Boyle County Schools

2,589
Total number of students in the district

6
Total number of schools in the district

The Technology & Learning module data included in this report has been gathered from a statistically significant sample of teachers and students at five of six schools within Boyle County Schools. At this time the district has completed three data collections:

- Fall 2014
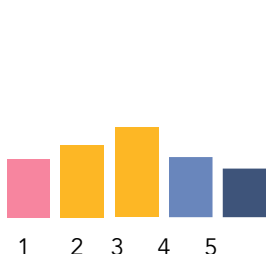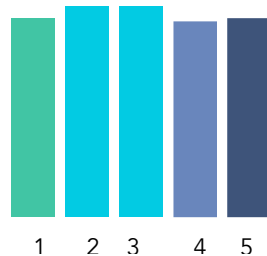- Spring 2015
- Fall 2015

Overall CASE
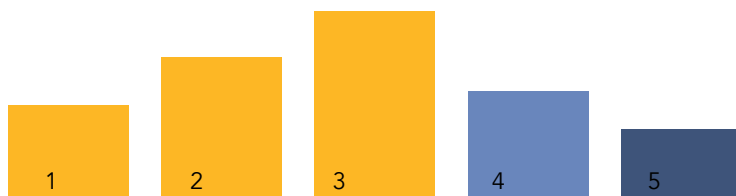
COLLECTIONS

1. Boyle Fall 2014
2. Boyle Spring 2015
3. Boyle Fall 2015
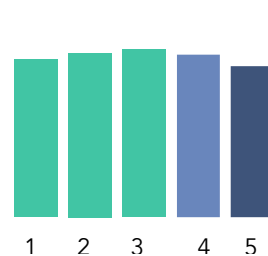4. KY State Average
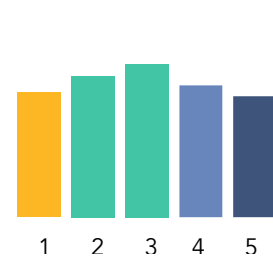5. National Average

Classroom

Access

Skills

Environment

Beginning
800-899

Emerging
900-999

Proficient
1000-1099

Advanced
1100-1199

Exemplary
1200-1300

INTRODUCTION

Boyle County Schools has shown consistent growth in its overall CASE score and across each Domain since its first collection in Fall 2014. The largest growth has been in the following Success Indicators:

- Students Access at School
- Students Use of the 4Cs
- Professional Learning
- Teachers Use of Assistive Technology
- Teachers and Students Skills

This case study will explore the models of professional learning and strategies that Boyle County Schools has employed to drive change in these areas. Key actions that have contributed to Boyle County Schools' progress include:

- Hiring a technology instructional specialist
- Implementing a 1:1 device initiative at two schools
- Rolling out a learning management system
- Beginning the transformation of libraries into media centers.

The following sections examine the areas in which Boyle County Schools has experienced the most growth since their initial Technology and Learning module data collection in Fall 2014.

ACCESS – TEACHERS & STUDENTS

Over the past year, Boyle County Schools' score in Access has moved from one point below the national average to 29 points above the national average (from 1183 to 1213). Boyle County Schools' Access score is also higher than the Kentucky pilot cohort's average score in Access (1179).

Boyle County Schools' overall Access Domain is Exemplary on the maturity scale. The district's Exemplary maturity level showcases not only a strong infrastructure in place but also high utilization of classroom devices. Although Access has been a strength in Boyle County Schools since its first collection, the district has continued to increase Teachers and Students Access across all schools. At the start of the 2014-2015 school year, Boyle County Schools launched a 1:1 pilot at two sites - Boyle County Middle School and Boyle County High School. However, leaders had begun planning for the roll out and providing targeted professional learning to increase Teachers and Students Skills long before they began distributing devices to students. This intentional planning and preparation has proven effective as data from Boyle County Schools' most recent collection shows growth not only in Access but also within the Classroom Domain.
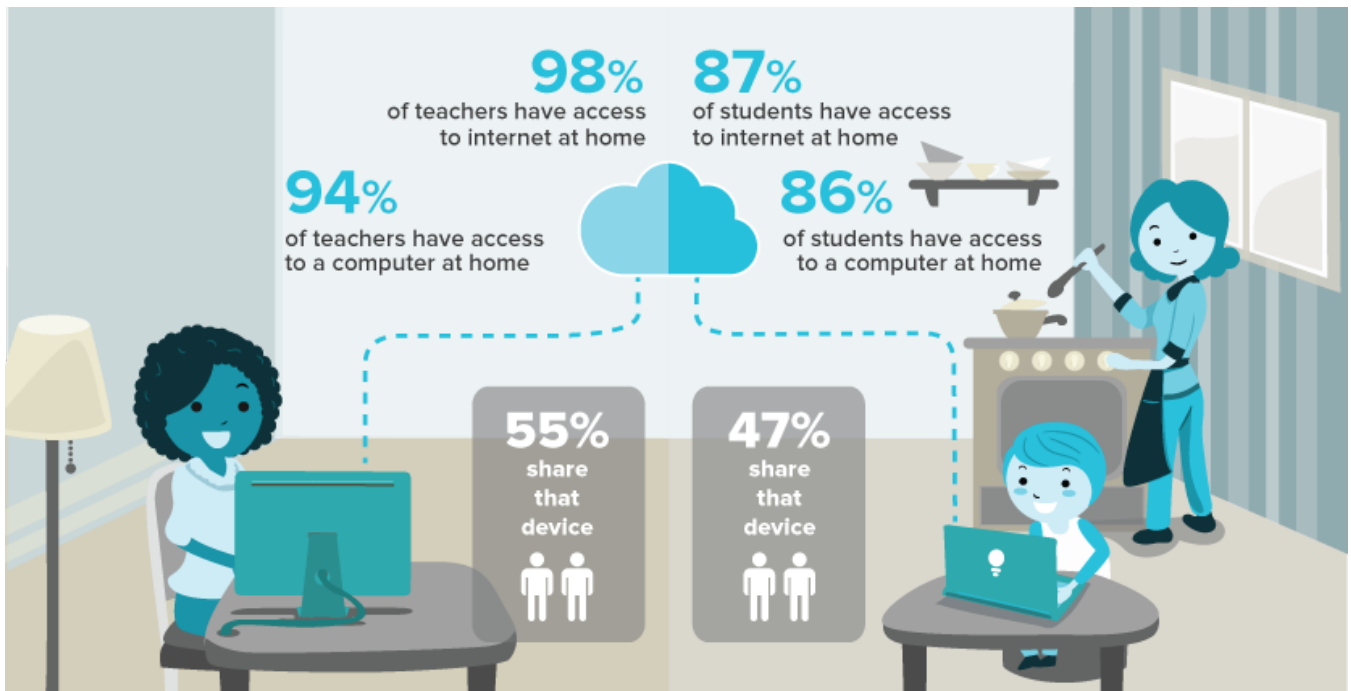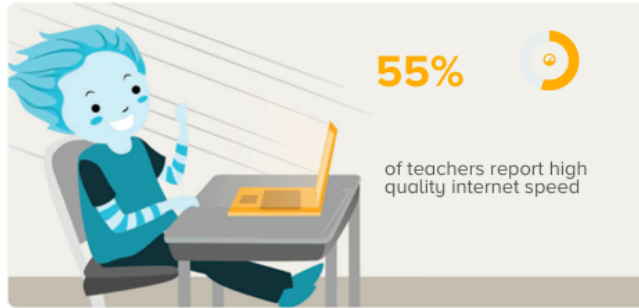
Boyle County Schools' began planning for this device rollout years before putting new technology in the hands of teachers and students. According to Susan Taylor, planning for implementation began

Boyle County Schools is above the national and state average with 77% of teachers reporting that they are always able to obtain access to computers when needed for class.

two to three years ago. The district recognized a need to prepare teachers first for the upcoming change. Making sure teachers have access to a device and internet at school and at home was an important part of the district's preparation efforts. To build teachers' comfort and readiness before the 1:1 deployment with students, the district gave each teacher a MacBook that they could take home. Hands-on practice with technology is strongly correlated with a teacher's self-efficacy and confidence using the technology (DelliCarpini, 2012). Professional learning, discussed in the following sections, was also reinvented to support the effective integration of technology in the classroom.

Boyle County Schools is Exemplary on the maturity scale for both Teachers and Students Access at School. To understand Boyle County Schools' strength in Access, it helps to compare Boyle County Schools' scores to the state and national averages in Access. According to Technology & Learning module data, approximately half (49%) of all teachers nationally and in Kentucky are always able to obtain access to computers when needed for class. Boyle County Schools is above the national and state averages with 77% of teachers reporting that they are always able to obtain access to computers when needed for class.

Across national Technology & Learning module data, only 12% of teachers rate the quality of computers and internet access at their school as excellent. KDE pilot districts are above the national average in this area with 51% of teachers reporting high quality internet speed and 41% reporting high quality computers at school. Boyle County Schools ensures that all computers are replaced every three years. As a result, Boyle County Schools is above both the national and state averages with 55% of teachers reporting high quality internet speed and 61% reporting high quality computers at school. This is significant because research shows that low-quality technology prevents teachers from taking risks and experimenting with transformative learning (Purcell et al., 2013).

91%

of teachers can get devices for their students when needed more than half the time

55%

of teachers report high quality internet speed

90%

of teachers have access to a computer for their own use all the time at school

77%

of teachers report a typical student to computer ratio of 2:1 or 1:1

Clarity

98% of teachers have access to internet at home

87% of students have access to internet at home

94% of teachers have access to a computer at home

86% of students have access to a computer at home

55% share that device

47% share that device

The above infographics present data from Boyle County Schools' Fall 2015 data collection.

ENVIRONMENT – TEACHER PROFESSIONAL LEARNING

Over the past few years, leaders in Boyle County Schools have made it a priority to secure additional support for instructional technology training and professional learning. Last winter, Boyle County

Leaders in Boyle County Schools have made it a priority to secure additional support for instructional technology training and professional learning.
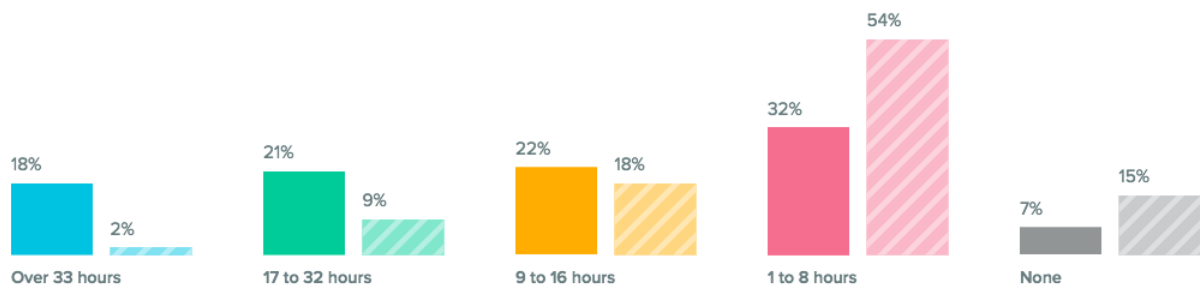
Schools was able to hire a technology integration specialist (TIS), Stephanie Wade, to help provide support to its staff. The district's Technology Director, Susan Taylor, used data from the Technology & Learning module as evidence to paint a clear picture of the need for this resource and likewise, to show the impact this role has had on changes in the Skills and the Classroom Domains.

The TIS role has enabled Boyle County Schools to offer multiple new professional learning opportunities across the district. Stephanie Wade proactively reaches out to groups of teachers at each campus with topics that she believes will interest them and requests time to meet with teachers in-person. She uses data from the Technology & Learning module to determine teachers' interest in educational technology professional development topics. Stephanie divides her time between each campus and offers a wide range of professional learning opportunities such as modeling the use of new tools and strategies and providing support during lesson planning as well as observing and providing feedback for teachers to help build their skills and confidence. This approach is different from a typical TIS role where the TIS waits for teachers to reach out to request assistance. Boyle County Schools' Professional Learning Success Indicator data shows an increase of 55 points since Fall 2014. The district attributes this increase to the creation and impact of the new TIS role. The district's Professional Learning score is 38 points higher than the state and national average. Since Boyle County Schools hired their first TIS, they have also seen dramatic growth in the Teacher Support success indicator, which has increased by 33 points and is now 25 points above the Kentucky pilot cohort's average score in Teachers Support.

Furthermore, Boyle County Schools' teachers have reported an increase in time spent participating in school-sponsored professional development. Following the spring 2015 data collection, 11% of Boyle County Schools' teachers reported receiving over 17 hours of school-sponsored professional development, while 26% of teachers reported spending at least nine hours per year in school-sponsored PD. This fall, the percentage of teachers receiving over 17 hours of school-sponsored professional development rose from 11% to 39%, an increase of 28 percentage points.

Likewise, more teachers reported that professional learning is high quality. In Boyle County Schools, 46% of teachers reported that school-sponsored professional development is high quality, a rise of 15 percentage points since the previous collection. Susan Taylor attributes this increase as a positive result of adding the TIS role and providing proactive instructional technology support, through formal staff training as well as informal, small group and one-on-one support.

🏫 **Teacher-reported time spent per year participating in school-sponsored PD**

| | 54% | |
| | | |

18% 2% 21% 9% 22% 18% 32% 54% 7% 15%

Over 33 hours　　17 to 32 hours　　9 to 16 hours　　1 to 8 hours　　None

SKILLS – TEACHERS AND STUDENTS

Boyle County Schools exhibits an Advanced level of maturity in the overall Skills Domain. This aligns with both the national and KDE averages, which are also Advanced in overall Skills. However, comparing raw scores in the Skills Domain shows that Boyle County Schools is above both the state and national averages for overall Skills. Boyle County Schools has done a lot of work to improve both Teachers and Students Skills. Leaders have employed many strategies including updating media centers in campus libraries, rolling out a 1:1 program at two schools, introducing a district-wide learning management system, and using Google Hangouts to facilitate after-school math help.

Teachers and Students Foundational, Online and Multimedia Skills are critical for classroom collaboration. It's common to see growth in Teachers and Students Skills translate to increased Use of the 4Cs (Communication, Collaboration, Creativity, and Critical Thinking) and growth in the Classroom Domain. At Boyle County Schools, Students Foundational Skills were Advanced in fall 2014. Students' scores in this area have continued to increase over the past year. For example, since the first data collection, Students Online Skills have moved from Proficient to Advanced. Teachers Skills are a bit more varied. Teachers Foundational Skills are Exemplary and Multimedia Skills are Advanced. Teachers' strengths in this area can certainly be attributed to the intentional planning and preparation that Boyle County Schools leaders conducted before rolling out new tools and devices across schools. Likewise, teachers' strengths in this area highlight the positive impact of providing differentiated and ongoing professional learning for teachers not only through staff training but also through small group and one-on-one support.

Following closer examination of Boyle County Schools' Technology & Learning data, it becomes even more apparent that Boyle County Schools has been strategic about designing their approach and determining the focus of professional learning. Research shows that teachers with strong Online Skills are better able to collaborate on documents and use other web-based tools to increase collaboration in the classroom (Purcell et al., 2013). Growth in Teachers and Students Skills, especially Online Skills, often translates to increased Use of the 4Cs in the Classroom Domain.

It's important to note the differences that can be observed between Teachers Skills and Students Skills. Teachers Skills are stronger in some areas while Students Skills are stronger in others. For example, 59% of students report recording and editing video is an easy or very easy activity, while only 46% of teachers fall into the same category. However, students report lower skills in other activities. For instance, 100% of teachers report sending an email is an easy or very easy task, while 86% of students report the same skill level in this area.

Providing ongoing support around Teachers and Students Skills will likely ensure continued growth in Teachers and Students Use of the 4Cs. Research shows that "frequent technology users place considerably more emphasis on developing students' 21st century skills—specifically skills in accountability, collaboration, communication, creativity, critical thinking, ethics, global awareness, problem solving, and self-direction. They also have more positive perceptions about technology's effects on student learning of these skills—and on student behaviors associated with these skills" (Grunwald and Associates, 2010).

CLASSROOM – TEACHERS USE OF ASSISTIVE TECHNOLOGY

Boyle County Schools' data also shows growth in the area of Teachers Use of Assistive Technology, specifically in the percent of teachers posting course materials and homework online. Susan Taylor believes this change is due to the rollout of a new learning management system at the middle and high school campuses. Elementary school teachers and students are also utilizing the learning management system in some areas but not as extensively as upper school students and teachers. In elementary schools, the learning management system is being introduced to 4th and 5th graders only. This phased rollout is designed to prepare 4th and 5th grade students in order to ease their transition into middle school.

The percent of teachers posting course material online at least weekly rose from 25% to 43% and is well above the national average.

Introduction of a new learning management system has positively impacted other areas as well. The percentage of teachers posting course materials online at least weekly rose from 25% to 43%. This is higher than the national average, where 25% of teachers post course materials online at least weekly. In addition, the percent of teachers in Boyle County Schools that never post course materials online dropped from 59% to 33%.

Additionally, the percentage of teachers who post homework online at least weekly increased from 9% to 31%. Conversely, the percentage of teachers who never post homework online has decreased from 57% to 49%. Nationally, 62% of teachers report never posting homework online, while only 25% of teachers post homework online at least weekly. This is another instance where the learning

management system may have contributed to Boyle County Schools' positive growth in the Use of Assistive Technology Tools.
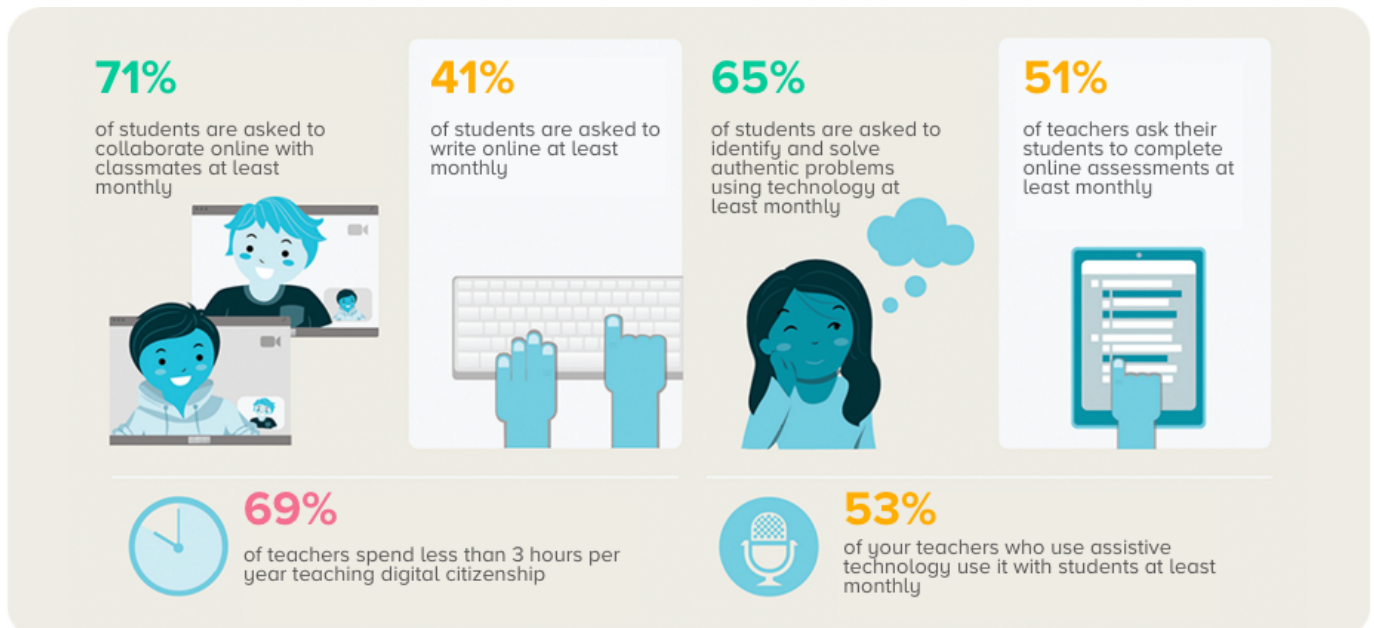
CLASSROOM – STUDENTS USE OF THE 4CS

The Classroom Domain, specifically Success Indicators and data points within the 4Cs, outline how technology is being used to support learning in the classroom. The Classroom Domain, particularly the 4Cs data, is typically slower to show change, as it requires devices to be easily accessible, teachers and students to be comfortable using digital devices and online tools, and professional learning that supports purposeful integration of technology in the classroom. After the first data collection, Boyle County Schools was Emerging on the maturity scale within the Classroom Domain. This was not entirely surprising since the Classroom Domain tends to be an area of need for schools across the county. One year later, however, Boyle County Schools scored at Proficient on the maturity scale in

In Boyle County, Students Use of the 4Cs has increased by 48 points.

this area. This growth is likely the result of Boyle County Schools' intentional approach to professional learning, leaders providing targeted support to improve teachers' skills, and prioritizing topics for educational technology professional development based on teachers' interests, along with the accessibility of new tools such as their learning management system and Chromebooks for classroom use.

Digging deeper into the 4Cs data, Boyle County Schools' progress is even more revealing. Boyle County Schools has seen an increase of 48 points in Students Use of the 4Cs. This score is 81 points higher than the state average and 87 points higher than the national average. Teachers and Students Use of the 4Cs and Students Digital Citizenship scores are even stronger at Boyle County High School and Boyle County Middle School, the first two schools to implement a 1:1 program. Students from these two campuses also reported greater levels of Access At School and Access At Home, as well as stronger Technology Support At School. Students Online and Multimedia Skills ranked at Advanced in Boyle County Middle School and Boyle County High School, whereas the elementary schools scored at Proficient in these areas.

71% of students are asked to collaborate online with classmates at least monthly

41% of students are asked to write online at least monthly

65% of students are asked to identify and solve authentic problems using technology at least monthly

51% of teachers ask their students to complete online assessments at least monthly

69% of teachers spend less than 3 hours per year teaching digital citizenship

53% of your teachers who use assistive technology use it with students at least monthly

CONCLUSION

Over the past year, Boyle County Schools has demonstrated progress in transforming teaching and learning in its classrooms. The district has made leaps forward by intentionally focusing on Teachers and Students Access, Professional Learning, Support, and the Classroom Domain, specifically the Use of the 4Cs Success Indicator. Several initiatives and actions that have contributed to progress in these areas include: updating media centers in campus libraries, rolling out a 1:1 program at two schools, introducing a district-wide learning management system, and using Google Hangouts to facilitate after-school math help.

Boyle County Schools' emphasis on professional development and support has increased Teachers and Students Skills, which has in turn aided the successful implementation of key initiatives mentioned above. These programs, specifically the introduction of a new learning management system, the development of 21st century libraries, and the deployment of 1:1 in two schools have positively impacted areas such as the 4Cs, which are critical to 21st century learning. Boyle County Schools' progress has not been accidental but rather a result of intentional planning and a district-wide commitment to providing high quality technology tools as well as effective professional development necessary to support innovative teaching and learning.