

# A VIEW FROM THE CANOPY:

## Building collective knowledge on school innovation

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# TABLE OF CONTENTS

<b>Executive summary</b> .....	3
<b>Introduction</b> .....	4
The consequences of knowledge silos on school innovation .....	4
Toward better collective knowledge .....	5
<b>Methodology: Building an index of school innovation trends</b> .....	6
Tags for school innovation .....	6
<b>Canopy findings and analysis</b> .....	9
Are schools surfaced in the Canopy “usual suspects”? .....	10
Where are Canopy schools innovating, and for whom?.....	11
What innovative approaches and designs are schools pursuing?.....	13
How do innovative practices vary when it comes to school demographics?.....	13
How are schools mixing and matching innovative practices?.....	19
<b>Hypotheses and future research</b> .....	23
<b>Conclusion: An opportunity to generate better field-wide innovation data</b> .....	25
<b>Appendices</b> .....	26
Appendix A: Advisory groups .....	26
Appendix B: Crowdsourcing methodology .....	26
Appendix C: Additional figures .....	28
Appendix D: Specific practice tags .....	30
<b>Notes</b> .....	32
<b>Acknowledgements, About the Institute, About the author</b> .....	35

# EXECUTIVE SUMMARY

Too often in education, we turn to the same school exemplars time and again to uncover insights about K-12 school innovation. This limited sampling is often circulated via word-of-mouth, creating an echo chamber that distorts and diminishes the larger landscape of schools innovating toward student-centered learning.

Databases and lists that offer information about innovative schools unintentionally contribute to the problem, as a lack of standard terminology and data structures forces them into siloes. As a result, knowledge of how schools are reimagining the learning experience for students remains deeply fragmented and woefully insufficient, creating real consequences—not only for funders, researchers, and school support organizations, but ultimately for the evolution and spread of promising practices.

Recognizing this challenge, the Christensen Institute has worked with a range of partners to launch a project we're calling the Canopy: an effort to build better collective knowledge about the diverse range of schools offering learning experiences designed with students at the center. More than just another list, the Canopy reimagines both where information comes from as well as how it is structured to address some of the fractures in the current system. By casting a wide net through a crowdsourcing approach, Canopy surfaced 235 schools making strides towards student-centered learning—72% of which do not appear on other commonly referenced lists of innovative schools. Nominators and schools also used a consistent set of “tags” or common keywords to describe each school’s model, meaning the dataset can be filtered, analyzed, and built out over time.

This report offers a proof of concept for how better collective knowledge can generate insights about school innovation that may otherwise go undetected. Our research uncovered patterns in the innovative approaches reported by schools, with particularly noteworthy trends tied to geographic context, Free and Reduced Price Lunch eligibility, and racial/ethnic composition of the student body. While the findings are not nationally representative, the data illuminates questions worthy of further investigation. A number of the hypotheses we drew based on the data include:

- Implementation of learner agency and social-emotional learning may lag behind a general commitment to those approaches—or practices aren’t being codified and documented.
- Rural schools may be facing barriers to innovation or innovating in ways that don’t reflect national trends, and could benefit from targeted support and investment.
- Students in predominantly Black schools may not be getting the same opportunities for learner agency and social-emotional learning as in other schools.
- Experiential learning and competency-based models may be facing barriers to scale in schools serving low-income students and students of color.
- Efforts to redefine student success could be playing out differently depending on whether school models are designed to serve marginalized students.
- Lower-poverty schools and those serving predominantly White students may not be attending to the needs of marginalized students as deliberately as other schools.

This initial stage of the Canopy demonstrates how a process designed to advance collective knowledge has the potential to unveil a more diverse, complete picture of K-12 school innovation. We hope this leads to additional research efforts, and ultimately supports the development and scale of promising innovative approaches across the country.

# INTRODUCTION

All across the country, schools are innovating to better serve students. From outside of schools' four walls, however, it can be hard to gain visibility into how new approaches to teaching and learning are evolving inside schools. All too often, information about the innovations schools are pursuing never makes it beyond the district office—and when it does, it's not reliably or consistently documented, shared, or promoted. As a result, most education funders, researchers, and organizations supporting school design rely on word-of-mouth to discover innovative schools and detect trends emerging in aggregate.<sup>1</sup>

While a good recommendation from a trusted colleague can certainly lead to a fruitful discovery or two, this method fundamentally limits our ability to reliably surface diverse examples of innovation, track patterns over time, and expand access to that information beyond existing networks. From any vantage point in the system, whether in a school, research lab, or boardroom, the echo chamber created by word-of-mouth knowledge sharing can feel difficult to break out of.

In an effort to codify what's happening in schools and democratize some of the knowledge held by individual people, many research and advocacy organizations publish and share what they're learning about innovative school practice through databases, lists, landscape scans, and case studies.<sup>2</sup> This data is immensely valuable and rich, but it's still limited and siloed—currently there are no mechanisms or incentives to aggregate that knowledge into a searchable dataset, and organizations use inconsistent terminology to define and describe school design. Even collectively, existing databases tend to contain large geographic gaps where there is little to no information on school innovation.

As a result, knowledge of how schools are reimagining the learning experience for students remains deeply fragmented and woefully incomplete.

## The consequences of knowledge silos on school innovation

The inability to paint a more complete portrait of school innovation unfolding nationwide has created roadblocks for funders, researchers, and

school support organizations, which limits the evolution and spread of promising practices. A myopic view of how schools are reimagining teaching and learning results in limited diversity among the schools held up as bright spots, limited comparable examples of schools trying to innovate in various circumstances, and limited understanding of broader trends and blind spots as efforts to reimagine school evolve. Constrained by these limitations, we run the risk that promising and proven innovative approaches develop and scale unevenly, or are missed altogether.

**Promising but under-the-radar models get ignored.** Studies and articles often point to the same bright spots in school innovation, over and over, artificially limiting the diversity of schools held up as exemplars. This risks calcifying perceptions of what is innovative and dismissing promising new ideas that don't fit into mental models that are shaped by a limited number of well-known schools.

**Entire regions get overlooked.** Without a mechanism for surfacing a more diverse set of examples, it is difficult for school leaders and intermediaries to identify and learn from other schools on innovation journeys in similar contexts—especially if those schools operate in different geographies. This also impacts where philanthropies place their bets. Since funders rely on word-of-mouth and existing grantee networks to discover innovative schools and trends with high potential for investment, they risk overlooking communities and even entire regions where information isn't widely available.

**Broader trends get lost.** Fragmented knowledge constrains the ability to learn about trends over time. Disjointed information on what schools are

doing makes it difficult to accurately track the evolution of movements like personalized learning from a 30,000-foot-view as schools continue to innovate on the ground. Existing datasets often focus on a limited set of approaches or practices across a limited set of schools, using an array of different terms to describe similar concepts. Furthermore, information silos block the potential for surfacing trends in how schools with varying demographics pursue promising approaches. Without aggregating discrete data points to capture information with a wider lens on what innovative design looks like, it remains difficult to detect trends and patterns about the types of designs taking root, for whom, and where.

Deep knowledge of school innovation resides across an array of local and national organizations invested in rethinking the student experience, and even deeper knowledge resides with the schools and educators pursuing new approaches themselves. How do we start to knit that knowledge together into a more coherent and detailed picture of innovation across our education system?

## Toward better collective knowledge

Over the last year, the Christensen Institute has worked with a broad-reaching set of partner organizations, including state agencies, nonprofit organizations, foundations, and coalitions, to surface a diverse set of schools offering learning experiences designed with students at the center.<sup>3</sup> We've named the project the **Canopy**, as a way to envision both the individual schools—the trees—and the diversity of schools that are innovating—the forest.

Throughout the Canopy project, we have used a deliberately broad definition for the words “innovative” and “innovation” in relation to the work schools are doing. We define that work as making strides towards student-centered learning through personalization, new definitions of success, and/or equity for historically marginalized students. This framing opens up the lens for what constitutes innovation in order to surface a broad and diverse group of schools reimagining the student experience across a range of domains.

More than just another list of schools, this initial stage of the Canopy project is meant to be a proof of concept towards the goal of bridging knowledge silos. It shows how a process designed to advance collective knowledge—both in terms of where that knowledge comes from, and how it is structured—has the potential to help the field as a whole see a more complete picture of who's doing what.



# METHODOLOGY: BUILDING AN INDEX OF SCHOOL INNOVATION TRENDS

Figure 1. Our approach: Crowdsourcing diverse examples using a common tagging system





## Tags for school innovation

The Canopy project tests the potential for a shared method of structuring data on school design by using “tags,” or a consistent set of key words or phrases that can be applied to represent the approaches and practices in use by schools.<sup>4</sup> While tags will never provide a high-resolution view of what’s happening, they capture key design elements in each school’s model so that the dataset can be sorted, filtered, and analyzed, making it much more than just a list of schools.

The Canopy tagging system draws on commonly used terms and categories created over the years by a range of organizations working in school innovation. We began building the tagging system by compiling tags developed and in use by [EdSurge](#), [The Learning Accelerator](#), [Jobs for the Future](#), [Education Reimagined](#), [Next Generation Learning Challenges](#), and the Christensen Institute’s [Blended Learning Universe](#) directory. To focus on the goal of capturing elements of school design and to keep the number of tags manageable, in this stage we only included tags that reflect design inputs affecting students fairly directly. In some cases, existing tags were not design inputs, and therefore we excluded them.<sup>5</sup> In other cases, existing tags pointed to innovative designs that are more peripheral to the student experience, such as professional learning or procurement, which we also excluded.

While some existing tags represented concrete design choices, such as *students progress at own pace*, other tags indicated a broader approach comprised of many design choices, such as *competency education*.<sup>6</sup> Taking advantage of this observation, we built the Canopy tagging system to include two tiers of tags: a set of “general approaches” that describe broad domains of innovation (Figure 2), and a set of “specific practices” to indicate more detailed elements of a school’s design. In some cases, we did not find many existing practice tags associated with general approaches, like *designing for equity* and *social-emotional learning (SEL)*. For these and several other areas with unclear tactical components, we drew on existing frameworks, research, and interviews with experts to generate tags for the Canopy system that do not have precedents in other existing tagging systems.<sup>7</sup> The tagging system is still an early prototype and should continue to evolve.

One of the challenges related to using a tagging system to reflect school design is the potential gap between actual practice and the language used to describe practice. Some tags are more concrete and observable—for example, *multi-age classrooms* is both an observable phenomenon and a descriptive term rather than a buzzword. Other tags, like *restorative practices*, may be applied in very different ways depending on how the person applying the tag understands the term, and how the school is actually implementing a restorative approach. Analysis using tags should take into account this dynamic between language and practice.

See Appendix D for a list of specific practices, or visit the [Canopy website](#) and click the “Download the Full Dataset” button to view the tagging system in its entirety, including all definitions.

Figure 2. Canopy general approach tags

Tag name	Tag description
blended learning	Students learn both online and in-person, in which both learning environments are connected to provide an integrated learning experience.
competency/ mastery-based education	The school uses a systems model in which teaching and learning are designed to ensure students are becoming proficient by advancing on demonstrated mastery.
designing for equity	The school puts historically marginalized students at the center to improve supports and outcomes. Marginalized students include those with learning differences or low academic performance, and students in foster care or in the justice system.
experiential, work-based & place-based learning	Students learn through real-world experiences inside and outside the classroom (e.g. internships and apprenticeships, service projects, projects in the community, and career training).
flexible staffing & infrastructure	The school makes creative use of staffing, systems, and resources to support student-centered learning.
learner agency	Students have ownership over their learning by setting learning goals, initiating action toward those goals, and reflecting on their growth.
maker/design-centered learning	Students learn through the creative process of design, resulting in either physical or digital creations.
project-based learning (PBL)	Students learn through answering complex questions or solving for real-world problems. Also called problem-based learning or inquiry-based learning.
redefining measures of success	The school defines student success beyond traditional measures such as GPA, and assesses students along the expanded definition of success. (May include career readiness, social-emotional skills, purpose and agency, etc.)
social-emotional learning (SEL) & school culture	The school creates a culture supportive of students' social and emotional development (e.g. self-management, social awareness, relationship skills, etc).
universal design for learning	Educators optimize teaching and differentiate to effectively instruct a diverse group of students, regardless of whether students have an Individualized Education Program (IEP).
wraparound services & integrated student supports	Schools seek to remove barriers to student success by locating, partnering, coordinating, and helping students access comprehensive services that complement, and are aligned with, effective instruction.



# CANOPY FINDINGS AND ANALYSIS

The Canopy process resulted in 76 nominators identifying 235 schools, of which 173 schools (74%) completed a confirmation survey to validate or modify the data in the original nomination.<sup>8</sup>

The findings that follow reflect a number of trends that we gleaned from this initial dataset. Schools surfaced in the nomination and confirmation process serve a range of demographics, and are geographically distributed with a slight majority of schools in urban settings. Patterns emerged in the innovative approaches and practices in use by schools in different demographic contexts. Initial analysis also suggests compelling relationships between certain approaches, meaning some approaches were more likely to appear together in a single school.

Here's how to understand the data used in this analysis:

- We used the set of confirmed schools (173 total) to analyze trends in school design. Any analysis related to school tags only uses data from confirmed schools.<sup>9</sup>
- We merged data on demographics and school context from the set of public schools that had IDs from the National Center for Education Statistics (NCES). This included 213 total schools out of 235 that were nominated, and 157 out of the 173 that were confirmed. In some cases, schools with IDs did not have relevant demographic or contextual data available. Our analysis takes this into account.
- We used the entire set of nominated schools (235 total) to analyze distribution by state and overlap with other school lists and databases.

Given the small sample size of schools and the range of ways in which different tag terminology can be interpreted, trends in the data should not be interpreted as statements of fact. Several considerations should be kept in mind when interpreting this data:

- The dataset generated through the Canopy represents a limited sample size of 173 confirmed schools, and is not nationally representative from a statistical perspective.
- School tags were applied through a crowdsourcing process and reflect a combination of nominator and school perspectives on practice.
- Tags might reflect both the practice itself and the language used to describe a practice, and it is impossible to disentangle these two possibilities without deeper investigation.
- Demographic data used to make statements about poverty level and racial/ethnic makeup of the student body is limited.<sup>10</sup> For example, free and reduced-price lunch (FRL) eligibility is an imperfect proxy for poverty,<sup>11</sup> and data on race and ethnicity of the student body does not communicate to what extent student demographics reflect the demographics of districts and communities.

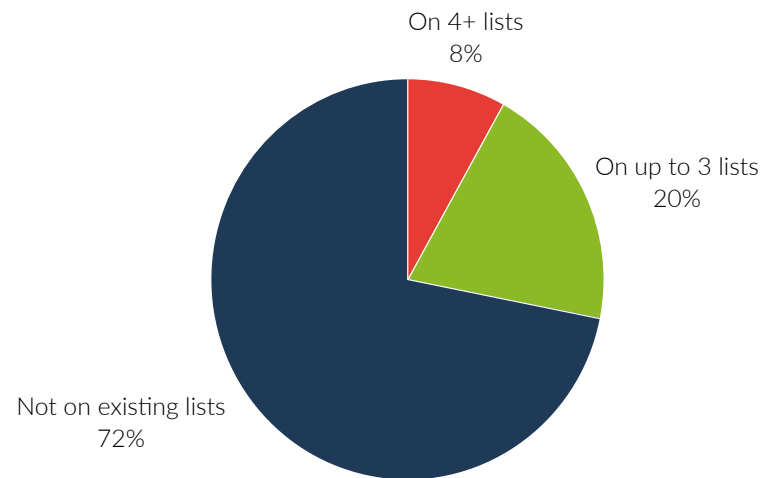
For these reasons, conclusions based on this data should be drawn cautiously. Not all patterns in the charts that follow should be understood to reflect reality, but when patterns do emerge, they present ripe opportunities to hypothesize about emerging trends and blind spots in school innovation. In spite of all limitations, this analysis—and the Canopy project more broadly—demonstrates tremendous potential for a more complete picture of trends and patterns from a diverse group of schools that are reimagining teaching and learning across the country.

More than 70% of Canopy schools aren't referenced at all in the sources where most leaders look to find schools that are innovating.

## Are schools surfaced in the Canopy “usual suspects”?

The Canopy nomination process was designed with the goal of surfacing examples of school innovation not typically discussed at the national level. Nominators were specifically prompted to consider sharing schools from a range of contexts, and the framing of the project emphasized the goal to surface under-the-radar schools.<sup>12</sup> To gauge the success of that approach, we compared the list of Canopy's 235 nominated schools to the most referenced databases and lists of innovative schools.<sup>13</sup> Compared with 11 other lists and databases, we found that 169 Canopy schools were new to these lists—meaning that over 70% of Canopy schools aren't referenced at all in the sources where most thought leaders look to find schools that are innovating.

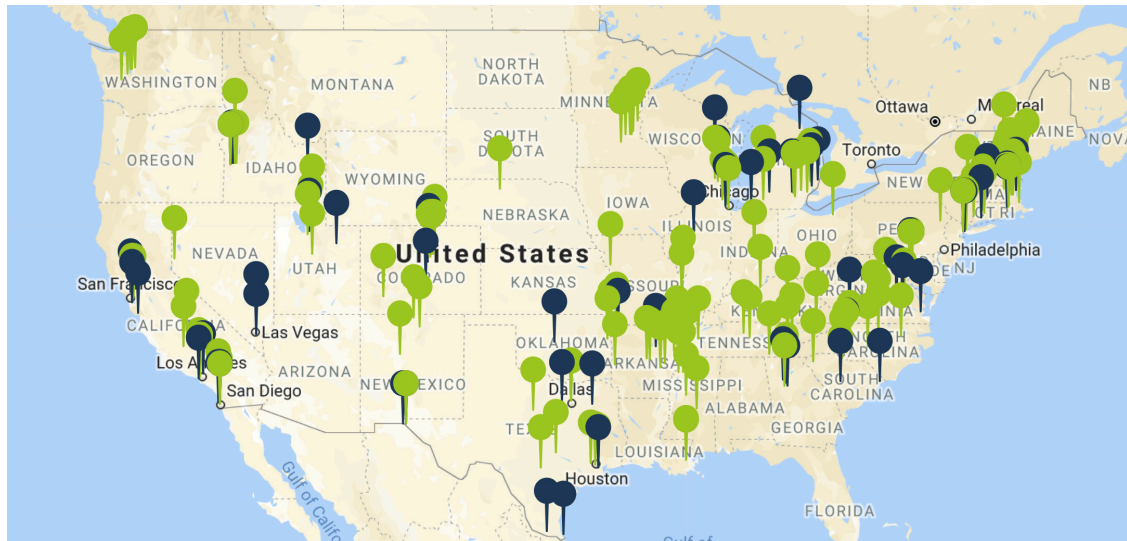
Figure 3. Canopy-nominated schools' overlap with other well-known lists and databases on school innovation



## Where are Canopy schools innovating, and for whom?

Schools in the Canopy represent a range of geographies, school types, and locales. Nominated schools are spread across 36 states. Two-thirds are public district schools. These patterns reflect nominator response rates, not actual rates of school innovation.<sup>14</sup>

Figure 4. Map of all nominated and confirmed schools surfaced in the Canopy project



An interactive version of this map is available at <https://www.christenseninstitute.org/canopy-project/>.

The Canopy process was intentionally designed to surface geographically diverse schools. Specifically, we solicited nominations from over 300 nominators in all 50 states. The results of that effort are mixed: a quarter of all invited nominators participated, and the resulting geographic spread of Canopy schools across the country is uneven, with density in some areas and not in others. Some of that density appears in states and regions that are well-known at the national level for their climate of school innovation, such as California, Colorado, and New York. However, schools also appear in many regions and states not typically cited for well-known examples of school innovation, such as in noncoastal Western, Southern, and Midwestern states. In some cases, high numbers of schools in a particular state reflect Canopy participation by state agencies, as was the case in Arkansas, Michigan, and Tennessee.<sup>15</sup>

Among confirmed schools, most are public district schools; about a third are public charters; just under 3% are private schools.<sup>16</sup> More than half are located in urban settings, and just over a quarter are rural, while 22% of schools are in suburban areas.



Figure 5. School types

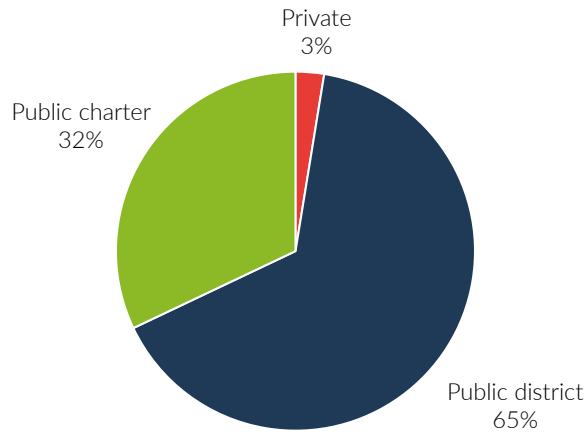


Figure 6. School locales

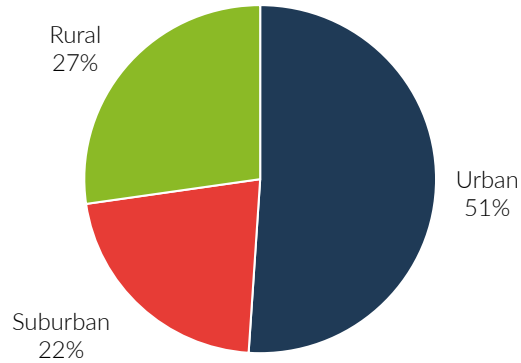


Figure 7. Distribution of schools serving different concentrations of students eligible for Free and Reduced-Price Lunch (FRL)

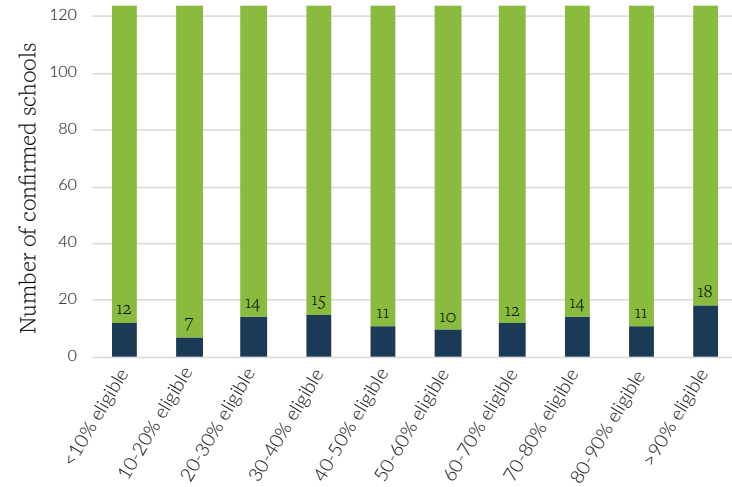
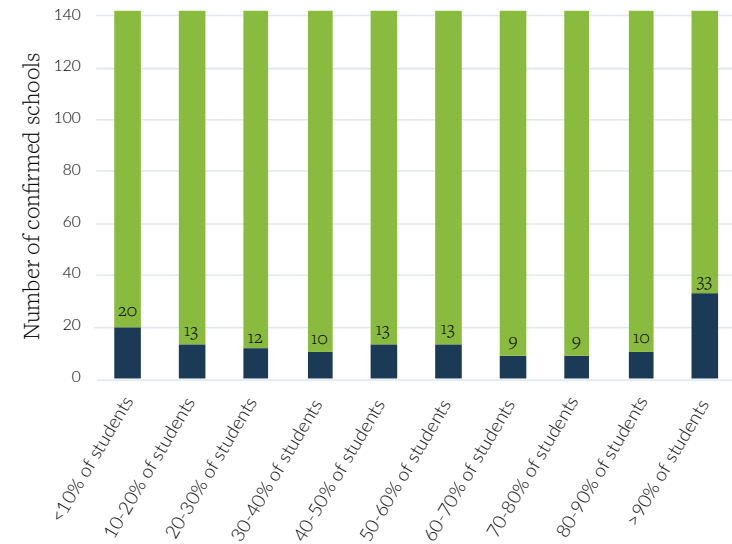


Figure 8. Distribution of schools serving different concentrations of students of color



Almost a quarter of Canopy schools serve over 90% students of color.

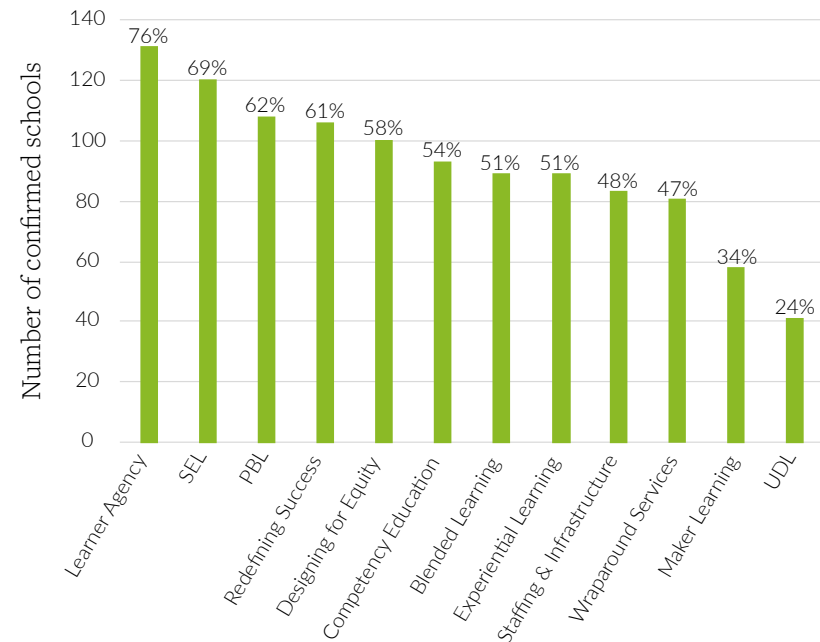
Schools in the sample serve a range of demographics in terms of poverty level and racial/ethnic diversity.<sup>17</sup> The data suggest a fairly even distribution of schools with different poverty levels, as measured by Free and Reduced-Price Lunch (FRL) eligibility rates. In terms of race and ethnicity, almost a quarter of the schools serve over 90% students of color. Just over half of schools serve student bodies made up of majority students of color while 14% of schools serve over 90% White students.

## What innovative approaches and designs are schools pursuing?

Many existing datasets on school innovation focus on particular instructional approaches such as blended learning or competency education, or particular philosophies such as learner-centered education or 21st-century skills. One of the goals of the Canopy was to capture data *across* these categories of practice or distinct philosophical camps by adopting a broad, inclusive common tagging system. Using common tags, in turn, makes it possible to start to analyze trends in school innovation in terms of both penetration and demographic distribution.

Out of the 12 “general approaches” tags, learner agency was far and away the most frequently used tag to describe schools’ models, followed closely by SEL. Maker learning and universal design for learning (UDL) were the least frequently used tags to describe schools.

Figure 9. General approaches indicated in Canopy schools



## How do innovative practices vary when it comes to school demographics?

Compared to tagging rates across the dataset of all confirmed schools, the frequency of particular tags varied significantly for schools in different contexts and circumstances. Figure 10 shows the percentage of schools in urban, suburban, and rural locales that were marked for each tag. Because the graph shows percentages (not number of schools), tagging rates can be compared across categories. Figures 11-14 follow the same format.

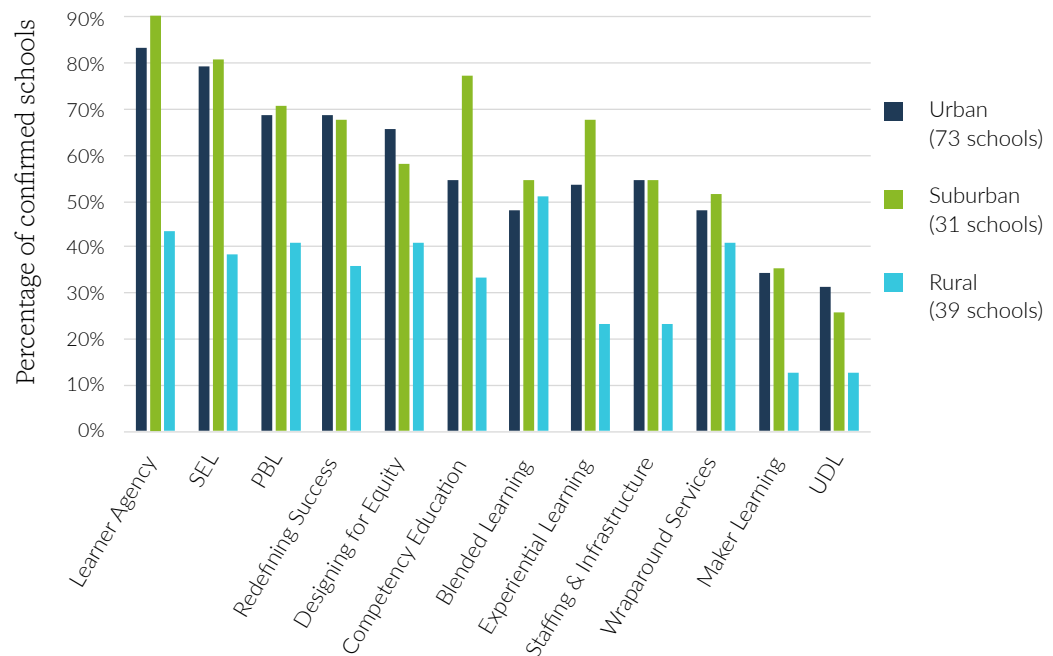
Rural schools were less frequently tagged for almost all general approaches, often significantly so.

**Rural schools were identified as pursuing innovative approaches at lower rates.**

Even though the nomination process surfaced more rural schools (39) than suburban ones (31), rural schools were less frequently tagged for almost all general approaches, often significantly so (see Figure 10). The exceptions to this were *blended learning* and *wraparound services*, where tagging rates for rural schools were closer to the rates for suburban and urban schools. Suburban schools were more commonly tagged than others for *competency education* and *experiential learning*. Apart from those two approaches, urban schools otherwise largely matched suburban school patterns, with *designing for equity* indicated more frequently for urban schools (66%) than suburban schools (58%).

To explore the practices common across schools with varying student demographics, we conducted an analysis of tagging rates by quartiles of schools.<sup>18</sup>

**Figure 10. Approaches indicated in schools in different geographic contexts**



NCES “City” codes were categorized as Urban; “Suburb” codes were categorized as Suburban; and “Rural” and “Town” codes were categorized as Rural.

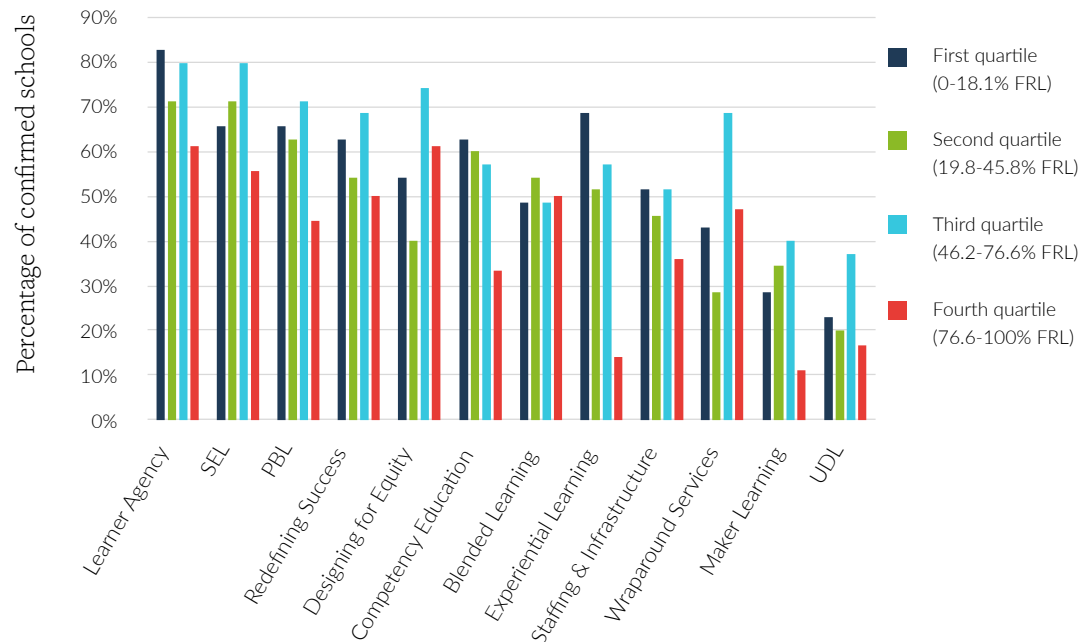
The highest poverty schools tended to be tagged less frequently for a number of innovative approaches.

**Schools with lower FRL eligibility rates were more often tagged competency education and experiential learning.**

In some cases, the analysis of approaches underway in schools with different FRL eligibility rates (see Figure 11) showed uneven tagging patterns: *redefining success* was more commonly tagged among schools in the first and third FRL quartiles but not the other two, and *SEL* rates increased across the first three FRL quartiles but dropped for the last quartile of highest-poverty schools.

However, several notable trends emerged: The fourth quartile of highest-poverty schools tended to be tagged less frequently for a number of innovative approaches, in particular, *competency education*, *learner agency*, *SEL*, *project-based learning (PBL)*, and *experiential learning*.<sup>19</sup> On the other hand, *designing for equity* and *wraparound services* were tagged at higher rates for the two quartiles representing higher-poverty schools.

**Figure 11. Approaches indicated in schools with different FRL eligibility rates**



Quartiles were created by sorting schools according to FRL eligibility, then dividing them into four groups of 35-36 schools each.

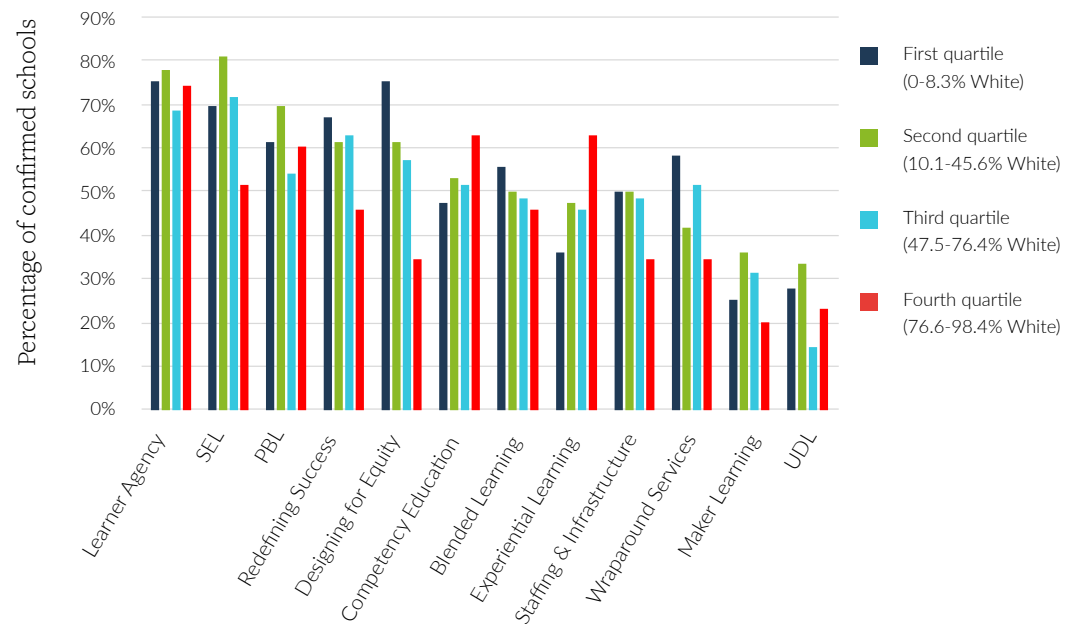
As the concentration of White students in a school increased, tagging rates for *experiential learning* showed notable increases.

Schools serving predominantly White students were tagged *experiential learning* more often, but *designing for equity* less often.

We also sought to uncover patterns in the approaches schools are pursuing depending on the racial/ethnic demographics they serve.<sup>20</sup> As the concentration of White students in a school increased, tagging rates for *designing for equity* steadily decreased (see Figure 12). Tagging rates for other approaches such as *redefining success*, *SEL*, and *wraparound services* also showed some decrease for the last quartile of schools serving over 76.6% White students.<sup>21</sup> Tagging rates for *experiential learning* showed notable increases, and less dramatic but still increasing rates for *competency education* as the proportion of White students increased.

The same analysis of schools serving different percentages of White students can also suggest patterns for the reverse scenario: how schools' approaches change as the proportion of students of color (non-White students) increases. From this perspective, the data shows that schools with higher proportions of students of color were less often tagged for *experiential learning* and *competency education*, but more often tagged for *designing for equity*, *redefining success*, and *wraparound services*.<sup>22</sup>

Figure 12. Approaches indicated in schools serving different percentages of White students



Quartiles were created by sorting schools according to % White students served, then dividing them into four groups of 35-36 schools each.

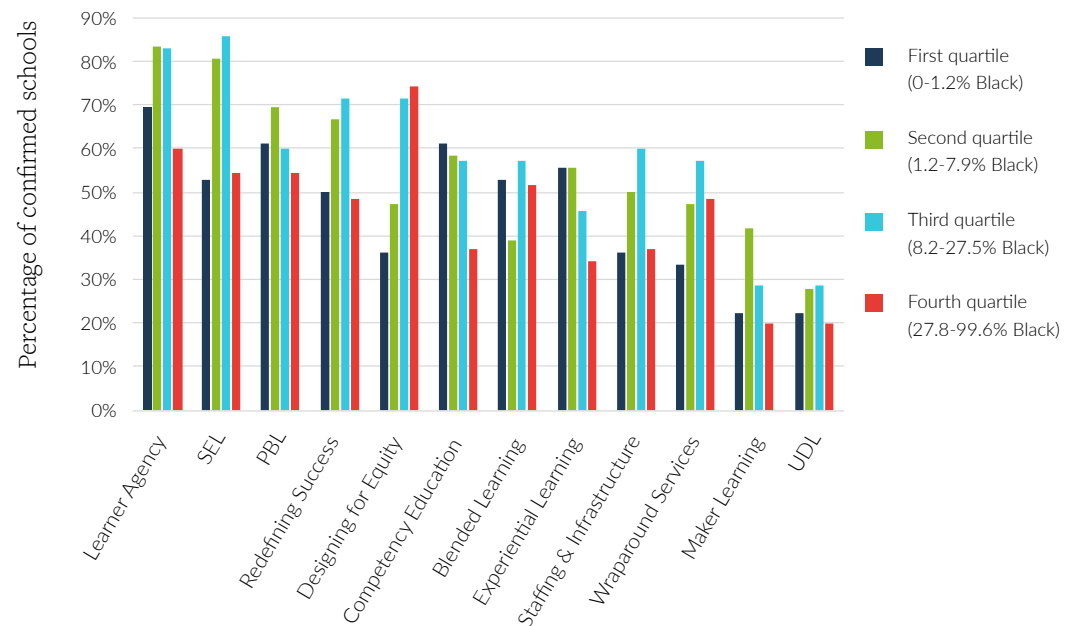


Overall, students with more than 8.2% Black students were much more frequently tagged for *designing for equity*.

Schools serving predominantly Black students were tagged *learner agency* and *SEL* less frequently.

An analysis of schools serving different percentages of Black students (see Figure 13) showed that overall, schools with more than 8.2% Black students (the third and fourth quartiles) were much more frequently tagged for *designing for equity*—a difference of 38% between the first and fourth quartiles of schools.<sup>23</sup> On the other hand, predominantly Black schools were tagged at lower rates for many other approaches compared to schools in other quartiles. Although *learner agency* and *SEL* were the two most frequently used tags across the dataset, both appeared at dramatically lower rates for schools serving over 27.8% Black students, as did tags for *competency education* and *flexible staffing & infrastructure*.

Figure 13. Approaches indicated in schools serving different percentages of Black students



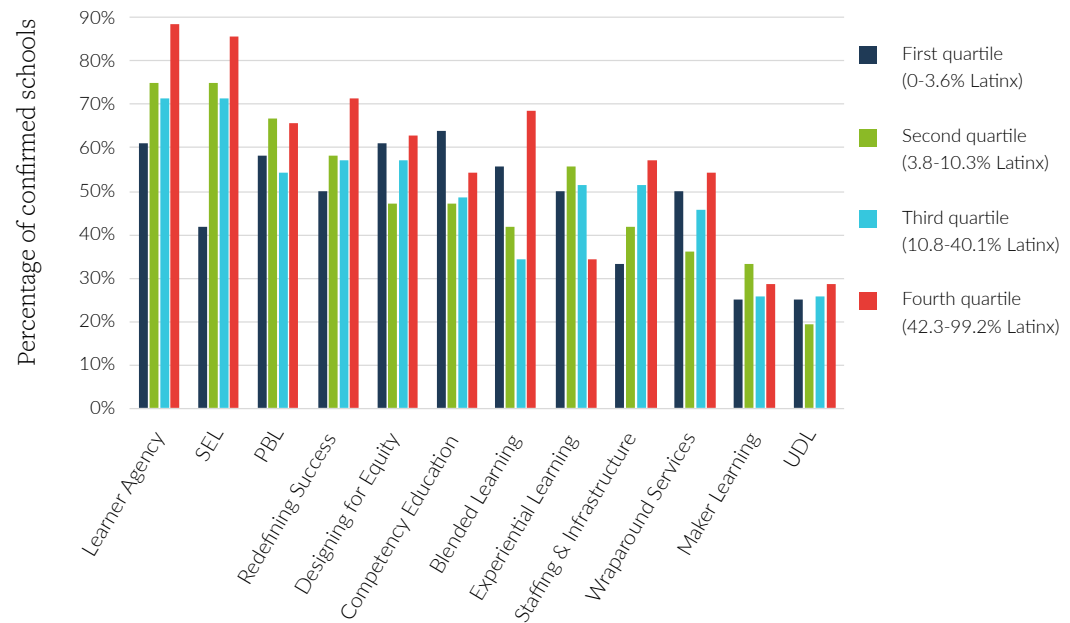
Quartiles were created by sorting schools according to % Black students served, then dividing them into four groups of 35-36 schools each.

The frequency of *learning agency*, *flexible staffing & infrastructure*, and *SEL* tags notably increased for schools with higher populations of Latinx students.

Schools with the highest percentages of Latinx students were tagged *learner agency* and *SEL* more often than other schools.

A slightly different set of tagging patterns emerged among schools serving Latinx students (see Figure 14). The frequency of *learner agency*, *flexible staffing & infrastructure*, and *SEL* tags notably increased for schools with higher populations of Latinx students. Other tags showed relatively stable rates or increasing trends, with the exception of *blended learning*, which showed some notable differences across quartiles, and *experiential learning*, which was notably less often tagged for schools serving over 42.3% Latinx students.<sup>24</sup>

Figure 14. Approaches indicated in schools serving different percentages of Latinx students



Quartiles were created by sorting schools according to % Latinx students served, then dividing them into four groups of 35-36 schools each.

## How are schools mixing and matching innovative practices?

In addition to revealing trends in the approaches used by schools serving different demographics, the Canopy data also exposes patterns in clusters of tags that appear together. In some cases, relationships among pairs of tags suggested how schools may be combining multiple approaches, and how approaches might complement each other.

Correlation scores show the relationship of one tag to another one (see Figure 15). Examining the strength of certain correlations allowed us to see how innovative approaches might relate to each other, both in the way they are implemented in schools and the way people apply these terms in the field.<sup>25</sup>

There were a number of strong relationships worth noting, such as those between *PBL* and *experiential learning*, as well as between *learner agency*, *SEL*, and *redefining success*. *Redefining success* was also fairly strongly correlated with *designing for equity*, but *designing for equity* did not have the same strong relationship to *learner agency* and *SEL*. *Competency education* had a strong relationship to *learner agency* and *PBL*, but a weaker relationship to *SEL* and *experiential learning*. *Blended learning* and *UDL* had fairly uniform and low correlation scores with the other approaches, with almost none of the scores for *blended learning* indicating statistical relationships.

These statistical calculations are helpful because of how they indicate relationships regardless of whether tags were frequently used. For example, although *wraparound services* was tagged infrequently compared to other tags (see Figure 9), it still had a fairly strong correlation to *designing for equity*.

Canopy nominators and schools also had the opportunity to identify the “specific practices” that make up school models (see Appendix D for a

complete list of these tags, or visit the [Canopy website](#) and click “Download the Full Dataset” for their descriptions). For the purposes of compiling a coherent tagging system and conducting our analysis, we associated each “specific practice” tag with a “general approach” tag. For example, we associated *culture of restorative practice* with *designing for equity*, and *student-led conferences* with *learner agency*.<sup>26</sup>

Several takeaways stood out from the most frequently cited specific practices (see Figure 16). First, the prevalence (or not) of general approach tags did not predictably align with the prevalence of their associated specific practice tags. For example, four of the top 15 practice tags are associated with *UDL*, despite *UDL* being the least frequently tagged general approach.

On the other hand, only one of the top 15 practice tags was categorized under the *learner agency* category, despite the *learner agency* tag having the highest frequency of all. Meanwhile other practice tags from the *learner agency* category appeared less frequently in the data, including *students progress at own pace* (51.4% of schools tagged), *individual learning paths* (54.9%), and *students access their own data* (57.2%).<sup>27</sup>

There were a number of strong correlations worth noting, such as those between *PBL* and *experiential learning*, as well as between *learner agency*, *SEL*, and *redefining success*.

Figure 15. Correlations among pairs of general approach tags

	Blended Learning	Competency Education	Designing for Equity	Staffing & Infrastructure	Learner Agency	Maker Learning	Redefining Success	SEL	UDL	Wraparound Services	PBL	Experiential Learning
Blended Learning	N/A	0.12	0.01	0.03	0.02	-0.05	-0.2	-0.07	0	-0.06	-0.04	-0.11
Competency Education	0.12	N/A	0.22	0.24	0.45	0.24	0.36	0.21	0.19	0.06	0.41	0.28
Designing for Equity	0.01	0.22	N/A	0.21	0.31	0.11	0.43	0.4	0.26	0.43	0.06	0.01
Staffing & Infrastructure	0.03	0.24	0.21	N/A	0.3	0.32	0.26	0.31	0.17	0.24	0.27	0.33
Learner Agency	0.02	0.45	0.31	0.3	N/A	0.26	0.46	0.56	0.19	0.18	0.34	0.23
Maker Learning	-0.05	0.24	0.11	0.32	0.26	N/A	0.21	0.26	0.18	0.09	0.35	0.4
Redefining Success	-0.2	0.36	0.43	0.26	0.46	0.21	N/A	0.5	0.28	0.29	0.31	0.27
SEL	-0.07	0.21	0.4	0.31	0.56	0.26	0.5	N/A	0.19	0.35	0.29	0.21
UDL	0	0.19	0.26	0.17	0.19	0.18	0.28	0.19	N/A	0.1	0.21	0.24
Wraparound Services	-0.06	0.06	0.43	0.24	0.18	0.09	0.29	0.35	0.1	N/A	0.03	-0.06
PBL	-0.04	0.41	0.06	0.27	0.34	0.35	0.31	0.29	0.21	0.03	N/A	0.51
Experiential Learning	-0.11	0.28	0.01	0.33	0.23	0.4	0.27	0.21	0.24	-0.06	0.51	N/A



Figure 16. Top 15 specific practice tags and their associated general approaches

Specific practice tag	Percent of schools tagged	Associated general approach tag
student-led goal setting	78.0%	learner agency
commitment to whole child or SEL in strategic plan	74.6%	SEL
multiple opportunities to demonstrate mastery	74.0%	competency education
rigorous coursework for all students	71.7%	designing for equity
real-world problem solving	68.8%	PBL/experiential learning/maker learning
commitment to equity in strategic plan	65.9%	designing for equity
interdisciplinary/multidisciplinary	64.7%	PBL/experiential learning/maker learning
hiring practices in support of student success	64.2%	SEL
measures for deeper learning & 21st-century skills	63.6%	redefining success
relevant and contextualized learning assignments	62.4%	UDL
access to information in multiple formats	61.8%	UDL
multiple ways to demonstrate mastery	61.8%	UDL
accommodations available to all students	60.1%	UDL
performance-based assessment	59.5%	competency education
supports for high-poverty and homeless students	59.5%	designing for equity

Additionally, the most frequently cited practice tags did not evenly represent all general approaches. None of the top 15 practice tags were associated with the *blended learning*, *flexible staffing & infrastructure*, or *wraparound services* tags.

Finally, analyzing related general approaches and specific practices together can illustrate the range of ways that innovative approaches may play out in schools. For example, Figure 17 shows that the *competency education* tag only appeared for about half of schools. Yet tagging rates for the discrete practices associated with *competency education* ranged widely from 39% to 74% of schools tagged for different specific practices. This is just one example of how describing a school using a general term (however well defined) may not predictably reflect the set of related practices that the school employs.

**Figure 17. Frequency of competency education tag and its associated specific practice tags**

Tag	Percent of schools tagged
<b>competency/mastery-based education</b>	<b>53.8%</b>
multiple opportunities to demonstrate mastery	74.0%
performance-based assessment	59.5%
grading policies focus on mastery	55.5%
competency framework	43.4%
advancement on mastery	39.9%
flexible assessment schedule	38.7%



# HYPOTHESES AND FUTURE RESEARCH

While these trends are not nationally representative, the data offers a glimpse into questions worthy of further investigation. As a starting point, here are six hypotheses suggested by the data that we think merit attention, both by education researchers and by organizations supporting school innovation more broadly.

**Hypothesis 1: Learner agency and SEL are widely seen as priorities, but school practices may lag behind a general commitment to these approaches—or they aren't being codified and captured coherently.**

Although schools identified the *learner agency* and *SEL* tags most frequently as components of their models (see Figure 9), practice tags related to these approaches were less common (see Figure 16). While it's possible some schools were expressing a commitment to the ideas behind these approaches without concerted implementation, the disconnect between these two approaches and the practices that make up those approaches is undoubtedly related, at least in part, to how the set of practices that support learner agency and SEL are not commonly understood or consistently defined. For example, we struggled to identify a comprehensive set of practice tags related to SEL because the concept is by definition a set of outcomes—yet schools must adopt certain practices to achieve those outcomes.<sup>28</sup> How might we work to further codify a constellation of practices that support learner agency and SEL, in order to better capture how school models are incorporating these approaches if they are indeed top priorities?<sup>29</sup>

**Hypothesis 2: Rural schools may be facing barriers to innovation or innovating in ways that don't reflect national trends, and may benefit from targeted support and investment.**

Rural schools were dramatically less likely to be tagged for innovative approaches across the board (see Figure 10). Rural schools' capacity for innovation may be more limited due to a number of factors, such as availability of funding or buy-in among school leaders and communities. Alternatively, rural schools could be tending to focus deeply on one or two areas, rather than pursuing a broad set of approaches. What targeted

How might we work to further codify a constellation of practices in order to better capture how school models are incorporating these approaches?

support might benefit rural schools trying to innovate? Alternatively, are there ways in which the current Canopy tagging system is failing to capture forms of innovation that are specific to rural contexts?

**Hypothesis 3: Students in schools serving predominantly Black populations may not be getting the same opportunities for learner agency and social-emotional learning.**

While learner agency and SEL were clearly priorities among the diversity of schools identified through the Canopy nomination process, the data shows a significant drop-off for those approaches in schools serving predominantly Black students (see Figure 13). If further investigation validates this hypothesis, it will confirm a disturbing trend in unequal access to experiences and opportunities that are increasingly seen as important for youth development and long-term success. At worst, this trend points to ways in which even innovative schools may be reflecting some of our education system's systemic failures when it comes to serving Black

students. At the same time, how might we better understand the ways that schools serving predominantly Black students are innovating in their particular circumstances? To what extent might the lower tagging rate for *learner agency* and *SEL* in these schools stem from differences in practice, versus differences in the language used to describe practice? Are there approaches underway in these schools that are uniquely designed to serve Black students' needs, but that the Canopy tagging system is not capturing?

**Hypothesis 4: Experiential learning and competency-based models may be facing barriers to scale in schools serving low-income students and students of color.**

The data shows higher tagging rates for *experiential learning* and *competency education* in schools in more suburban contexts, those with lower FRL rates, and those with mostly White student populations (see Figures 10, 11, and 12, respectively).<sup>30</sup> However, researchers and experts have argued that both experiential and competency-based models hold great potential for advancing equity.<sup>31</sup> Further research should investigate why schools working to transform the learning experience for higher-poverty students and students of color might be pursuing or adopting those models with less frequency. Are these schools purposefully opting against these approaches in the course of being culturally responsive to the priorities of their communities? If not, what are the barriers to scaling experiential learning and competency education in these contexts?

**Hypothesis 5: Efforts to redefine student success could be playing out differently depending on whether school models are designed to serve marginalized students.**

*Learner agency*, *SEL*, and *redefining success* all correlated with each other relatively strongly (see Figure 15). This triad of relationships makes a fair amount of sense: for example, SEL frameworks define success metrics beyond academic achievement, such as self-management and self-awareness skills that enable students to take on greater self-direction.<sup>32</sup>

And approaches emphasizing agency offer students more control to define their own learning goals and outcomes. However, our analysis shows that while *designing for equity* was also correlated with *redefining success*, it had a weaker relationship to *learner agency* and *SEL*. Could it be that schools focused on designing for equity define a different set of priorities and metrics around student success, less driven by a philosophy of agency or social-emotional development? Given that the *designing for equity* tag tended to appear more frequently in higher-poverty schools (see Figure 11) and those with higher Black populations (see Figure 13), the answer could have implications for which students are being exposed to what sorts of redefined outcomes.

**Hypothesis 6: Lower-poverty schools and those serving predominantly White students may not be attending to the needs of marginalized students as deliberately.**

The *designing for equity* tag appeared in the vast majority of schools serving predominantly Black students, as well as more often in higher-poverty schools (see Figures 13 and 11, respectively). Given that designing for equity is defined by putting the needs of historically marginalized students at the center, it makes sense for it to be a key strategy in those contexts. Of course, virtually all schools serve some number of students whose experiences and identities (including and beyond race) are historically marginalized. But *designing for equity* was dramatically less often tagged in predominantly White schools (see Figure 12), and somewhat less often in lower-poverty schools. Are these schools at risk of failing to meet the needs of marginalized students who may be in the minority? To what extent is designing for equity perceived as an approach only relevant to predominantly Black schools, when it could be equally relevant in many school communities? At the same time, if we could better understand the practices and design choices involved in designing for equity, would we see some of these more specific practices implemented among schools in a wider variety of contexts?



## CONCLUSION: AN OPPORTUNITY TO GENERATE BETTER FIELD-WIDE INNOVATION DATA

We began this report by identifying the fragmented and siloed state of knowledge about schools reimagining the learning experience for students. The Canopy project starts to address some of these silos by rethinking both where to source information about school innovation, as well as how to structure data, to improve collective knowledge.

The result by no means paints the whole picture of innovations afoot, but it successfully surfaces diverse examples that can be compared and analyzed side by side, with a wide range of players contributing from different corners of the country. The hypotheses and questions coming out of this report point to possible trends and blind spots that underscore the importance of collective access to broad-reaching school innovation data. Insights like these shed light on the diversity of school designs by showing which approaches are taking off—or not—in which circumstances.

Our analysis has focused on highlighting major trends, but the dataset is rich with opportunities for deeper insights. We encourage researchers to conduct their own analysis on the data, and invite other users to search the dataset (which can be downloaded via the [Canopy website](#)) to discover schools pursuing student-centered learning across a variety of geographies.

Going forward, we believe there are opportunities to improve nominator participation rates to expand the number of states represented, further

develop the tagging system as a tool across many organizations, and dig deeper into the hypotheses through additional research both within and beyond Canopy data. At the same time, the Canopy's effort to crowdsource information doesn't single-handedly solve the knowledge silos problem. A solution that more fully fills out the landscape of school innovation should build on existing repositories of knowledge that many organizations already manage and share through databases, lists, and networks.

To make this a reality, the field needs common data standards, both in terms of capturing elements of school design and sharing that data. These standards are critical for building more complete and representative datasets so that we can continue to refine and test hypotheses about trends, patterns, and shortcomings in the school innovation space. In short, shared knowledge is not always collective knowledge if it cannot be combined across sources and build on itself over time. Working to standardize how we capture and share school innovation data can help the field move towards better collective knowledge.

We hope that this report is viewed as a rallying cry to break down the knowledge silos that currently impede the growth of innovation, creating stronger conditions for student-centered learning to seed and flourish nationwide.

*Readers of this report who are actively building and managing data on school innovation are invited to learn about our recommendations for better collective solutions to data fragmentation, which will be available in October 2019. Download the full dataset via the [Canopy website](#) to receive an email notification once the recommendations are released.*

We encourage researchers to conduct their own analysis on the data, and invite users to search the dataset to discover schools pursuing student-centered learning.

# APPENDICES

## Appendix A: Advisory groups

The following people acted as close advisors in the design of the Canopy project:

- Alex Sigillo, EdSurge
- Beth Rabbitt & Stephen Pham, The Learning Accelerator
- Bi Vuong, independent consultant
- Cynthia Leck & Jenn Charlot, Transcend
- Jim Campbell, AEM Corp.
- Kimberly Smith, Digital Promise
- Nancy Copa, AEM Corp.

The following people helped us identify and test use cases for the Canopy data:

- Andy Calkins, Next Generation Learning Challenges
- Angela DeBarger, William & Flora Hewlett Foundation
- Ashley Griffin, The Education Trust
- Britt Neuhaus, Overdeck Family Foundation
- Caroline Hill, 228 Accelerator
- Cheryl Niehaus, Michael & Susan Dell Foundation
- Elina Alayeva, Springpoint Schools
- Eric Toshalis, KnowledgeWorks
- Eve Goldberg, Nellie Mae Education Foundation
- Jason Atwood, NewSchools Venture Fund
- Jenny Curtin, Barr Foundation
- John Pane, RAND
- Katrina Stevens, Chan-Zuckerberg Initiative
- Melissa Gedney, Harvard Graduate School of Education (formerly Digital Promise)
- Sally Kingston, PBLWorks
- Saskia Levy Thompson, Carnegie Corporation of New York
- Tanji Reed Marshall, The Education Trust
- Ulcca Joshi Hansen, Education Reimagined

## Appendix B: Crowdsourcing methodology

This appendix builds on the summary of our approach (see Figure 1) by providing more detail on the crowdsourcing methodology used to build Canopy data. The process involved three phases to build data on school innovation from diverse sources. In order to test and learn from this process, we used a discovery-driven planning methodology to systematically document and test assumptions. Discovery-driven planning is an exercise in which a team identifies all of its assumptions about a project at the outset of the work. Each assumption is assigned a risk level and confidence level to help determine the level of priority to test that assumption. Once the assumptions are ranked most to least important, a team can begin designing a series of tests to confirm the validity of each assumption. This process allows a team to change course as needed during the project. It also allows a team to reflect accurately upon the degree of success of different components of the project.

### **Phase 1: Develop a diverse group of organizations working in school innovation in every state.**

The Institute identified a diverse group of organizations working in school innovation and design in every state, including researchers, funders, school support organizations, and state education departments. We developed this list of 300 nominators starting with the Institute's network, conducting a snowball survey across the Institute's network to discover other organizations that our colleagues were learning from. The snowball survey was conducted during a convening of colleagues representing about 25 organizations and funders in December 2017. The survey asked each of those attendees to provide names of people to whom they often turn to discover innovative schools. This process alone increased the list of potential Canopy nominators to 82 contacts. From there, the remainder of the nominator list, including agencies from all 50 states, was created through desk research. The nominators represented both regionally- and nationally-focused organizations who have knowledge of school practice, but are not schools or districts themselves.

**Phase 2: Invite organizations to nominate schools on their radar making strides towards student-centered learning.**

Using an online survey, we invited organizations to nominate up to five schools on their radar making strides towards student-centered learning. The framing we shared about the Canopy made clear that the process was meant to surface a more diverse set of schools that are innovating. Nominators were asked to consider the following factors in their nominations: The school is making coherent design choices with leadership support; The school is making strides towards student-centered learning through personalization, new definitions of success, and/or equity for historically marginalized students; You have direct understanding of the school's model; The five schools you nominate represent diverse contexts and approaches. We also encouraged nominators to “go with your gut” if the criteria did not easily help them identify five school nominations.

Nominators were then asked to tag the schools by the innovative approaches and practices that make up each school's model. All nominators were asked to identify “general approaches” tags for schools, but could optionally select “specific practices” tags as well, depending on their level of familiarity with the school. Tags were presented in a particular order, but no tag was considered a prerequisite for another. There was no limit on the number of tags that nominators could select.

**Phase 3: Confirm nominations with schools to verify details submitted in the nomination process and add a layer of detail about the school model.**

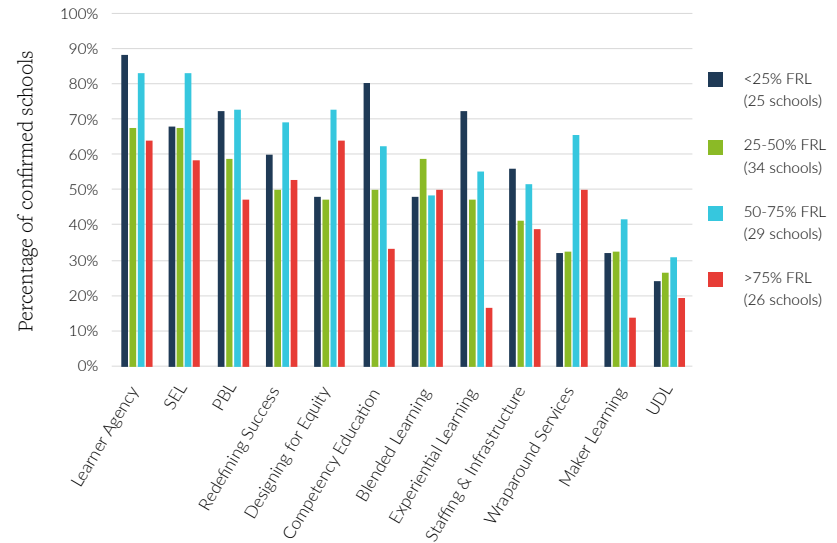
After nominations had been completed and processed, we sent emails to school leaders at all schools that were nominated, requesting that they use an online survey to confirm or modify the information submitted in the nomination process. In cases where nominators had not identified specific practice tags for schools, school leaders were asked to add tags themselves. In the event that nominators and school leaders tagged approaches differently, our team deferred to the school leader's tags as the authoritative set of tags to be shared in the public data. The vast majority of school leaders confirmed the tags submitted by their nominators with few or no modifications.

## Appendix C: Additional figures

Supplemental Figure 1. Top 10 states by number of Canopy nominations

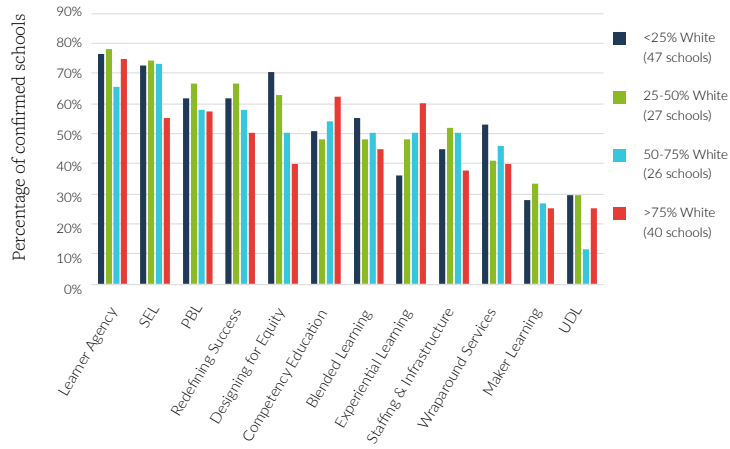
State	Number of nominations
California	24
Colorado	18
Texas	15
Michigan	13
Arkansas, District of Columbia, New York	11
New Hampshire	10
North Carolina	9
Tennessee	8

Supplemental Figure 2. Approaches indicated in schools with different FRL eligibility rates (alternate analysis)



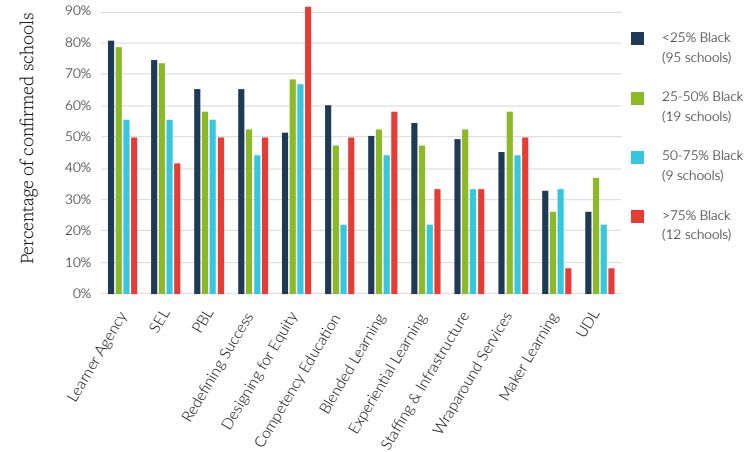
Groupings were created using equal percentage ranges of FRL rates, meaning they contain unequal numbers of schools.

Supplemental Figure 3. Approaches indicated in schools with different percentages of White students (alternate analysis)



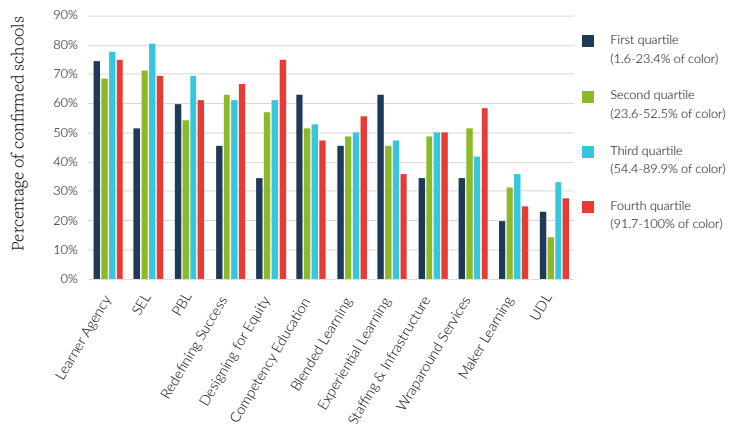
Groupings were created using equal percentage ranges of White students, meaning they contain unequal numbers of schools.

Supplemental Figure 5. Approaches indicated in schools with different percentages of Black students (alternate analysis)



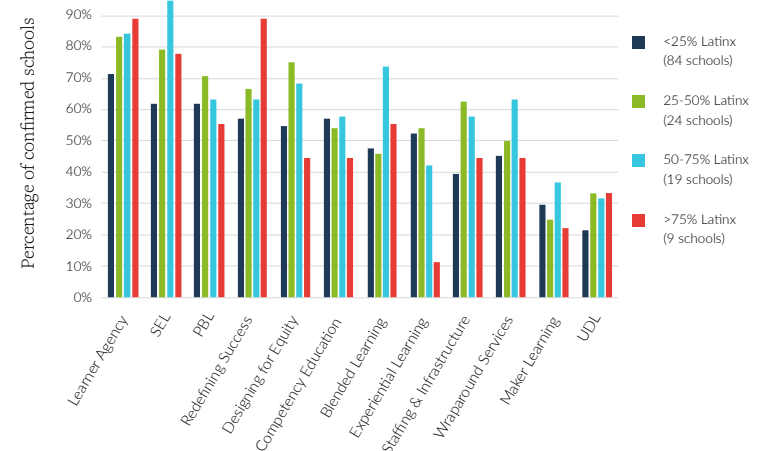
Groupings were created using equal percentage ranges of Black students, meaning they contain unequal numbers of schools.

Supplemental Figure 4. Approaches indicated in schools with different percentages of students of color



Quartiles were created by sorting schools according to % students of color served, then dividing them into four groups of 35-36 schools each.

Supplemental Figure 6. Approaches indicated in schools with different percentages of Latinx students (alternate analysis)



Groupings were created using equal percentage ranges of Latinx students, meaning they contain unequal numbers of schools.

## Appendix D: Specific practice tags

The lists that follow show how specific practice tags were associated with general approach tags in our analysis. This is not the only possible association between specific practices and general approaches. [Download the Canopy dataset](#) to see full descriptions for all tags.

Specific practice tags associated with *blended learning*

- station rotation
- flipped classroom
- lab rotation
- individual rotation
- flex model
- à la carte model
- enriched virtual model

Specific practice tags associated with *competency/mastery-based education*

- multiple opportunities to demonstrate mastery
- advancement on mastery
- performance based assessment
- grading policies focus on mastery
- flexible assessment schedule
- competency framework

Specific practice tags associated with *designing for equity*

- commitment to equity in strategic plan
- reallocation of resources for those most in need
- design at the margins
- culture of restorative practice
- practice of culturally relevant pedagogy
- rigorous coursework for all students
- elimination of tracked classes
- supports for students off-track for graduation
- supports for high-poverty and homeless students
- supports for immigrants and refugees
- supports for English language learners

Specific practice tags associated with *flexible staffing & infrastructure*

- flexible staffing & alternative teaching roles
- flexible facilities & classroom design
- flexible schedule
- real time data use
- high quality instructional materials
- open educational resources
- multi-age classrooms
- take home devices
- integrated data from multiple technologies

Specific practice tags associated with *learner agency*

- student-led goal setting
- students progress at own pace
- individual learning paths
- individual learner profiles
- student-led conferences
- students access their own data

Specific practice tags associated with *project-based learning; experiential, work-based & place-based learning; and maker/design-centered learning*

- projects as primary method of learning
- students develop projects
- interdisciplinary/multidisciplinary
- real-world problem solving
- student exhibitions
- portfolios and evidence of student work
- career training and preparation
- credit for learning outside the classroom
- service learning
- foundation in local knowledge, heritage, culture
- connecting local and global
- design thinking process
- community and business partnerships
- makerspace

Specific practice tags associated with *redefining measures of success*

- measures for college readiness
- measures for career readiness
- measures for deeper learning & 21st century skills
- measures for purpose and agency
- measures for social-emotional skills
- measures for school climate

Specific practice tags associated with social-emotional learning (SEL) & school culture

- commitment to whole child or SEL in strategic plan
- stand-alone SEL curriculum
- SEL integrated across academics
- dialogue circles
- student advisories
- hiring practices in support of student success

Specific practice tags associated with universal design for learning (UDL)

- relevant and contextualized learning assignments
- access to information in multiple formats
- multiple ways to demonstrate mastery
- accommodations available to all students
- data analytics drive instruction
- adaptive content

Specific practice tags associated with wraparound services & integrated student supports

- 1:1 mentoring
- mental health services
- physical health services
- family and community support services
- expanded open hours

# NOTES

1. On two different occasions, the Christensen Institute conducted informal surveys to learn about how funders, researchers, and intermediaries discover examples of school innovation. The most popular method cited in both cases was word-of-mouth, either by asking a single person or by putting a call out to a network to source examples.
2. Examples of these efforts include The Learning Accelerator's *Practices* website, Springpoint's and Getting Smart's lists of schools to visit, the Christensen Institute's *Blended Learning Universe*, and more.
3. Advisory members are listed in Appendix A, and a full list of Canopy nominating organizations can be found at <https://www.christenseninstitute.org/the-canopy>. Prior to this year's project activities in 2018-2019, the Christensen Institute partnered with EdSurge and TNTP on a planning grant funded by Overdeck Family Foundation.
4. There was no limit on the number of tags nominators and schools could select. For more detail on the methodology of the Canopy crowdsourcing process, see Appendix B.
5. We decided to include several tags that readers may associate with outcomes, such as *learner agency* and *social-emotional learning*. However, achieving the student outcomes associated with these concepts requires adopting an approach or set of practices driving toward them, and the tags indicate these approaches rather than their results.
6. The full name for this tag is *competency/mastery-based education*. Full names for each general approach tag are presented in Figure 2. In many cases throughout this report, we use a shorthand version of these tag names for readability.
7. We also added two general approach tags not present in existing tagging systems: *maker/design-centered learning* and *redefining measures of success*. *Makerspace* was an existing tag, but we determined that the overall approach of maker learning was broad enough for a general approach tag. (For an example of this approach, see [makered.org](http://makered.org).) *Redefining student success outcomes* is an approach widely discussed in the field, so we added it as a tag, along with a set of practice tags that represent the kinds of measures schools use.
8. In total, 76 nominators submitted 278 school nominations. Some of those nominations were for the same school, so in total, nominators identified 235 unique schools. For schools nominated multiple times, we aggregated their nomination data. Qualitative responses were combined to display all nominators' responses. Tags were aggregated so that if any nominator marked a tag, it was marked in the final nomination record.
9. Readers who have downloaded the full Canopy dataset will note that unconfirmed schools (those that were nominated but did not respond to the school confirmation survey) have tag data associated with them as well. We have included this data in the downloadable dataset in the interest of full transparency, but have excluded it from any analysis related to tags because it reflects only the perspective of the school's nominator and has not been reviewed by the school.
10. All demographic data merged with the Canopy was pulled from the NCES school database from school year 2016-17.
11. Along with many in the field, we recognize the limited value of free and reduced-price lunch (FRL) eligibility rates as accurate proxies for poverty level in schools. However, FRL rates are widely available, and nationally comparable, as opposed to state-specific measures for poverty or high-needs.
12. A random subset of nominators were specifically asked in the survey to nominate schools deserving more attention than they are currently getting. For more detail on the nomination process, see Appendix B.
13. Schools from the following databases and lists were included in the analysis: Christensen Institute's [Blended Learning Universe](#), schools mentioned in the [CompetencyWorks Wiki](#), Education Evolving's [Teacher-Powered Schools Inventory](#), [Education Reimagined's map](#), Getting Smart's lists of schools to visit (as of 2018), Jobs for the Future's [Students @ the Center Hub map](#), Next Generation Learning Challenges' [grantees](#),



Springpoint lists of schools to visit (2018, 2017), The Learning Accelerator's [Practices](#), P21's [Exemplar Schools](#) (as of 2018), and Innovative Schools to Watch list (by Overdeck and FSG; not publicly available).

14. The Canopy process did not set out to capture a nationally representative sample. When states or regions have no school nominations, it does not mean that schools are failing to innovate. Instead, schools surfaced in the Canopy reflect the design and uneven success of the nomination process itself. The limit of five school nominations per organization, varying regional expertise, and uneven participation among state agencies could all have contributed to some geographies being less represented.

15. See Appendix C, Supplemental Figure 1 for a table of top 10 states by number of Canopy nominations.

16. The public data available does not indicate whether charter schools are district charters. The Canopy dataset was not designed to produce a nationally representative sample, as seen by how public charter schools are overrepresented in the Canopy dataset at 30%, compared to 7% of all public schools nationwide that are charters (as reported by the NCES' "[Public Charter School Enrollment](#)" indicator). On the other hand, the number of charter schools that surface in national conversations as innovation bright spots can send the message that innovation only happens in charter schools. The Canopy dataset clearly shows that plenty of public district schools are innovating.

17. While Figures 7 and 8 draw on data from confirmed schools only, demographic data from all nominated schools with public data available does not vary dramatically from what is shown in these charts. Because trend analysis using tagging data only draws on schools that confirmed their tags, we have chosen to display demographic charts drawing on that same sample of schools for consistency.

18. To create Figures 11-14, we divided schools into quartiles with equal numbers of schools (35-36) in each quartile group. We also conducted a second type of analysis by forming quartile groups differently in order to confirm or challenge the patterns presented in Figures 11-14. Many of the patterns noted in the report are confirmed by this alternate analysis, which can be found in Appendix C, Supplemental Figures 2-6.

19. A different method of dividing schools by quartile (see Appendix C, Supplemental Figure 2) shows even more dramatic divergence between *competency education* and *experiential learning* tagging rates for the lowest-poverty and highest-poverty schools.

20. NCES data provides information on number of students in a school across the following racial/ethnic categories: Asian, American Indian or Alaska Native, Black or African American, Hispanic, Native Hawaiian or Other Pacific Islander, White, or Two or More Races. We have chosen to only report our analysis of schools' general approaches given variations in Black, Latinx (Hispanic), and White student populations. Other racial/ethnic categories are not included because: 1) the small number of these students in schools makes it difficult to draw reasoned conclusions given the sample size, and 2) analysis of these groups did not show significant patterns.

21. A different analysis based on quartiles (see Appendix C, Supplemental Figure 3) shows less dramatic decreases in SEL tagging rates.

22. See Appendix C, Supplemental Figure 4 for a graph showing tagging rates for schools serving different percentages of non-White students.

23. Note that because the chart shows equal quartiles (35-36 schools each), the fourth quartile covers a broad range of populations, from 27.8%-99.6% Black students.

24. In a different method of analysis where we created subsets of the data for schools marked with each tag and then looked for variations in the average number of students in each racial/ethnic category, we confirmed some of the findings about tagging patterns for schools serving different racial/ethnic demographics.

25. A correlation score of zero means that there is no pattern to how two variables appear together—it is totally random from a statistical perspective. A score of 1 means that the two variables always occur together, whereas a score of -1 means that the two variables never occur together. In Figure 15, a correlation score of .3, for example, means that the two tags are more likely to appear together than if the data were randomized; that same statement would be stronger for a correlation score of .5. The correlations in Figure 15 were calculated using Pearson's  $p$ .

26. Many of the specific practices (if not most) have relevance across multiple approaches. For example, we categorized *multiple ways to demonstrate mastery* under UDL, but it is also a practice common in some competency- and mastery-based education models.

27. As has been noted before, assigning each practice tag to a single category is artificial in the sense that a given practice can be supportive of multiple approaches (and approaches require a great many more practices than their categories currently reflect). However, for the purposes of this initial analysis, we attempted to organize practices by the category that seemed most salient. Future iterations of the Canopy tagging system should be continually improved and revised.

28. This leading SEL framework demonstrates how social-emotional learning is defined in terms of outcomes: “Core SEL Competencies,” Collaborative for Academic, Social and Emotional Learning (CASEL), 2017, <https://casel.org/core-competencies/>.

29. While *designing for equity* was less frequently tagged for schools, it is worth noting that most nominators indicated in their survey responses that it is a major area of focus for their organizations. Likewise, equity is a priority for education funders. However, practice tags related to equity are among those that have least common definitions, and would also benefit from further development.

30. One important factor to note when interpreting this data is a relatively high concentration of schools with competency- or mastery-based models in New England, where policies are more encouraging of these models, and also in Michigan, where iNACOL [judges](#) state policy to be “developing.” These concentrations should encourage us to note where the geographic and demographic contexts in these regions may be influencing the Canopy results shown here.

31. See Chris Sturgis and Katherine Casey, “Designing for equity: Leveraging competency-based education to ensure all students succeed,” iNACOL, April 2018, <https://www.inacol.org/resource/designing-equity-leveraging-competency-based-education-ensure-students-succeed/>; David Zyngier, “How experiential learning in an informal setting promotes class equity and social and economic justice for children from ‘communities at promise’: An Australian perspective,” *International Review of Education* 63 no.1 (February 2017): 9-28, <https://link.springer.com/article/10.1007/s11159-017-9621-x>; and “Experiential education narrows gap between low- and high-income students,” Educational Research Newsletter 19 no. 8 (November 2006), <https://www.ernweb.com/educational-research-articles/experiential-education-narrows-gapbetween-low-and-high-income-students/>.

32. See “Core SEL Competencies.”

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## About the Institute

The Clayton Christensen Institute for Disruptive Innovation is a nonprofit, nonpartisan think tank dedicated to improving the world through Disruptive Innovation. Founded on the theories of Harvard professor Clayton M. Christensen, the Institute offers a unique framework for understanding many of society's most pressing problems. Its mission is ambitious but clear: work to shape and elevate the conversation surrounding these issues through rigorous research and public outreach.

## About the author



Chelsea Waite is a research fellow at the Institute focusing on blended and personalized learning in K-12 education, where she analyzes how innovation theory can inform the design of new instructional models. This research includes tracking the evolution of blended learning and the opportunities it affords for many kinds of instructional innovation. As part of this role, Chelsea is leading an effort to build better collective knowledge about school innovation..

