

Nurturing an Innovative District: Inclusive Computing Pathways in Talladega County Schools

Talladega County Schools (TCBOE)

Urbanity	Number of schools	Student enrollment	Student demographics
Rural	<u>17 Schools</u> 7 elementary, 3 junior high, 7 high schools	7,000	<ul style="list-style-type: none"> • 2% Latinx • 33% Black • 71% low-income

Equity Goal

Greater inclusion of students from low socioeconomic households and female students

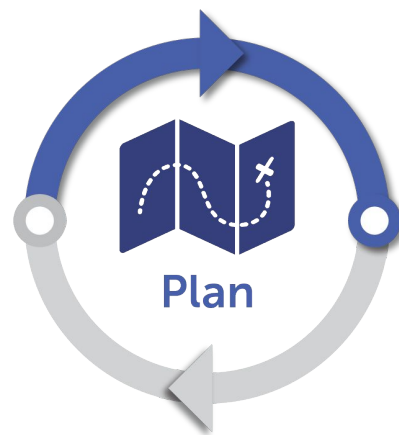
[Talladega County Schools](#) (TCBOE) is a 7,000-student district in rural Alabama. In total, the district is comprised of 17 schools: seven elementary schools, three middle schools, and seven high schools. Talladega is known for its leadership and accomplishments in STEAM (Science, Technology, Engineering, Arts, and Math) education. Talladega has 11 STEAM-certified schools and 48% of all educators participate in STEAM leadership professional learning. Talladega decided to join the National Science Foundation-funded [Developing Inclusive K-12 Computing Pathways for the League of Innovative Schools](#) (Inclusive CT Pathways) project to focus on developing a K-12 pathway for two specific populations: Increasingly offering computer science (CS) and computational thinking (CT) to students from low socioeconomic households as well as female students.

November 2018



Over nine months during the 2018-2019 school year, the Development Group met regularly at the district offices to develop an Inclusive CT Pathways document. For each meeting, a working session lasted several hours or sometimes all day and added up to a total of 65 hours.

The Talladega planning team had official release time from classroom duties and met at tables (by grade band) in a room the district normally uses for school board meetings. Dr. Brooke Morgan, Coordinator of Innovative Learning at Talladega, led the meetings and helped to foster consistency across the conversation and to resolve dilemmas. Talladega chose to base its Inclusive CT Pathways document on the Rigorous Curriculum Design template by Ainsworth and Donovan (2019). This template was selected because it was very similar to Talladega's content pacing guides used at all grade levels. It is a template that is logical to follow and familiar to teachers.



April 2019

Identify competencies

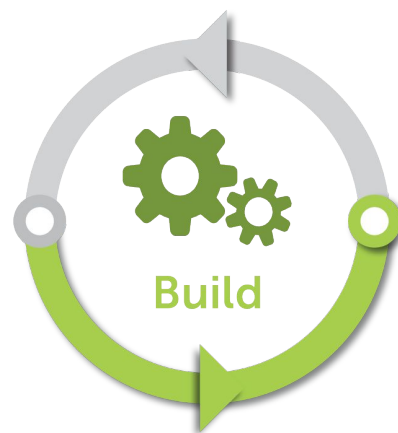
Customize competency map template

Map to Alabama DLCS standards

Vertically and horizontally align competencies

Launch professional learning

Talladega produced a pathway document through a participatory process. Teachers across the district were invited to participate and teachers were selected so that multiple teachers could represent each grade band. The selected teachers were “experts down the hall” — a term that Talladega uses for teachers who take on a coaching role to support other instructors in their building with the integration of digital technology.



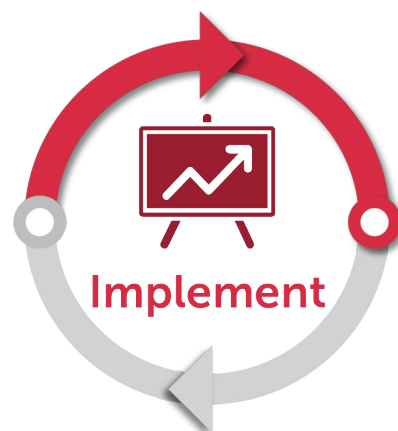
The content at each grade level was conceptualized as consistently relating to one of five key competencies: **Abstraction, Data Collection and Analysis, Algorithmic Thinking, Building Models & Simulations, and Decomposition**. Throughout the process of developing their Inclusive CT Pathway, Talladega focuses on the equity goal of increasing computing opportunities for students from low socioeconomic households and attracting more young women to CS and CT through inclusive curriculum offerings and equity-infused professional development offerings.

September 2019

Gather feedback and make adjustments

Develop look for documents

After the initial draft of the competency map was completed in the Spring of 2019, it was presented to a group of K-12 teachers for feedback and reactions. The focus group provided positive reactions to the map as well as concrete action items for the continued development of the competency map.



September 2020

Develop CT rubrics

Make adjustments to look for documents and rubrics

During the 2019-2020 school year, the competency map continued to be developed through the piloting of content in classrooms and the implementation of CT professional development training sessions. The district acknowledged that disparities in computing participation and achievement persisted, despite their development of an inclusive CT pathway. To center the needs of young women and students from low socioeconomic backgrounds, the district began working with Digital Promise researchers to facilitate equity conversations and develop equitable CT formative assessment artifacts.

Reflection

What are some of the key takeaways for the district?

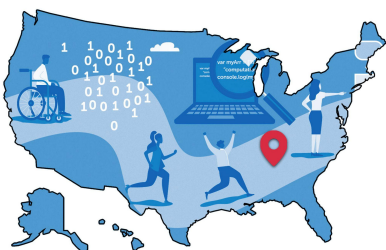
- Early on, it is important for the team to define computational thinking and equity using specific but non-jargony language, such that these definitions can be used in all K-12 contexts within the district.
- Once teachers saw examples of CT in practice, the leadership team were exponentially more successful encouraging them to develop their own CT lessons, as well as recognizing where they may already be teaching computational skills in their lessons.
- *Language matters* -- in year two of the project, as the district revisited and refined their pathway document, they opted to add a “Key Vocabulary” column for each grade level, formally identifying the key terminology associated with CT (and CS) starting in Pre-K all the way through high school. This offered a common lexicon for teachers and a way to mark progress (see “exit tickets” below).
- Make sure the pathway is *visible* not just to teachers but to the wider community. Talladega was the first of the three Core districts to develop a community-facing website, that defined CT for parents and families, offered resources for learning more, as well as their own pathway for grade level integration and course offerings.

Opportunities

Following their three years of work developing an Inclusive CT Pathway, Talladega will next focus on:

- Continuing to revise and update its Inclusive CT Pathways document and updating its related website.
 - The Talladega website, [Cultivating a Culture of Computational Thinking](#) is directly populated from its original Google docs and affords such timely updates.
- Continued use of student “exit tickets” can help the district gain a better sense of student learning gains and to what degree Talladega students of all ages are able to articulate how the district’s five overarching competencies can be integrated in classroom practice.

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Is your district interested in developing an Inclusive Computing Pathway?

Visit the toolkit at: <https://bit.ly/CTPathwaysToolkit>

[CTPathwaysToolkit](#)

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