet</td>
<td>Some through STEM</td>
<td>PTO</td>
</tr>
<tr>
<td>Transylvania County</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>PTO</td>
</tr>
<tr>
<td>Union County</td>
<td>1 Elementary School</td>
<td>Yes</td>
<td>Yes</td>
<td>PTA/PTO</td>
</tr>
<tr>
<td>Watauga County</td>
<td>No Response</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yancey County</td>
<td>2 Elementary Schools</td>
<td>CTE</td>
<td>Yes</td>
<td>PTO</td>
</tr>
</tbody>
</table>
Includes and complements a broad range of educational approaches such as character and whole child education, service learning, social-emotional learning, and civic education focused on improving soft skills and leadership skills. A popular example is Leader in Me.

**Highlights from Peer Districts**

Henderson County
- Sugar Loaf (4 years) and Dana (8 years) elementary schools have achieved Leader in Me Lighthouse status

Haywood County
- Hazelwood Elementary
- Significant increase in student and parent engagement

**Funding Sources**
- Community Sponsors
- PTA/PTO
- Chamber of Commerce
- School Foundations
- Title I funding
**STUDENT DEVELOPMENT & ENGAGEMENT**

Phased *Leader in Me* implementation with two in 3rd year, two in 2nd year, two in 1st year, and two on deck. Expensive on the front end, but significantly less expensive in subsequent years.

Currently promoting, but not requiring, character education in schools. Counselors are currently utilizing character education theme weeks, like Anti-Bullying. Would like to implement *Leader in Me* program.

*Leader in Me* program has been implemented at South Newton Elementary School at a cost of $60,000 for the first year.
Highlights from Peer Districts

Mooresville City
- Provides opportunity for job shadowing and internships with local business leaders.

Buncombe County
- EdGE program helps students prepare for workplace through resume writing, interviews, etc.

Partners & Funding Sources

Partners
- Career Bridge Advisory Council
- Community college
- Local industry and businesses

Funding Sources
- Career Bridge Advisory Council
- School Foundations
BUSINESS ENGAGEMENT

CTE instructor has fostered very strong relationship with local businesses, which has assisted in student placement for internships. District was instrumental in developing the Governor’s Award winning program, Apprenticeship Catawba.

Engaging businesses through the Superintendent’s Advisory Council, inviting business leaders twice a year to talk about involvement. Businesses generally focus only on high school involvement.

Very strong component of the CTE program. Local businesses are interested in and readily accept interns. District works with Education Matters by participating in the annual Career Showcase at CVCC, which highlights career pathways from high school curriculum to employment with local businesses.
**Highlights from Peer Districts**

**Henderson County**
- Training involved a “Crawl, Walk, Run” model for teacher development

**Mooresville City**
- Scheduled 10 half-days per year dedicated to teacher development, particularly digital conversion and integration in the “*train the trainer*” model

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**Partners & Funding Sources**

**Partners**
- Friday Institute
- School of Government
- Community College
- Buck Institute
- Center for Creative Leadership
- Wake Forest University

**Funding Sources**
- Golden Leaf Grant
- School Foundation
STAFF DEVELOPMENT

CATAWBA COUNTY SCHOOLS

Teach. Learn. Lead.

Uses 5 half-days for professional development, with school-specific Target Teams shaping the training. Emphasis on train-the-trainer model in middle and high schools. No district-wide training regimen. Teacher Externships are encouraged.

HICKORY PUBLIC SCHOOLS

Extending Excellence. 1903.

Ongoing development through Curriculum Conference and eLeader technology training (2x/month). Training is generally developed based on needs revealed from state-wide exams.

NC CS

District-wide implementation of Instructional Core Framework through monthly PD; Professional Learning Communities conducted by Department leadership at each site; Tech Team sessions offered monthly; online learning opportunities utilizing Canvas. One district-wide Instructional Technology Facilitator and Instructional Coaches at Elementary Schools only.
Highlights from Peer Districts

Mooresville City
- 1:1 technology stimulates involvement
- Career Bridge Summit

Haywood County
- Leader-in-Me

Asheville City
- Parent U community partnerships to deliver free programming for students and their families

Iredell-Statesville
- Through PTO and booster organizations, documented 103,380 hours of volunteer service
Parent Engagement

Occurs through events at the schools, weekly phone calls, PTA interaction, and the school foundation. The district has started utilizing targeted home visits to connect with parents who are not engaged or whose children may need more support.

Implementing a centralized communication system (Blackboard Connect), which will make communication between district, staff, and parents more efficient.

Back to School Bash; parent-centered communication system that allows them to choose from e-mail, calls and/or texts; parents involved in data-driven decision making through Systematic Support Visits (S3) at every school; STEM Community Nights connecting families with local industry.
Dr. Hinshaw’s questions for BOC consideration before the K64 Presentation:

1. **OUTCOMES**
   - What do you see as measurable outcomes during Year 1 of the K64 project?

2. **GAPS**
   - What gaps do you perceive that need to be addressed in order to move the needle for the future of Catawba County?

3. **INVESTING**
   - What is the general feeling about investing seed funds to get the snowball rolling?