

K-12 Computer Science Education State Reports

2017

About the Reports

The following reports summarize the status of computer science (CS) education for 43 U.S. states with sufficient responses. Data are from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals. Topics include perceptions, opportunities, support, and infrastructure. The reports also offer recommendations to broaden access to CS learning for each state.

These data are from a multi-year Google-Gallup study of U.S. students, parents, teachers, principals, and superintendents.

Learn more at g.co/cseduresearch.

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Methodology



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/wzALQK
All reports: g.co/cseduresearch

Alabama principals' perceptions of CS are fairly positive. They consider it important and anticipate higher growth. Principals also report greater demand and support for CS among students, parents, staff, and their school boards. However, their CS offerings are less likely to include programming/coding and Advanced Placement CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards in progress

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Alabama.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 90% of Alabama principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 65% of Alabama principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 62% of Alabama principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 57% of Alabama principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Alabama.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 10% of Alabama principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Alabama, with 53% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (54%), **insufficient budget for a CS teacher** (48%), and **lack of teachers trained in CS** (43%) are the greatest barriers to offering CS for Alabama principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Prioritize funding** to meet the demand for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 249 Alabama K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	AL	US
Image of CS careers (average % positive)	88	85
People who do CS make things that help improve lives. (% agree)	87	82
CS can be used in a lot of different types of jobs. (% agree)	90	88
Value of CS in schools (average % positive)	76	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	81	71
Most students should be required to take a computer science course. (% agree)	65	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	69	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	AL	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	62	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	95	95
...AP courses	14	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	46	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	67	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	50	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	53	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	53	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	57	53

School Infrastructure	AL	US
Demand for CS (average % positive)	14	11
Demand for CS education among parents in your school is (%)		
...High	10	8
Demand for CS education among students in your school is (%)		
...High	18	15
Support for CS (average % positive)	49	36
CS education is currently a top priority for my school. (% agree)	35	25
My school board believes CS education is important to offer in our schools. (% agree)	53	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	60	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	54	48
...There is not enough money to train or hire a teacher.	48	48
...There are no teachers available at my school with the necessary skills to teach computer science.	43	50
...We do not have sufficient budget to purchase the necessary computer software.	39	36
...We do not have sufficient budget to purchase the necessary computer equipment.	37	37
...There is not enough demand from students.	34	34
...There is not enough demand from parents.	34	35
...We do not have the necessary computer equipment.	30	29
...We do not have the necessary computer software.	30	35
...There are too many other courses that students have to take in order to prepare for college.	19	23
...There is not enough classroom space.	12	18
...Internet connectivity is poor at my school.	10	10
...There are no teachers available to hire with the necessary skills to teach computer science.	7	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	25	15
...There were too many other courses that students have to take in order to prepare for college.	18	18
...There was not enough money to purchase the necessary computer equipment.	17	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/cHVT8h
All reports: g.co/cseduresearch

Arizona principals value CS less than other subjects, compared to the average U.S. principal. They are less likely to offer various CS opportunities, to anticipate growth in CS, or see support for CS from their school staff and school boards. They indicate barriers like a lack of qualified CS teachers, inadequate budget and technology, and competing curriculum requirements.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Arizona.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 86% of Arizona principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 58% of Arizona principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 49% of Arizona principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 48% of Arizona principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Arizona.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 8% of Arizona principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Arizona, with 34% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (60%), **insufficient budget for a CS teacher** (55%), **lack of teachers trained in CS** (51%), and **insufficient budget for technology** (47%) are the greatest barriers to offering CS for Arizona principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 453 Arizona K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	AZ	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	84	82
CS can be used in a lot of different types of jobs. (% agree)	86	88
Value of CS in schools (average % positive)	70	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	72	71
Most students should be required to take a computer science course. (% agree)	58	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	63	67
...other elective courses like art, music, and foreign languages?	87	90
Opportunities & Participation	AZ	US
CS offerings (average % positive)	50	55
About how many different types of CS courses are available in your school this year? (% 1+)	49	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	94	95
...AP courses	19	18
...Other	32	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	41	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	67	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	56	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	47	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	56	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	48	53

School Infrastructure	AZ	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	8	8
Demand for CS education among students in your school is (%)		
...High	12	15
Support for CS (average % positive)	30	36
CS education is currently a top priority for my school. (% agree)	21	25
My school board believes CS education is important to offer in our schools. (% agree)	34	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	37	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	60	48
...There is not enough money to train or hire a teacher.	55	48
...There are no teachers available at my school with the necessary skills to teach computer science.	51	50
...We do not have sufficient budget to purchase the necessary computer equipment.	47	37
...We do not have sufficient budget to purchase the necessary computer software.	46	36
...We do not have the necessary computer software.	44	35
...We do not have the necessary computer equipment.	36	29
...There is not enough demand from parents.	35	35
...There is not enough demand from students.	31	34
... There are too many other courses that students have to take in order to prepare for college.	24	23
...There is not enough classroom space.	19	18
...There are no teachers available to hire with the necessary skills to teach computer science.	19	11
...Internet connectivity is poor at my school.	14	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	21	18
...There were too many other courses that students have to take in order to prepare for college.	16	16
...There was not enough money to train or hire a teacher.	15	15

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These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/pTrhF6
All reports: g.co/cseduresearch

Arkansas principals' perceptions of CS are positive, and more than other U.S. principals, they report that students should be required to learn CS. Though less likely to offer CS extracurriculars, they are much more likely to indicate growth in CS opportunities at their schools and to prioritize CS with support among their staff and school boards.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Arkansas.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 92% of Arkansas principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 68% of Arkansas principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 61% of Arkansas principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 67% of Arkansas principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Arkansas.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Arkansas principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Arkansas, with 53% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas (55%), lack of teachers trained in CS (39%), not enough demand from parents (32%), and not enough demand from students (30%)** are the greatest barriers to offering CS for Arkansas principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Engage with parents and students** to hear about what they perceive as important.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 278 Arkansas K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	AR	US
Image of CS careers (average % positive)	87	85
People who do CS make things that help improve lives. (% agree)	81	82
CS can be used in a lot of different types of jobs. (% agree)	92	88
Value of CS in schools (average % positive)	78	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	78	71
Most students should be required to take a computer science course. (% agree)	68	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	73	67
...other elective courses like art, music, and foreign languages?	93	90
Opportunities & Participation	AR	US
CS offerings (average % positive)	56	55
About how many different types of CS courses are available in your school this year? (% 1+)	61	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	20	18
...Other	52	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	52	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	55	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	61	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	63	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	65	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	67	53

School Infrastructure	AR	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	47	36
CS education is currently a top priority for my school. (% agree)	34	25
My school board believes CS education is important to offer in our schools. (% agree)	53	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	54	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	55	48
...There are no teachers available at my school with the necessary skills to teach computer science.	39	50
...There is not enough demand from parents.	32	35
...There is not enough demand from students.	30	34
...There is not enough money to train or hire a teacher.	24	48
...There are too many other courses that students have to take in order to prepare for college.	22	23
...We do not have the necessary computer software.	19	35
...We do not have sufficient budget to purchase the necessary computer software.	18	36
...We do not have sufficient budget to purchase the necessary computer equipment.	17	37
...We do not have the necessary computer equipment.	16	29
...There is not enough classroom space.	11	18
...There are no teachers available to hire with the necessary skills to teach computer science.	5	11
...Internet connectivity is poor at my school.	3	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	19	18
...There were too many other courses that students have to take in order to prepare for college.	16	16
...There was not enough money to purchase the necessary computer equipment.	13	12

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This report: goo.gl/u4trQG
 All reports: g.co/cseduresearch

California principals perceive CS positively, place a value on it, and support offering CS. They are more likely than the average U.S. principal to include programming/coding in their CS offerings, and to offer CS extracurriculars. Principals anticipate growth in CS, but note a lack of CS teachers, computer equipment, and software.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K-12 CS curriculum standards in progress

Background

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- **The value of CS is high**, where 66% of California principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 57% of California principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 69% of California principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in California.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 11% of California principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in California, with 45% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (62%), insufficient budget for a CS teacher (54%), lack of necessary computer software (47%), and insufficient budget for technology (44%)** are the greatest barriers to offering CS for California principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 1461 California K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	CA	US
Image of CS careers (average % positive)	88	85
People who do CS make things that help improve lives. (% agree)	85	82
CS can be used in a lot of different types of jobs. (% agree)	91	88
Value of CS in schools (average % positive)	76	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	76	71
Most students should be required to take a computer science course. (% agree)	66	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	70	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	CA	US
CS offerings (average % positive)	56	55
About how many different types of CS courses are available in your school this year? (% 1+)	57	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	16	18
...Other	47	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	49	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	73	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	75	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	66	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	71	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	69	53

School Infrastructure	CA	US
Demand for CS (average % positive)	14	11
Demand for CS education among parents in your school is (%)		
...High	11	8
Demand for CS education among students in your school is (%)		
...High	18	15
Support for CS (average % positive)	40	36
CS education is currently a top priority for my school. (% agree)	30	25
My school board believes CS education is important to offer in our schools. (% agree)	45	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	44	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	62	50
...There is not enough money to train or hire a teacher.	54	48
...We do not have the necessary computer software.	47	35
...We do not have sufficient budget to purchase the necessary computer equipment.	44	37
...We do not have sufficient budget to purchase the necessary computer software.	44	36
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	40	48
...We do not have the necessary computer equipment.	38	29
...There is not enough demand from parents.	37	35
...There is not enough demand from students.	32	34
...There are too many other courses that students have to take in order to prepare for college.	23	23
...There is not enough classroom space.	21	18
...Internet connectivity is poor at my school.	15	10
...There are no teachers available to hire with the necessary skills to teach computer science.	14	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	24	18
...There were too many other courses that students have to take in order to prepare for college.	15	16
...There was not enough money to purchase the necessary computer equipment.	13	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

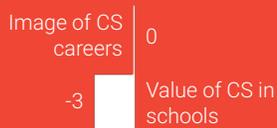
These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/W1zUai
All reports: g.co/cseduresearch

The perception of CS among Colorado principals aligns with the U.S. average. They place a slightly lower value on CS learning and report average anticipated growth for CS. They are more likely to offer Advanced Placement CS and to include programming/coding in their CS offerings. They report insufficient budget and technology as barriers.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards in progress

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Colorado.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of Colorado principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 56% of Colorado principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 59% of Colorado principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 51% of Colorado principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Colorado.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 9% of Colorado principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Colorado, with 38% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (63%), **lack of teachers trained in CS** (48%), **focus on test preparation for other subject areas** (45%), and **insufficient budget for technology** (45%) are the greatest barriers to offering CS for Colorado principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation** to encourage participation.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote

Data Tables

The descriptive data tables below show responses by 423 Colorado K-12 principals compared to the full sample of 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	CO	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	83	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	69	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	72	71
Most students should be required to take a computer science course. (% agree)	56	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	61	67
...other elective courses like art, music, and foreign languages?	88	90
Opportunities & Participation	CO	US
CS offerings (average % positive)	57	55
About how many different types of CS courses are available in your school this year? (% 1+)	59	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	26	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	46	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	67	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	68	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	50	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	58	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	51	53

School Infrastructure	CO	US
Demand for CS (average % positive)	14	11
Demand for CS education among parents in your school is (%)		
...High	9	8
Demand for CS education among students in your school is (%)		
...High	18	15
Support for CS (average % positive)	36	36
CS education is currently a top priority for my school. (% agree)	28	25
My school board believes CS education is important to offer in our schools. (% agree)	38	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	43	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	63	48
...There are no teachers available at my school with the necessary skills to teach computer science.	48	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	45	48
...We do not have sufficient budget to purchase the necessary computer equipment.	45	37
...We do not have the necessary computer software.	43	35
...We do not have sufficient budget to purchase the necessary computer software.	41	36
... There is not enough demand from parents.	38	35
...There is not enough demand from students.	37	34
...We do not have the necessary computer equipment.	34	29
...There are too many other courses that students have to take in order to prepare for college.	28	23
...There is not enough classroom space.	18	18
...Internet connectivity is poor at my school.	15	10
...There are no teachers available to hire with the necessary skills to teach computer science.	12	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	20	18
...There was not enough money to train or hire a teacher.	14	15
...There was not enough money to purchase the necessary computer equipment.	13	12

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/ctxgQa
All reports: g.co/cseduresearch

Connecticut principals' perceptions, demand, and support for CS education compares similarly to the average U.S. principal. These principals are more likely, however, to offer opportunities to learn CS, include programming/coding in their student offerings, and indicate growth in opportunities at their schools.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Connecticut.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 91% of Connecticut principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 64% of Connecticut principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 62% of Connecticut principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 62% of Connecticut principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Connecticut.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 9% of Connecticut principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Connecticut, with 42% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher (52%), lack of teachers trained in CS (48%), focus on test preparation for other subject areas (45%), and insufficient budget for technology (37%)** are the greatest barriers to offering CS for Connecticut principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation** to encourage participation.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 248 Connecticut K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	CT	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	79	82
CS can be used in a lot of different types of jobs. (% agree)	91	88
Value of CS in schools (average % positive)	73	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	74	71
Most students should be required to take a computer science course. (% agree)	64	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	66	67
...other elective courses like art, music, and foreign languages?	88	90
Opportunities & Participation	CT	US
CS offerings (average % positive)	58	55
About how many different types of CS courses are available in your school this year? (% 1+)	62	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	94	95
...AP courses	22	18
...Other	48	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	48	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	73	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	72	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	60	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	68	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	62	53

School Infrastructure	CT	US
Demand for CS (average % positive)	13	11
Demand for CS education among parents in your school is (%)		
...High	9	8
Demand for CS education among students in your school is (%)		
...High	16	15
Support for CS (average % positive)	38	36
CS education is currently a top priority for my school. (% agree)	28	25
My school board believes CS education is important to offer in our schools. (% agree)	42	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	43	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	52	48
...There are no teachers available at my school with the necessary skills to teach computer science.	48	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	45	48
...We do not have sufficient budget to purchase the necessary computer equipment.	37	37
...We do not have the necessary computer software.	30	35
...We do not have sufficient budget to purchase the necessary computer software.	30	36
...There is not enough demand from parents.	30	35
...We do not have the necessary computer equipment.	28	29
...There are too many other courses that students have to take in order to prepare for college.	25	23
...There is not enough demand from students.	23	34
...There is not enough classroom space.	20	18
...Internet connectivity is poor at my school.	5	10
...There are no teachers available to hire with the necessary skills to teach computer science.	5	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	20	16
...There were no teachers available at my school with the necessary skills to teach computer science.	17	18
...There was not enough money to train or hire a teacher.	11	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/5EuUzv
All reports: g.co/cseduresearch

Florida principals perceive CS much like the average U.S. principal but are more likely to include programming/coding in their offerings. They report an increase in CS participation and anticipated growth. They are more likely than their U.S. peers to report demand for CS among students and parents and support for CS from their staff and school boards.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Florida.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 89% of Florida principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 58% of Florida principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 54% of Florida principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 60% of Florida principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Florida.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 9% of Florida principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Florida, with 47% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (56%), **lack of teachers trained in CS** (45%), and **insufficient budget for a CS teacher** (44%) are the greatest barriers to offering CS for Florida principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 730 Florida K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	FL	US
Image of CS careers (average % positive)	84	85
People who do CS make things that help improve lives. (% agree)	80	82
CS can be used in a lot of different types of jobs. (% agree)	89	88
Value of CS in schools (average % positive)	72	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	72	71
Most students should be required to take a computer science course. (% agree)	58	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	67	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	FL	US
CS offerings (average % positive)	57	55
About how many different types of CS courses are available in your school this year? (% 1+)	54	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	22	18
...Other	51	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	49	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	68	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	66	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	57	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	64	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	60	53

School Infrastructure	FL	US
Demand for CS (average % positive)	14	11
Demand for CS education among parents in your school is (%)		
...High	9	8
Demand for CS education among students in your school is (%)		
...High	18	15
Support for CS (average % positive)	41	36
CS education is currently a top priority for my school. (% agree)	31	25
My school board believes CS education is important to offer in our schools. (% agree)	47	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	45	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	56	48
...There are no teachers available at my school with the necessary skills to teach computer science.	45	50
...There is not enough money to train or hire a teacher.	44	48
...We do not have sufficient budget to purchase the necessary computer software.	39	36
...We do not have sufficient budget to purchase the necessary computer equipment.	37	37
...We do not have the necessary computer software.	34	35
...There is not enough demand from students.	30	34
...There is not enough demand from parents.	29	35
...We do not have the necessary computer equipment.	29	29
...There are too many other courses that students have to take in order to prepare for college.	26	23
...There is not enough classroom space.	16	18
...Internet connectivity is poor at my school.	10	10
...There are no teachers available to hire with the necessary skills to teach computer science.	9	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	18	16
...There were no teachers available at my school with the necessary skills to teach computer science.	17	18
... There was not enough money to purchase the necessary computer equipment.	15	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/UogfwQ
All reports: g.co/cseduresearch

Georgia principals report positive perceptions of CS and place a value on CS education. While their overall student offerings are similar to the average U.S. principal, they are more likely to offer CS extracurriculars. Georgia principals also anticipate growth in CS opportunities and more often indicate demand from students and parents.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Georgia.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 89% of Georgia principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 62% of Georgia principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 54% of Georgia principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 57% of Georgia principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Georgia.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 9% of Georgia principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Georgia, with 41% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (48%), **lack of teachers trained in CS** (45%), and **focus on test preparation for other subject areas** (42%) are the greatest barriers to offering CS for Georgia principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Prioritize funding** to meet the demand for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 575 Georgia K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	GA	US
Image of CS careers (average % positive)	87	85
People who do CS make things that help improve lives. (% agree)	85	82
CS can be used in a lot of different types of jobs. (% agree)	89	88
Value of CS in schools (average % positive)	75	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	72	71
Most students should be required to take a computer science course. (% agree)	62	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	71	67
...other elective courses like art, music, and foreign languages?	93	90
Opportunities & Participation	GA	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	54	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	94	95
...AP courses	21	18
...Other	43	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	42	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	74	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	62	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	54	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	57	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	57	53

School Infrastructure	GA	US
Demand for CS (average % positive)	13	11
Demand for CS education among parents in your school is (%)		
...High	9	8
Demand for CS education among students in your school is (%)		
...High	17	15
Support for CS (average % positive)	37	36
CS education is currently a top priority for my school. (% agree)	26	25
My school board believes CS education is important to offer in our schools. (% agree)	41	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	44	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	48	48
...There are no teachers available at my school with the necessary skills to teach computer science.	45	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	42	48
...We do not have sufficient budget to purchase the necessary computer equipment.	35	37
...We do not have sufficient budget to purchase the necessary computer software.	32	36
...We do not have the necessary computer software.	32	35
...There is not enough demand from parents.	31	35
...We do not have the necessary computer equipment.	27	29
...There is not enough demand from students.	27	34
...There are too many other courses that students have to take in order to prepare for college.	18	23
...There is not enough classroom space.	15	18
...Internet connectivity is poor at my school.	9	10
...There are no teachers available to hire with the necessary skills to teach computer science.	9	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	22	15
...There were no teachers available at my school with the necessary skills to teach computer science.	18	18
...There were too many other courses that students have to take in order to prepare for college.	13	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/LXSFaP
All reports: g.co/cseduresearch

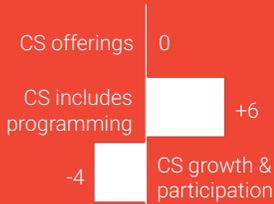
Idaho principals' perception of CS aligns with the average among U.S. principals. They report fewer dedicated CS offerings but are more likely to offer programming/coding and to integrate CS into other courses. They report low participation, growth, demand, and support for CS, and a lack of qualified teachers, technology, and budget as barriers.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Idaho.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 87% of Idaho principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 56% of Idaho principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 52% of Idaho principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 50% of Idaho principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Idaho.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 2% of Idaho principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Idaho, with 28% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (60%), insufficient budget for a CS teacher (53%), and insufficient budget for technology (47%)** are the greatest barriers to offering CS for Idaho principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 152 Idaho K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	ID	US
Image of CS careers (average % positive)	87	85
People who do CS make things that help improve lives. (% agree)	86	82
CS can be used in a lot of different types of jobs. (% agree)	87	88
Value of CS in schools (average % positive)	70	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	70	71
Most students should be required to take a computer science course. (% agree)	56	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	66	67
...other elective courses like art, music, and foreign languages?	91	90
Opportunities & Participation	ID	US
CS offerings (average % positive)	54	55
About how many different types of CS courses are available in your school this year? (% 1+)	52	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	16	18
...Other	49	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	52	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	60	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	69	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	47	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	51	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	50	53

School Infrastructure	ID	US
Demand for CS (average % positive)	3	11
Demand for CS education among parents in your school is (%)		
...High	2	8
Demand for CS education among students in your school is (%)		
...High	5	15
Support for CS (average % positive)	27	36
CS education is currently a top priority for my school. (% agree)	19	25
My school board believes CS education is important to offer in our schools. (% agree)	28	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	36	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	60	50
...There is not enough money to train or hire a teacher.	53	48
...We do not have sufficient budget to purchase the necessary computer equipment.	47	37
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	45	48
...There is not enough demand from students.	45	34
...There is not enough demand from parents.	43	35
...We do not have sufficient budget to purchase the necessary computer software.	42	36
...We do not have the necessary computer equipment.	42	29
...We do not have the necessary computer software.	38	35
...There are too many other courses that students have to take in order to prepare for college.	23	23
...There is not enough classroom space.	23	18
...There are no teachers available to hire with the necessary skills to teach computer science.	13	11
...Internet connectivity is poor at my school.	12	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	23	15
...There were no teachers available at my school with the necessary skills to teach computer science.	17	18
...There were too many other courses that students have to take in order to prepare for college.	17	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/d1kbXf
All reports: g.co/cseduresearch

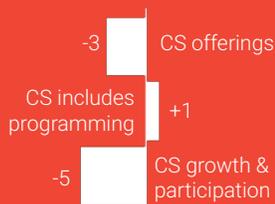
Compared to the average U.S. principal, Illinois principals are slightly less likely to offer CS courses and extracurriculars. They are also less likely to note growth in CS, including participation and anticipated opportunities. A lower percentage of Illinois principals indicate support for CS or report that CS is a priority.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Illinois.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of Illinois principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 57% of Illinois principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 50% of Illinois principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 48% of Illinois principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Illinois.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 9% of Illinois principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Illinois, with 39% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (51%), focus on test preparation for other subject areas (48%), and insufficient budget for a CS teacher (47%)** are the greatest barriers to offering CS for Illinois principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 768 Illinois K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	IL	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	82	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	71	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	71	71
Most students should be required to take a computer science course. (% agree)	57	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	65	67
...other elective courses like art, music, and foreign languages?	90	90
Opportunities & Participation	IL	US
CS offerings (average % positive)	52	55
About how many different types of CS courses are available in your school this year? (% 1+)	50	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	95	95
...AP courses	19	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	46	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	57	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	63	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	46	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	52	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	48	53

School Infrastructure	IL	US
Demand for CS (average % positive)	12	11
Demand for CS education among parents in your school is (%)		
...High	9	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	33	36
CS education is currently a top priority for my school. (% agree)	22	25
My school board believes CS education is important to offer in our schools. (% agree)	39	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	37	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	51	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	48	48
...There is not enough money to train or hire a teacher.	47	48
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...There is not enough demand from students.	36	34
...There is not enough demand from parents.	36	35
...We do not have sufficient budget to purchase the necessary computer equipment.	35	37
...We do not have the necessary computer software.	33	35
...There are too many other courses that students have to take in order to prepare for college.	31	23
...We do not have the necessary computer equipment.	27	29
...There is not enough classroom space.	16	18
...There are no teachers available to hire with the necessary skills to teach computer science.	8	11
...Internet connectivity is poor at my school.	8	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	20	18
...There were too many other courses that students have to take in order to prepare for college.	19	16
...There was not enough money to train or hire a teacher.	14	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/cuyzXx
All reports: g.co/cseduresearch

Compared to the average U.S. principal, a smaller percentage of Indiana principals indicate that they place a value on learning CS. They are less likely to prioritize and offer CS courses at their schools. Indiana principals are also less likely to report CS demand among parents and students and support among their school boards and staff.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Indiana.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of Indiana principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 52% of Indiana principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 48% of Indiana principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 52% of Indiana principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Indiana.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 6% of Indiana principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Indiana, with 35% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (64%), **insufficient budget for a CS teacher** (50%), and **lack of teachers trained in CS** (45%) are the greatest barriers to offering CS for Indiana principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 380 Indiana K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	IN	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	82	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	67	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	66	71
Most students should be required to take a computer science course. (% agree)	52	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	60	67
...other elective courses like art, music, and foreign languages?	90	90
Opportunities & Participation	IN	US
CS offerings (average % positive)	53	55
About how many different types of CS courses are available in your school this year? (% 1+)	48	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	16	18
...Other	50	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	49	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	62	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	62	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	48	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	54	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	52	53

School Infrastructure	IN	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	6	8
Demand for CS education among students in your school is (%)		
...High	13	15
Support for CS (average % positive)	32	36
CS education is currently a top priority for my school. (% agree)	20	25
My school board believes CS education is important to offer in our schools. (% agree)	35	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	41	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	64	48
...There is not enough money to train or hire a teacher.	50	48
...There are no teachers available at my school with the necessary skills to teach computer science.	45	50
...We do not have sufficient budget to purchase the necessary computer software.	36	36
...There is not enough demand from students.	36	34
...There is not enough demand from parents.	36	35
...We do not have sufficient budget to purchase the necessary computer equipment.	34	37
...We do not have the necessary computer software.	30	35
...We do not have the necessary computer equipment.	29	29
...There are too many other courses that students have to take in order to prepare for college.	25	23
...There is not enough classroom space.	18	18
...There are no teachers available to hire with the necessary skills to teach computer science.	13	11
...Internet connectivity is poor at my school.	11	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	23	18
...There was not enough money to train or hire a teacher.	15	15
...There were too many other courses that students have to take in order to prepare for college.	12	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

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These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/B7HDgd
All reports: g.co/cseduresearch

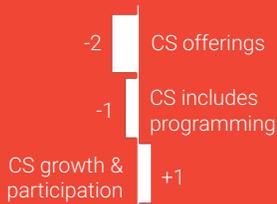
Iowa principals are similar to the average U.S. principal in their perceptions about CS education. They are, however, less likely to offer Advanced Placement courses, non-introductory courses, and after-school clubs or activities as CS opportunities.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Working towards all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Iowa.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 90% of Iowa principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 57% of Iowa principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 58% of Iowa principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 57% of Iowa principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Iowa.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 8% of Iowa principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Iowa, with 43% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher (43%), lack of teachers trained in CS (41%), focus on test preparation for other subject areas (37%), and insufficient budget for technology (30%)** are the greatest barriers to offering CS for Iowa principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 425 Iowa K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	IA	US
Image of CS careers (average % positive)	86	85
People who do CS make things that help improve lives. (% agree)	82	82
CS can be used in a lot of different types of jobs. (% agree)	90	88
Value of CS in schools (average % positive)	72	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	71	71
Most students should be required to take a computer science course. (% agree)	57	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	67	67
...other elective courses like art, music, and foreign languages?	91	90
Opportunities & Participation	IA	US
CS offerings (average % positive)	52	55
About how many different types of CS courses are available in your school this year? (% 1+)	58	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	14	18
...Other	37	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	48	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	59	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	61	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	52	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	54	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	57	53

School Infrastructure	IA	US
Demand for CS (average % positive)	11	11
Demand for CS education among parents in your school is (%)		
...High	8	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	37	36
CS education is currently a top priority for my school. (% agree)	24	25
My school board believes CS education is important to offer in our schools. (% agree)	43	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	44	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	43	48
...There are no teachers available at my school with the necessary skills to teach computer science.	41	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not		
...We do not have sufficient budget to purchase the necessary computer equipment.	37	48
...There is not enough demand from parents.	27	35
...There is not enough demand from students.	27	34
...We do not have the necessary computer software.	25	35
...We do not have sufficient budget to purchase the necessary computer software.	24	36
...We do not have the necessary computer equipment.	22	29
...There are too many other courses that students have to take in order to prepare for college.	17	23
...There is not enough classroom space.	13	18
...Internet connectivity is poor at my school.	8	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	22	18
...There were too many other courses that students have to take in order to prepare for college.	20	16
...There was not enough money to train or hire a teacher.	15	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/d8bFs6
All reports: g.co/cseduresearch

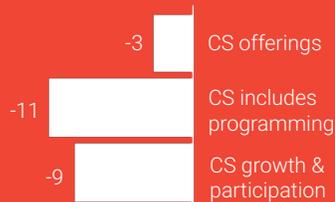
Kansas principals are less likely than the average U.S. principal to report that they value CS education. While they have slightly more overall CS courses, they are less likely to offer CS in after-school clubs or activities, less likely to include programming/coding in their offerings, and less likely to indicate growth in CS education.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

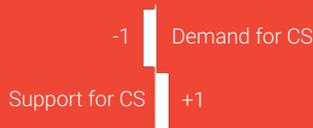
Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Kansas.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of Kansas principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 55% of Kansas principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 61% of Kansas principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 43% of Kansas principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Kansas.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 6% of Kansas principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Kansas, with 42% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas (55%), lack of teachers trained in CS (55%), and insufficient budget for a CS teacher (54%)** are the greatest barriers to offering CS for Kansas principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 383 Kansas K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	KS	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	82	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	69	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	70	71
Most students should be required to take a computer science course. (% agree)	55	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	62	67
...other elective courses like art, music, and foreign languages?	88	90
Opportunities & Participation	KS	US
CS offerings (average % positive)	52	55
About how many different types of CS courses are available in your school this year? (% 1+)	61	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	13	18
...Other	47	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	44	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	48	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	51	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	41	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	45	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	43	53

School Infrastructure	KS	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	6	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	37	36
CS education is currently a top priority for my school. (% agree)	26	25
My school board believes CS education is important to offer in our schools. (% agree)	42	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	44	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	55	48
...There are no teachers available at my school with the necessary skills to teach computer science.	55	50
...There is not enough money to train or hire a teacher.	54	48
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...There is not enough demand from students.	36	34
...There is not enough demand from parents.	36	35
...We do not have sufficient budget to purchase the necessary computer equipment.	35	37
...We do not have the necessary computer software.	35	35
...We do not have the necessary computer equipment.	28	29
...There are too many other courses that students have to take in order to prepare for college.	23	23
...There is not enough classroom space.	16	18
...There are no teachers available to hire with the necessary skills to teach computer science.	14	11
...Internet connectivity is poor at my school.	9	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	22	15
...There were too many other courses that students have to take in order to prepare for college.	13	16
...There was not enough money to purchase the necessary computer equipment.	13	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/aeB1hf
All reports: g.co/cseduresearch

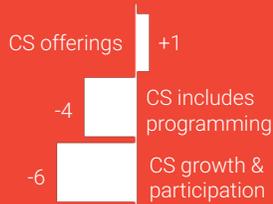
Kentucky principals report a positive image of CS but are less likely than the average U.S. principal to value CS education. They are more likely to offer CS extracurriculars, but less likely to include programming/coding in their CS offerings. While their staff and school boards support offering CS, they are less likely to indicate growth.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards in progress

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Kentucky.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 89% of Kentucky principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 54% of Kentucky principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 52% of Kentucky principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 47% of Kentucky principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Kentucky.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Kentucky principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Kentucky, with 45% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (53%), **focus on test preparation for other subject areas** (52%), **lack of teachers trained in CS** (47%), and **insufficient budget for technology** (45%) are the greatest barriers to offering CS for Kentucky principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote

Data Tables

The descriptive data tables below show responses by 286 Kentucky K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	KY	US
Image of CS careers (average % positive)	86	85
People who do CS make things that help improve lives. (% agree)	82	82
CS can be used in a lot of different types of jobs. (% agree)	89	88
Value of CS in schools (average % positive)	68	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	64	71
Most students should be required to take a computer science course. (% agree)	54	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	61	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	KY	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	52	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	94	95
...AP courses	24	18
...Other	45	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	43	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	73	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	58	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	44	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	51	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	47	53

School Infrastructure	KY	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	36	36
CS education is currently a top priority for my school. (% agree)	23	25
My school board believes CS education is important to offer in our schools. (% agree)	45	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	46	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	53	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	52	48
...There are no teachers available at my school with the necessary skills to teach computer science.	47	50
...We do not have sufficient budget to purchase the necessary computer equipment.	45	37
...We do not have sufficient budget to purchase the necessary computer software.	42	36
...We do not have the necessary computer software.	39	35
...We do not have the necessary computer equipment.	34	29
...There are too many other courses that students have to take in order to prepare for college.	30	23
...There is not enough demand from students.	28	34
...There is not enough demand from parents.	28	35
...There is not enough classroom space.	13	18
...Internet connectivity is poor at my school.	9	10
...There are no teachers available to hire with the necessary skills to teach computer science.	7	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	18	15
...There were too many other courses that students have to take in order to prepare for college.	17	16
...There was not enough money to purchase the necessary computer equipment.	15	12

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/KGkNwS
 All reports: g.co/cseduresearch

While Louisiana principals have similar perceptions of CS relative to the average U.S. principal, they are less likely to include programming/coding in their CS learning opportunities and less likely to anticipate growth in CS opportunities. They are also less likely to report that their school boards and staff support offering CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Louisiana.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 89% of Louisiana principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 59% of Louisiana principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 52% of Louisiana principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 46% of Louisiana principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Louisiana.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 7% of Louisiana principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Louisiana, with 33% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas (56%), lack of teachers trained in CS (45%), not enough demand from students (37%), and insufficient budget for a CS teacher (36%)** are the greatest barriers to offering CS for Louisiana principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Engage with parents and students** to hear about what they perceive as important

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 206 Louisiana K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	LA	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	80	82
CS can be used in a lot of different types of jobs. (% agree)	89	88
Value of CS in schools (average % positive)	71	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	73	71
Most students should be required to take a computer science course. (% agree)	59	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	65	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	LA	US
CS offerings (average % positive)	57	55
About how many different types of CS courses are available in your school this year? (% 1+)	52	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	98	95
...AP courses	24	18
...Other	62	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	43	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	63	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	48	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	45	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	56	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	46	53

School Infrastructure	LA	US
Demand for CS (average % positive)	12	11
Demand for CS education among parents in your school is (%)		
...High	7	8
Demand for CS education among students in your school is (%)		
...High	17	15
Support for CS (average % positive)	32	36
CS education is currently a top priority for my school. (% agree)	25	25
My school board believes CS education is important to offer in our schools. (% agree)	33	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	38	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	56	48
...There are no teachers available at my school with the necessary skills to teach computer science.	45	50
...There is not enough demand from students.	37	34
...There is not enough money to train or hire a teacher.	36	48
...We do not have the necessary computer software.	31	35
...We do not have sufficient budget to purchase the necessary computer equipment.	29	37
...We do not have the necessary computer equipment.	27	29
...There are too many other courses that students have to take in order to prepare for college.	27	23
...There is not enough demand from parents.	27	35
...We do not have sufficient budget to purchase the necessary computer software.	25	36
...There is not enough classroom space.	19	18
...Internet connectivity is poor at my school.	9	10
...There are no teachers available to hire with the necessary skills to teach computer science.	7	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	20	16
...There were no teachers available at my school with the necessary skills to teach computer science.	16	18
...There was not enough money to train or hire a teacher.	13	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/UwCXmf
All reports: g.co/cseduresearch

Maine principals have perceptions of CS that are fairly similar to the average U.S. principal. The availability of various CS opportunities is similar to the national average but Maine's offerings are more likely to include programming/coding. However, they are less likely to indicate support for CS or to anticipate growth in CS opportunities

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Maine.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 89% of Maine principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 54% of Maine principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 54% of Maine principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 40% of Maine principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Maine.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Maine principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Maine, with 37% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (63%), **lack of teachers trained in CS** (52%), and **not enough demand from parents and students** (40%), are the greatest barriers to offering CS for Maine principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Engage with parents and students** to hear about what they perceive as important.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 180 Maine K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	ME	US
Image of CS careers (average % positive)	83	85
People who do CS make things that help improve lives. (% agree)	77	82
CS can be used in a lot of different types of jobs. (% agree)	89	88
Value of CS in schools (average % positive)	71	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	69	71
Most students should be required to take a computer science course. (% agree)	54	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	73	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	ME	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	54	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	15	18
...Other	52	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	52	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	64	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	71	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	43	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	58	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	40	53

School Infrastructure	ME	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	15	15
Support for CS (average % positive)	33	36
CS education is currently a top priority for my school. (% agree)	19	25
My school board believes CS education is important to offer in our schools. (% agree)	37	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	44	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	63	48
...There are no teachers available at my school with the necessary skills to teach computer science.	52	50
...There is not enough demand from parents.	40	35
...There is not enough demand from students.	40	34
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	39	48
...We do not have sufficient budget to purchase the necessary computer equipment.	37	37
...We do not have sufficient budget to purchase the necessary computer software.	35	36
...We do not have the necessary computer software.	32	35
...We do not have the necessary computer equipment.	29	29
...There are too many other courses that students have to take in order to prepare for college.	15	23
...There is not enough classroom space.	11	18
...There are no teachers available to hire with the necessary skills to teach computer science.	10	11
...Internet connectivity is poor at my school.	5	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	20	15
...There were too many other courses that students have to take in order to prepare for college.	14	16
...There were no teachers available at my school with the necessary skills to teach computer science.	14	18

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/UNEPcv
All reports: g.co/cseduresearch

Maryland principals are more likely than the average U.S. principal to report a positive image of CS and place a value on CS education. A greater percentage have CS extracurriculars, and their overall CS offerings include programming/coding. They are more likely to indicate demand and support for CS and anticipate growth in CS opportunities.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Maryland.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 92% of Maryland principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 70% of Maryland principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 58% of Maryland principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 59% of Maryland principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Maryland.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 14% of Maryland principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Maryland, with 44% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (40%), **lack of necessary computer software** (40%), and **insufficient budget for technology** (39%) are the greatest barriers to offering CS for Maryland principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 307 Maryland K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	MD	US
Image of CS careers (average % positive)	87	85
People who do CS make things that help improve lives. (% agree)	83	82
CS can be used in a lot of different types of jobs. (% agree)	92	88
Value of CS in schools (average % positive)	78	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	75	71
Most students should be required to take a computer science course. (% agree)	70	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	76	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	MD	US
CS offerings (average % positive)	58	55
About how many different types of CS courses are available in your school this year? (% 1+)	58	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	20	18
...Other	47	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	51	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	74	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	73	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	56	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	59	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	59	53

School Infrastructure	MD	US
Demand for CS (average % positive)	16	11
Demand for CS education among parents in your school is (%)		
...High	14	8
Demand for CS education among students in your school is (%)		
...High	18	15
Support for CS (average % positive)	40	36
CS education is currently a top priority for my school. (% agree)	32	25
My school board believes CS education is important to offer in our schools. (% agree)	44	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	46	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	40	48
...We do not have the necessary computer software.	40	35
...We do not have sufficient budget to purchase the necessary computer equipment.	39	37
...We do not have sufficient budget to purchase the necessary computer software.	38	36
...There are no teachers available at my school with the necessary skills to teach computer science.	37	50
...We do not have the necessary computer equipment.	37	29
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	36	48
...There is not enough demand from parents.	23	35
...There is not enough demand from students.	21	34
...There are too many other courses that students have to take in order to prepare for college.	21	23
...There is not enough classroom space.	17	18
...Internet connectivity is poor at my school.	13	10
...There are no teachers available to hire with the necessary skills to teach computer science.	11	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	18	16
...There were no teachers available at my school with the necessary skills to teach computer science.	16	18
...There was not enough money to purchase the necessary computer equipment.	13	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

Massachusetts

2017

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/tcBicB
All reports: g.co/cseduresearch

Massachusetts principals perceive CS positively and are more likely than the average U.S. principal to agree that it should be required for most students. They are more likely to report having CS offerings, particularly extracurriculars, and their offerings more likely include programming/coding. They report greater growth in and support for CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Massachusetts.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 91% of Massachusetts principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 67% of Massachusetts principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 60% of Massachusetts principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 60% of Massachusetts principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Massachusetts.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 11% of Massachusetts principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Massachusetts, with 43% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (46%), insufficient budget for a CS teacher (44%), focus on test preparation for other subject areas (37%), and insufficient budget for software (37%)** are the greatest barriers to offering CS for Massachusetts principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation** to encourage participation.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Massachusetts

Data Tables

The descriptive data tables below show responses by 413 Massachusetts K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	MA	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	80	82
CS can be used in a lot of different types of jobs. (% agree)	91	88
Value of CS in schools (average % positive)	74	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	73	71
Most students should be required to take a computer science course. (% agree)	67	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	70	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	MA	US
CS offerings (average % positive)	57	55
About how many different types of CS courses are available in your school this year? (% 1+)	60	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	92	95
...AP courses	19	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	49	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	75	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	77	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	56	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	59	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	60	53

School Infrastructure	MA	US
Demand for CS (average % positive)	13	11
Demand for CS education among parents in your school is (%)		
...High	11	8
Demand for CS education among students in your school is (%)		
...High	16	15
Support for CS (average % positive)	39	36
CS education is currently a top priority for my school. (% agree)	31	25
My school board believes CS education is important to offer in our schools. (% agree)	43	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	43	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	46	50
...There is not enough money to train or hire a teacher.	44	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	37	48
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...We do not have sufficient budget to purchase the necessary computer equipment.	35	37
...There is not enough demand from students.	33	34
...There is not enough demand from parents.	33	35
...We do not have the necessary computer equipment.	32	29
...We do not have the necessary computer software.	28	35
...There is not enough classroom space.	18	18
...There are too many other courses that students have to take in order to prepare for college.	17	23
...Internet connectivity is poor at my school.	13	10
...There are no teachers available to hire with the necessary skills to teach computer science.	6	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	20	16
...There was not enough money to train or hire a teacher.	15	15
...There was not enough money to purchase the necessary computer equipment.	14	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/AxHyMz
All reports: g.co/cseduresearch

Compared to the average U.S. principal, Michigan principals have slightly less positive perceptions of CS. They report a similar availability of CS offerings, but are less likely to include programming/coding in their offerings, less likely to report growth in CS, and less likely to indicate support for CS among their school boards and staff.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Michigan.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 86% of Michigan principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 58% of Michigan principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 57% of Michigan principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 46% of Michigan principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Michigan.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 6% of Michigan principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Michigan, with 36% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher (50%), focus on test preparation for other subject areas (45%), and lack of teachers trained in CS (45%)** are the greatest barriers to offering CS for Michigan principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 792 Michigan K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	MI	US
Image of CS careers (average % positive)	84	85
People who do CS make things that help improve lives. (% agree)	83	82
CS can be used in a lot of different types of jobs. (% agree)	86	88
Value of CS in schools (average % positive)	69	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	69	71
Most students should be required to take a computer science course. (% agree)	58	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	61	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	MI	US
CS offerings (average % positive)	54	55
About how many different types of CS courses are available in your school this year? (% 1+)	57	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	94	95
...AP courses	16	18
...Other	45	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	46	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	63	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	58	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	46	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	52	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	46	53

School Infrastructure	MI	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	6	8
Demand for CS education among students in your school is (%)		
...High	13	15
Support for CS (average % positive)	31	36
CS education is currently a top priority for my school. (% agree)	20	25
My school board believes CS education is important to offer in our schools. (% agree)	36	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	38	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	50	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	45	48
...There are no teachers available at my school with the necessary skills to teach computer science.	45	50
...We do not have the necessary computer software.	38	35
...We do not have sufficient budget to purchase the necessary computer equipment.	38	37
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...There is not enough demand from parents.	35	35
...There is not enough demand from students.	32	34
...We do not have the necessary computer equipment.	30	29
...There are too many other courses that students have to take in order to prepare for college.	25	23
...There is not enough classroom space.	13	18
...Internet connectivity is poor at my school.	7	10
...There are no teachers available to hire with the necessary skills to teach computer science.	6	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	17	16
...There was not enough money to train or hire a teacher.	16	15
...There were no teachers available at my school with the necessary skills to teach computer science.	16	18

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/Seqnuf
All reports: g.co/cseduresearch

While Minnesota principals have a slightly more positive image of CS than the average U.S. principal, they value CS slightly less. They are also a little less likely to say they offer Advanced Placement CS or to indicate support for and prioritization of CS. A greater percentage note the lack of demand from students as a barrier to offering CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Minnesota.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 90% of Minnesota principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 55% of Minnesota principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 58% of Minnesota principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 52% of Minnesota principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Minnesota.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 7% of Minnesota principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Minnesota, with 38% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS** (54%), **insufficient budget for a CS teacher** (48%), and **focus on test preparation for other subject areas** (43%) are the greatest barriers to offering CS for Minnesota principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 373 Minnesota K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	MN	US
Image of CS careers (average % positive)	88	85
People who do CS make things that help improve lives. (% agree)	86	82
CS can be used in a lot of different types of jobs. (% agree)	90	88
Value of CS in schools (average % positive)	70	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	69	71
Most students should be required to take a computer science course. (% agree)	55	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	64	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	MN	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	58	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	98	95
...AP courses	12	18
...Other	51	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	49	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	65	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	64	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	50	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	56	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	52	53

School Infrastructure	MN	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	7	8
Demand for CS education among students in your school is (%)		
...High	12	15
Support for CS (average % positive)	32	36
CS education is currently a top priority for my school. (% agree)	23	25
My school board believes CS education is important to offer in our schools. (% agree)	38	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	35	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	54	50
...There is not enough money to train or hire a teacher.	48	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	43	48
...There is not enough demand from students.	42	34
...There is not enough demand from parents.	39	35
...We do not have the necessary computer software.	38	35
...We do not have sufficient budget to purchase the necessary computer software.	38	36
...We do not have sufficient budget to purchase the necessary computer equipment.	32	37
...We do not have the necessary computer equipment.	29	29
...There are too many other courses that students have to take in order to prepare for college.	29	23
...There is not enough classroom space.	16	18
...There are no teachers available to hire with the necessary skills to teach computer science.	14	11
...Internet connectivity is poor at my school.	11	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	19	18
...There were too many other courses that students have to take in order to prepare for college.	18	16
...There was not enough money to train or hire a teacher.	17	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/uxkkgJ
 All reports: g.co/cseduresearch

While Mississippi principals are more likely than the average U.S. principal to value CS, their CS offerings are less likely to include Advanced Placement courses or programming/coding. They report prioritization and support of CS among their staff, but less growth. They report higher demand from students, but lower demand from parents.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Mississippi.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of Mississippi principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 76% of Mississippi principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 62% of Mississippi principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 48% of Mississippi principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Mississippi.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Mississippi principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Mississippi, with 41% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas (52%), lack of teachers trained in CS (46%), and insufficient budget for a CS teacher (46%)** are the greatest barriers to offering CS for Mississippi principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation** to encourage participation.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.

¹ Source: code.org/promote



Mississippi

Data Tables

The descriptive data tables below show responses by 169 Mississippi K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	MS	US
Image of CS careers (average % positive)	87	85
People who do CS make things that help improve lives. (% agree)	87	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	81	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	75	71
Most students should be required to take a computer science course. (% agree)	76	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	78	67
...other elective courses like art, music, and foreign languages?	94	90
Opportunities & Participation	MS	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	62	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	12	18
...Other	50	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	46	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	62	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	52	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	43	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	41	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	48	53

School Infrastructure	MS	US
Demand for CS (average % positive)	15	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	25	15
Support for CS (average % positive)	42	36
CS education is currently a top priority for my school. (% agree)	31	25
My school board believes CS education is important to offer in our schools. (% agree)	41	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	55	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	52	48
...There are no teachers available at my school with the necessary skills to teach computer science.	46	50
...There is not enough money to train or hire a teacher.	46	48
...There is not enough demand from parents.	31	35
...We do not have sufficient budget to purchase the necessary computer equipment.	27	37
...There is not enough demand from students.	27	34
...We do not have the necessary computer software.	25	35
...We do not have sufficient budget to purchase the necessary computer software.	23	36
...There are too many other courses that students have to take in order to prepare for college.	19	23
...We do not have the necessary computer equipment.	17	29
...There is not enough classroom space.	13	18
...There are no teachers available to hire with the necessary skills to teach computer science.	13	11
...Internet connectivity is poor at my school.	8	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	16	15
...We did not have the necessary computer equipment.	16	8
...There were too many other courses that students have to take in order to prepare for college.	14	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/iKg2Lk
 All reports: g.co/cseduresearch

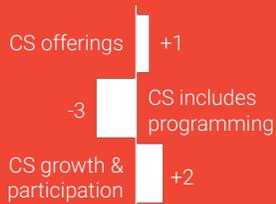
Missouri principals are somewhat more likely than the average U.S. principal to indicate positive perceptions and value of CS. They are also slightly more likely to offer CS courses, though their offerings are somewhat less likely to include programming/coding. Missouri principals are more likely to indicate staff support for offering CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Missouri.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 90% of Missouri principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 59% of Missouri principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 64% of Missouri principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 56% of Missouri principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Missouri.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 7% of Missouri principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Missouri, with 43% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (52%), insufficient budget for a CS teacher (47%), focus on test preparation for other subject areas (41%), and insufficient computer software (40%)** are the greatest barriers to offering CS for Missouri principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 514 Missouri K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	MO	US
Image of CS careers (average % positive)	88	85
People who do CS make things that help improve lives. (% agree)	86	82
CS can be used in a lot of different types of jobs. (% agree)	90	88
Value of CS in schools (average % positive)	73	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	71	71
Most students should be required to take a computer science course. (% agree)	59	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	71	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	MO	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	64	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	95	95
...AP courses	23	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	44	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	61	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	60	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	52	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	55	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	56	53

School Infrastructure	MO	US
Demand for CS (average % positive)	11	11
Demand for CS education among parents in your school is (%)		
...High	7	8
Demand for CS education among students in your school is (%)		
...High	16	15
Support for CS (average % positive)	39	36
CS education is currently a top priority for my school. (% agree)	28	25
My school board believes CS education is important to offer in our schools. (% agree)	43	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	47	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	52	50
...There is not enough money to train or hire a teacher.	47	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	41	48
...We do not have the necessary computer software.	40	35
...There is not enough demand from parents.	38	35
...We do not have sufficient budget to purchase the necessary computer software.	38	36
...We do not have sufficient budget to purchase the necessary computer equipment.	38	37
...There is not enough demand from students.	34	34
...We do not have the necessary computer equipment.	31	29
...There are too many other courses that students have to take in order to prepare for college.	28	23
...There is not enough classroom space.	17	18
...There are no teachers available to hire with the necessary skills to teach computer science.	9	11
...Internet connectivity is poor at my school.	9	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	15	18
...There were too many other courses that students have to take in order to prepare for college.	14	16
...There was not enough money to train or hire a teacher.	11	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/6sPRMe
All reports: g.co/cseduresearch

Montana principals are less likely than their U.S. peers to agree that CS is at least as important as required school subjects. They offer CS courses, but are less likely to offer Advanced Placement CS and CS extracurriculars. Montana principals report a lack of qualified teachers, poor Internet connectivity, and low demand as barriers.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Montana.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 86% of Montana principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 58% of Montana principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 56% of Montana principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 52% of Montana principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Montana.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 3% of Montana principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Montana, with 38% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (74%), insufficient budget for a CS teacher (68%), focus on test preparation for other subject areas (50%), and not enough demand from parents and students (50%)** are the greatest barriers to offering CS for Montana principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.
- **Engage with parents and students** to hear about what they perceive as important.

¹ Source: code.org/promote

Data Tables

The descriptive data tables below show responses by 115 Montana K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	MT	US
Image of CS careers (average % positive)	83	85
People who do CS make things that help improve lives. (% agree)	81	82
CS can be used in a lot of different types of jobs. (% agree)	86	88
Value of CS in schools (average % positive)	70	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	73	71
Most students should be required to take a computer science course. (% agree)	58	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	57	67
...other elective courses like art, music, and foreign languages?	90	90
Opportunities & Participation	MT	US
CS offerings (average % positive)	51	55
About how many different types of CS courses are available in your school this year? (% 1+)	56	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	100	95
...AP courses	7	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	46	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	53	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	60	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	45	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	46	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	52	53

School Infrastructure	MT	US
Demand for CS (average % positive)	8	11
Demand for CS education among parents in your school is (%)		
...High	3	8
Demand for CS education among students in your school is (%)		
...High	13	15
Support for CS (average % positive)	34	36
CS education is currently a top priority for my school. (% agree)	22	25
My school board believes CS education is important to offer in our schools. (% agree)	38	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	43	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	74	50
...There is not enough money to train or hire a teacher.	68	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	50	48
...There is not enough demand from parents.	50	35
...There is not enough demand from students.	50	34
...We do not have the necessary computer software.	42	35
...There are no teachers available to hire with the necessary skills to teach computer science.	39	11
...We do not have sufficient budget to purchase the necessary computer equipment.	37	37
...We do not have sufficient budget to purchase the necessary computer software.	32	36
...We do not have the necessary computer equipment.	29	29
...There are too many other courses that students have to take in order to prepare for college.	26	23
...Internet connectivity is poor at my school.	24	10
...There is not enough classroom space.	21	18
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	37	18
.....There was not enough money to purchase the necessary computer equipment.	14	12
...There was not enough money to train or hire a teacher.	10	15

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/7tZRVj
All reports: g.co/cseduresearch

Nebraska principals are slightly less likely than the average U.S. principal to place value on CS learning. They are more likely to say they offer CS courses, but these offerings are less likely to include programming/coding. They are also less likely to report growth in CS, but more likely to say that lack of demand is a barrier to offering CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Nebraska.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 87% of Nebraska principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 55% of Nebraska principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 66% of Nebraska principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 46% of Nebraska principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Nebraska.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Nebraska principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Nebraska, with 46% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (49%), **lack of teachers trained in CS** (47%), and **not enough demand from parents** (46%) are the greatest barriers to offering CS for Nebraska principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Engage with parents and students** to hear about what they perceive as important.

¹ Source: code.org/promote

Data Tables

The descriptive data tables below show responses by 370 Nebraska K-12 principals compared to the full sample of 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	NE	US
Image of CS careers (average % positive)	84	85
People who do CS make things that help improve lives. (% agree)	82	82
CS can be used in a lot of different types of jobs. (% agree)	87	88
Value of CS in schools (average % positive)	68	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	66	71
Most students should be required to take a computer science course. (% agree)	55	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	63	67
...other elective courses like art, music, and foreign languages?	90	90
Opportunities & Participation	NE	US
CS offerings (average % positive)	54	55
About how many different types of CS courses are available in your school this year? (% 1+)	66	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	91	95
...AP courses	16	18
...Other	47	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	47	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	58	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	56	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	42	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	44	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	46	53

School Infrastructure	NE	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	13	15
Support for CS (average % positive)	37	36
CS education is currently a top priority for my school. (% agree)	23	25
My school board believes CS education is important to offer in our schools. (% agree)	46	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	42	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	49	48
...There are no teachers available at my school with the necessary skills to teach computer science.	47	50
...There is not enough demand from parents.	46	35
...There is not enough demand from students.	40	34
...There is not enough money to train or hire a teacher.	37	48
...There are too many other courses that students have to take in order to prepare for college.	30	23
...We do not have the necessary computer software.	26	35
...We do not have sufficient budget to purchase the necessary computer equipment.	25	37
...There is not enough classroom space.	24	18
...We do not have sufficient budget to purchase the necessary computer software.	20	36
...We do not have the necessary computer equipment.	18	29
...There are no teachers available to hire with the necessary skills to teach computer science.	11	11
...Internet connectivity is poor at my school.	3	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	22	16
...There were no teachers available at my school with the necessary skills to teach computer science.	20	18
...There was not enough money to purchase the necessary computer equipment.	13	12

New Hampshire

2017

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/1Nnchf
All reports: g.co/cseduresearch

New Hampshire principals report a higher value of CS and anticipate more growth of CS compared to the average U.S. principal. They offer more CS courses and clubs with programming/coding but are less likely to include Advanced Placement CS courses. They are more likely indicate poor Internet connectivity as a barrier to offering CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for New Hampshire.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of New Hampshire principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 63% of New Hampshire principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 66% of New Hampshire principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 64% of New Hampshire principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in New Hampshire.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of New Hampshire principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in New Hampshire, with 37% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (59%), **focus on test preparation for other subject areas** (55%), **lack of teachers trained in CS** (45%), and **insufficient budget for technology** (41%) are the greatest barriers to offering CS for New Hampshire principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.

¹ Source: code.org/promote



New Hampshire

Data Tables

The descriptive data tables below show responses by 111 New Hampshire K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	NH	US
Image of CS careers (average % positive)	82	85
People who do CS make things that help improve lives. (% agree)	76	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	74	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	75	71
Most students should be required to take a computer science course. (% agree)	63	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	66	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	NH	US
CS offerings (average % positive)	57	55
About how many different types of CS courses are available in your school this year? (% 1+)	66	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	93	95
...AP courses	15	18
...Other	45	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	51	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	70	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	71	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	58	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	58	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	64	53

School Infrastructure	NH	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	15	15
Support for CS (average % positive)	35	36
CS education is currently a top priority for my school. (% agree)	27	25
My school board believes CS education is important to offer in our schools. (% agree)	37	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	42	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	59	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	55	48
...There are no teachers available at my school with the necessary skills to teach computer science.	45	50
...We do not have sufficient budget to purchase the necessary computer equipment.	41	37
...We do not have sufficient budget to purchase the necessary computer software.	36	36
...We do not have the necessary computer software.	36	35
...We do not have the necessary computer equipment.	32	29
...There is not enough demand from parents.	32	35
...There is not enough demand from students.	32	34
...Internet connectivity is poor at my school.	18	10
...There is not enough classroom space.	18	18
...There are too many other courses that students have to take in order to prepare for college.	14	23
...There are no teachers available to hire with the necessary skills to teach computer science.	9	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	19	18
...There were too many other courses that students have to take in order to prepare for college.	17	16
...There was not enough money to train or hire a teacher.	10	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/V8nvCA
All reports: g.co/cseduresearch

Compared to the average U.S. principal, New Jersey principals are more likely to indicate that they place a value on CS learning. They are also more likely to offer various CS opportunities. A greater portion of New Jersey principals report growth in CS, with high demand, support for, and prioritization of CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for New Jersey.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 91% of New Jersey principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 68% of New Jersey principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 67% of New Jersey principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 61% of New Jersey principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in New Jersey.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 13% of New Jersey principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in New Jersey, with 51% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (43%), **focus on test preparation for other subject areas** (39%), **lack of teachers trained in CS** (36%), and **not enough demand from parents** (35%) are the greatest barriers to offering CS for New Jersey principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Prioritize funding** to meet the demand for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Engage with parents** to hear about what they perceive as important.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 402 New Jersey K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	NJ	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	80	82
CS can be used in a lot of different types of jobs. (% agree)	91	88
Value of CS in schools (average % positive)	79	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	78	71
Most students should be required to take a computer science course. (% agree)	68	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	75	67
...other elective courses like art, music, and foreign languages?	93	90
Opportunities & Participation	NJ	US
CS offerings (average % positive)	60	55
About how many different types of CS courses are available in your school this year? (% 1+)	67	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	23	18
...Other	52	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	50	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	69	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	65	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	58	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	63	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	61	53

School Infrastructure	NJ	US
Demand for CS (average % positive)	16	11
Demand for CS education among parents in your school is (%)		
...High	13	8
Demand for CS education among students in your school is (%)		
...High	20	15
Support for CS (average % positive)	46	36
CS education is currently a top priority for my school. (% agree)	37	25
My school board believes CS education is important to offer in our schools. (% agree)	51	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	50	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	43	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	39	48
...There are no teachers available at my school with the necessary skills to teach computer science.	36	50
...There is not enough demand from parents.	35	35
...We do not have the necessary computer software.	33	35
...There is not enough demand from students.	30	34
...We do not have sufficient budget to purchase the necessary computer equipment.	28	37
...We do not have sufficient budget to purchase the necessary computer software.	22	36
...There is not enough classroom space.	22	18
...We do not have the necessary computer equipment.	21	29
...There are too many other courses that students have to take in order to prepare for college.	20	23
...Internet connectivity is poor at my school.	7	10
...There are no teachers available to hire with the necessary skills to teach computer science.	6	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	19	16
...There was not enough money to purchase the necessary computer equipment.	15	12
...There were no teachers available at my school with the necessary skills to teach computer science.	14	18

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/RQ1YjA
All reports: g.co/cseduresearch

New Mexico principals are less likely than their national peers to offer CS courses, but more likely to offer CS extracurriculars. However, their offerings less likely include programming/coding. They report higher student demand, but lower school board support for CS and less growth in CS. They more likely cite Internet connectivity as a barrier.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for New Mexico.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of New Mexico principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 63% of New Mexico principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 48% of New Mexico principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 39% of New Mexico principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in New Mexico.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 8% of New Mexico principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in New Mexico, with 36% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (50%), **insufficient budget for a CS teacher** (49%), and **lack of teachers trained in CS** (49%) are the greatest barriers to offering CS for New Mexico principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Prioritize funding** to meet the demand for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.

¹ Source: code.org/promote

Data Tables

The descriptive data tables below show responses by 166 New Mexico K-12 principals compared to the full sample of 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	NM	US
Image of CS careers (average % positive)	84	85
People who do CS make things that help improve lives. (% agree)	79	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	74	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	73	71
Most students should be required to take a computer science course. (% agree)	63	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	70	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	NM	US
CS offerings (average % positive)	57	55
About how many different types of CS courses are available in your school this year? (% 1+)	48	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	99	95
...AP courses	28	18
...Other	49	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	46	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	72	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	46	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	38	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	44	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	39	53

School Infrastructure	NM	US
Demand for CS (average % positive)	13	11
Demand for CS education among parents in your school is (%)		
...High	8	8
Demand for CS education among students in your school is (%)		
...High	18	15
Support for CS (average % positive)	34	36
CS education is currently a top priority for my school. (% agree)	24	25
My school board believes CS education is important to offer in our schools. (% agree)	36	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	42	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	50	48
...There is not enough money to train or hire a teacher.	49	48
...There are no teachers available at my school with the necessary skills to teach computer science.	49	50
...We do not have sufficient budget to purchase the necessary computer equipment.	44	37
...We do not have sufficient budget to purchase the necessary computer software.	40	36
...There are too many other courses that students have to take in order to prepare for college.	40	23
...We do not have the necessary computer software.	38	35
...There is not enough demand from students.	32	34
...There is not enough demand from parents.	31	35
...There are no teachers available to hire with the necessary skills to teach computer science.	26	11
...We do not have the necessary computer equipment.	25	29
...Internet connectivity is poor at my school.	19	10
...There is not enough classroom space.	15	18
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	20	15
...There was not enough money to purchase the necessary computer equipment.	18	12
...There were no teachers available at my school with the necessary skills to teach computer science.	18	18

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/KC7Yk5
 All reports: g.co/cseduresearch

New York principals place a slightly higher value on CS than the average U.S. principal. They are more likely to offer a variety of CS courses and to include programming/coding among those offerings. They report growth in their CS opportunities and greater demand and support for CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for New York.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 87% of New York principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 65% of New York principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 58% of New York principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 60% of New York principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in New York.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 11% of New York principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in New York, with 45% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (50%), **lack of teachers trained in CS** (47%), and **focus on test preparation for other subject areas** (44%) are the greatest barriers to offering CS for New York principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 675 New York K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	NY	US
Image of CS careers (average % positive)	83	85
People who do CS make things that help improve lives. (% agree)	78	82
CS can be used in a lot of different types of jobs. (% agree)	87	88
Value of CS in schools (average % positive)	74	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	71	71
Most students should be required to take a computer science course. (% agree)	65	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	70	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	NY	US
CS offerings (average % positive)	58	55
About how many different types of CS courses are available in your school this year? (% 1+)	58	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	95	95
...AP courses	23	18
...Other	50	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	51	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	73	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	68	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	55	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	61	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	60	53

School Infrastructure	NY	US
Demand for CS (average % positive)	14	11
Demand for CS education among parents in your school is (%)		
...High	11	8
Demand for CS education among students in your school is (%)		
...High	18	15
Support for CS (average % positive)	39	36
CS education is currently a top priority for my school. (% agree)	30	25
My school board believes CS education is important to offer in our schools. (% agree)	45	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	43	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	50	48
...There are no teachers available at my school with the necessary skills to teach computer science.	47	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	44	48
...There is not enough demand from parents.	33	35
...There is not enough demand from students.	33	34
...We do not have sufficient budget to purchase the necessary computer equipment.	29	37
...There are too many other courses that students have to take in order to prepare for college.	28	23
...We do not have sufficient budget to purchase the necessary computer software.	26	36
...We do not have the necessary computer software.	25	35
...We do not have the necessary computer equipment.	23	29
...There is not enough classroom space.	12	18
...Internet connectivity is poor at my school.	9	10
...There are no teachers available to hire with the necessary skills to teach computer science.	8	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	20	16
...There was not enough money to train or hire a teacher.	16	15
...There were no teachers available at my school with the necessary skills to teach computer science.	14	18

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/XNCKEB
 All reports: g.co/cseduresearch

North Carolina principals' positive perceptions of CS align with the average U.S. principal. Their available offerings are also comparable, but are less likely to include programming/coding. They are also less likely to indicate growth and somewhat less likely to prioritize CS and to indicate support for CS among staff and school boards.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for North Carolina.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 91% of North Carolina principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 58% of North Carolina principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 55% of North Carolina principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 50% of North Carolina principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in North Carolina.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 6% of North Carolina principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in North Carolina, with 39% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (50%), **lack of teachers trained in CS** (48%), and **focus on test preparation for other subject areas** (44%) are the greatest barriers to offering CS for North Carolina principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



K-12 Computer Science Education North Carolina

Data Tables

The descriptive data tables below show responses by 735 North Carolina K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	NC	US
Image of CS careers (average % positive)	87	85
People who do CS make things that help improve lives. (% agree)	84	82
CS can be used in a lot of different types of jobs. (% agree)	91	88
Value of CS in schools (average % positive)	73	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	70	71
Most students should be required to take a computer science course. (% agree)	58	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	69	67
...other elective courses like art, music, and foreign languages?	92	90
Opportunities & Participation	NC	US
CS offerings (average % positive)	52	55
About how many different types of CS courses are available in your school this year? (% 1+)	55	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	95	95
...AP courses	14	18
...Other	45	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	42	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	63	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	54	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	47	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	53	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	50	53

School Infrastructure	NC	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	6	8
Demand for CS education among students in your school is (%)		
...High	12	15
Support for CS (average % positive)	33	36
CS education is currently a top priority for my school. (% agree)	20	25
My school board believes CS education is important to offer in our schools. (% agree)	39	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	39	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	50	48
...There are no teachers available at my school with the necessary skills to teach computer science.	48	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	44	48
...We do not have sufficient budget to purchase the necessary computer equipment.	37	37
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...We do not have the necessary computer software.	32	35
...There is not enough demand from students.	29	34
...There is not enough demand from parents.	28	35
...We do not have the necessary computer equipment.	27	29
...There are too many other courses that students have to take in order to prepare for college.	20	23
...There is not enough classroom space.	13	18
...There are no teachers available to hire with the necessary skills to teach computer science.	12	11
...Internet connectivity is poor at my school.	5	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	20	15
...There were no teachers available at my school with the necessary skills to teach computer science.	18	18
...There were too many other courses that students have to take in order to prepare for college.	14	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/BsRaZ5
All reports: g.co/cseduresearch

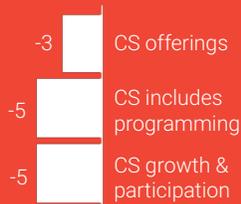
While Ohio principals share a similar perception of CS with the average U.S. principal, they are less likely to offer CS courses or extracurriculars, and their opportunities are less likely to include programming/coding. A smaller share of Ohio principals prioritize CS, or indicate growth in CS or support for CS from their school boards and staff.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Ohio.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 87% of Ohio principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 57% of Ohio principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 53% of Ohio principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 48% of Ohio principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Ohio.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 7% of Ohio principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Ohio, with 35% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (56%), focus on test preparation for other subject areas (56%), and insufficient budget for a CS teacher (55%)** are the greatest barriers to offering CS for Ohio principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 822 Ohio K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	OH	US
Image of CS careers (average % positive)	84	85
People who do CS make things that help improve lives. (% agree)	80	82
CS can be used in a lot of different types of jobs. (% agree)	87	88
Value of CS in schools (average % positive)	71	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	70	71
Most students should be required to take a computer science course. (% agree)	57	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	65	67
...other elective courses like art, music, and foreign languages?	90	90
Opportunities & Participation	OH	US
CS offerings (average % positive)	52	55
About how many different types of CS courses are available in your school this year? (% 1+)	53	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	16	18
...Other	48	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	42	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	54	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	58	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	45	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	52	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	48	53

School Infrastructure	OH	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	7	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	31	36
CS education is currently a top priority for my school. (% agree)	21	25
My school board believes CS education is important to offer in our schools. (% agree)	35	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	37	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	56	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	56	48
...There is not enough money to train or hire a teacher.	55	48
...We do not have sufficient budget to purchase the necessary computer equipment.	39	37
...We do not have sufficient budget to purchase the necessary computer software.	38	36
...There is not enough demand from parents.	36	35
...There is not enough demand from students.	35	34
...We do not have the necessary computer software.	33	35
...We do not have the necessary computer equipment.	29	29
...There is not enough classroom space.	24	18
...There are too many other courses that students have to take in order to prepare for college.	21	23
...Internet connectivity is poor at my school.	9	10
...There are no teachers available to hire with the necessary skills to teach computer science.	8	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	17	16
...There were no teachers available at my school with the necessary skills to teach computer science.	17	18
...There was not enough money to train or hire a teacher.	16	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/u2uisQ
All reports: g.co/cseduresearch

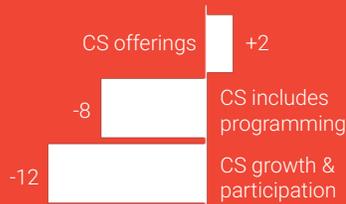
Oklahoma principals place less value on CS than the average U.S. principal, but CS offerings are similar. They are less likely to include programming/coding and less likely to report growth, but more likely to indicate support for CS among their school boards and staff. They report a lack of teachers to hire and insufficient budget as barriers.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Oklahoma.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 86% of Oklahoma principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 64% of Oklahoma principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 63% of Oklahoma principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 39% of Oklahoma principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Oklahoma.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Oklahoma principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Oklahoma, with 45% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (65%), **insufficient budget for a CS teacher** (61%), and **lack of teachers trained in CS** (57%) are the greatest barriers to offering CS for Oklahoma principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

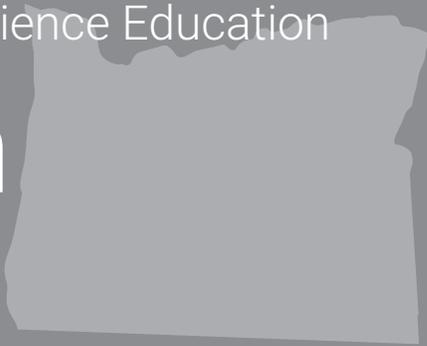
¹ Source: code.org/promote

Data Tables

The descriptive data tables below show responses by 423 Oklahoma K-12 principals compared to the full sample of 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	OK	US
Image of CS careers (average % positive)	81	85
People who do CS make things that help improve lives. (% agree)	76	82
CS can be used in a lot of different types of jobs. (% agree)	86	88
Value of CS in schools (average % positive)	73	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	69	71
Most students should be required to take a computer science course. (% agree)	64	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	67	67
...other elective courses like art, music, and foreign languages?	90	90
Opportunities & Participation	OK	US
CS offerings (average % positive)	56	55
About how many different types of CS courses are available in your school this year? (% 1+)	63	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	21	18
...Other	57	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	42	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	60	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	55	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	39	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	45	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	39	53

School Infrastructure	OK	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	40	36
CS education is currently a top priority for my school. (% agree)	25	25
My school board believes CS education is important to offer in our schools. (% agree)	45	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	50	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	65	48
...There is not enough money to train or hire a teacher.	61	48
...There are no teachers available at my school with the necessary skills to teach computer science.	57	50
...We do not have sufficient budget to purchase the necessary computer software.	47	36
...We do not have sufficient budget to purchase the necessary computer equipment.	43	37
...There is not enough demand from parents.	39	35
...There is not enough demand from students.	39	34
...We do not have the necessary computer software.	36	35
...We do not have the necessary computer equipment.	28	29
...There are too many other courses that students have to take in order to prepare for college.	27	23
...There is not enough classroom space.	24	18
...There are no teachers available to hire with the necessary skills to teach computer science.	21	11
...Internet connectivity is poor at my school.	14	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	19	15
...There were too many other courses that students have to take in order to prepare for college.	15	16
...There was not enough money to purchase the necessary computer equipment.	15	12



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/ebV7EV
 All reports: g.co/cseduresearch

Oregon principals value CS less than required school subjects and are less likely to report high demand, support for, or growth in CS. They cite lack of qualified teachers, poor technology, and insufficient budget as barriers. Availability of CS offerings is similar to the national average, and these are more likely to include programming/coding.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

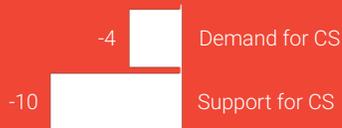
Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Oregon.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 87% of Oregon principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 54% of Oregon principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 55% of Oregon principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 48% of Oregon principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Oregon.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 4% of Oregon principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Oregon, with 29% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (67%), **lack of teachers trained in CS** (60%), and **insufficient budget for computer software** (47%) are the greatest barriers to offering CS for Oregon principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 270 Oregon K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	OR	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	83	82
CS can be used in a lot of different types of jobs. (% agree)	87	88
Value of CS in schools (average % positive)	67	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	70	71
Most students should be required to take a computer science course. (% agree)	54	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	57	67
...other elective courses like art, music, and foreign languages?	89	90
Opportunities & Participation	OR	US
CS offerings (average % positive)	54	55
About how many different types of CS courses are available in your school this year? (% 1+)	55	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	99	95
...AP courses	12	18
...Other	49	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	41	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	66	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	67	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	45	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	52	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	48	53

School Infrastructure	OR	US
Demand for CS (average % positive)	7	11
Demand for CS education among parents in your school is (%)		
...High	4	8
Demand for CS education among students in your school is (%)		
...High	10	15
Support for CS (average % positive)	26	36
CS education is currently a top priority for my school. (% agree)	17	25
My school board believes CS education is important to offer in our schools. (% agree)	29	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	33	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	67	48
...There are no teachers available at my school with the necessary skills to teach computer science.	60	50
...We do not have sufficient budget to purchase the necessary computer software.	47	36
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	46	48
...We do not have sufficient budget to purchase the necessary computer equipment.	45	37
...We do not have the necessary computer software.	44	35
...We do not have the necessary computer equipment.	38	29
...There is not enough demand from parents.	36	35
...There is not enough demand from students.	34	34
...There are too many other courses that students have to take in order to prepare for college.	22	23
...There is not enough classroom space.	16	18
...There are no teachers available to hire with the necessary skills to teach computer science.	10	11
...Internet connectivity is poor at my school.	10	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	28	18
...There were too many other courses that students have to take in order to prepare for college.	17	16
...There was not enough money to purchase the necessary computer equipment.	16	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/tPjGoP
All reports: g.co/cseduresearch

Pennsylvania principals place a higher value on CS, relative to the average U.S. principal. They are somewhat more likely to offer CS courses and to include programming/coding in their opportunities. They are also more likely to prioritize CS and to indicate support for CS among their school boards and staff.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Pennsylvania.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 91% of Pennsylvania principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 63% of Pennsylvania principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 62% of Pennsylvania principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 55% of Pennsylvania principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Pennsylvania.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 9% of Pennsylvania principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Pennsylvania, with 45% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS** (51%), **insufficient budget for a CS teacher** (49%), and **focus on test preparation for other subject areas** (45%) are the greatest barriers to offering CS for Pennsylvania principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.

¹ Source: code.org/promote



K-12 Computer Science Education Pennsylvania

Data Tables

The descriptive data tables below show responses by 583 Pennsylvania K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	PA	US
Image of CS careers (average % positive)	88	85
People who do CS make things that help improve lives. (% agree)	85	82
CS can be used in a lot of different types of jobs. (% agree)	91	88
Value of CS in schools (average % positive)	75	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	71	71
Most students should be required to take a computer science course. (% agree)	63	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	71	67
...other elective courses like art, music, and foreign languages?	93	90
Opportunities & Participation	PA	US
CS offerings (average % positive)	56	55
About how many different types of CS courses are available in your school this year? (% 1+)	62	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	95	95
...AP courses	19	18
...Other	51	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	44	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	65	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	68	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	52	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	54	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	55	53

School Infrastructure	PA	US
Demand for CS (average % positive)	12	11
Demand for CS education among parents in your school is (%)		
...High	9	8
Demand for CS education among students in your school is (%)		
...High	16	15
Support for CS (average % positive)	40	36
CS education is currently a top priority for my school. (% agree)	29	25
My school board believes CS education is important to offer in our schools. (% agree)	45	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	47	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	51	50
...There is not enough money to train or hire a teacher.	49	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	45	48
...We do not have sufficient budget to purchase the necessary computer equipment.	41	37
...We do not have sufficient budget to purchase the necessary computer software.	36	36
...There is not enough demand from parents.	35	35
...We do not have the necessary computer software.	33	35
...We do not have the necessary computer equipment.	32	29
...There is not enough demand from students.	30	34
...There are too many other courses that students have to take in order to prepare for college.	18	23
...There is not enough classroom space.	13	18
...Internet connectivity is poor at my school.	11	10
...There are no teachers available to hire with the necessary skills to teach computer science.	9	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to purchase the necessary computer equipment.	19	12
...There was not enough money to train or hire a teacher.	16	15
...There were too many other courses that students have to take in order to prepare for college.	15	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

K-12 Computer Science Education

South Carolina

2017

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/GTKrZn
All reports: g.co/cseduresearch

South Carolina principals are more likely to value CS learning compared to the average U.S. principal. They are also more likely to offer CS courses and indicate growth in CS. Responses show greater demand among students and parents, prioritization of CS, and support for CS among their school boards and staff.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

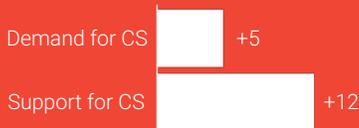
Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for South Carolina.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 90% of South Carolina principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 67% of South Carolina principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 66% of South Carolina principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 63% of South Carolina principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in South Carolina.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 11% of South Carolina principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in South Carolina, with 54% indicating school board commitment (U.S. average 41%).
- **Insufficient budget for a CS teacher** (52%), **lack of teachers trained in CS** (50%), and **insufficient budget for technology** (43%) are the greatest barriers to offering CS for South Carolina principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Allow CS classes to count towards graduation and college admissions** to encourage participation.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



K-12 Computer Science Education South Carolina

Data Tables

The descriptive data tables below show responses by 222 South Carolina K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	SC	US
Image of CS careers (average % positive)	87	85
People who do CS make things that help improve lives. (% agree)	83	82
CS can be used in a lot of different types of jobs. (% agree)	90	88
Value of CS in schools (average % positive)	77	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	77	71
Most students should be required to take a computer science course. (% agree)	67	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	73	67
...other elective courses like art, music, and foreign languages?	91	90
Opportunities & Participation	SC	US
CS offerings (average % positive)	54	55
About how many different types of CS courses are available in your school this year? (% 1+)	66	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	13	18
...Other	44	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	44	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	63	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	65	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	60	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	60	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	63	53

School Infrastructure	SC	US
Demand for CS (average % positive)	17	11
Demand for CS education among parents in your school is (%)		
...High	11	8
Demand for CS education among students in your school is (%)		
...High	22	15
Support for CS (average % positive)	49	36
CS education is currently a top priority for my school. (% agree)	35	25
My school board believes CS education is important to offer in our schools. (% agree)	54	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	58	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough money to train or hire a teacher.	52	48
...There are no teachers available at my school with the necessary skills to teach computer science.	50	50
...We do not have sufficient budget to purchase the necessary computer equipment.	43	37
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not		
...We do not have the necessary computer software.	40	35
...We do not have sufficient budget to purchase the necessary computer software.	38	36
...There is not enough demand from parents.	31	35
...There is not enough demand from students.	31	34
...We do not have the necessary computer equipment.	28	29
...There is not enough classroom space.	22	18
...There are too many other courses that students have to take in order to prepare for college.	12	23
...Internet connectivity is poor at my school.	9	10
...There are no teachers available to hire with the necessary skills to teach computer science.	3	11
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	14	18
...There were too many other courses that students have to take in order to prepare for college.	14	16
...There was not enough money to train or hire a teacher.	14	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

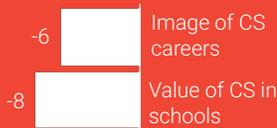
These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/q9Jrhf
All reports: g.co/cseduresearch

South Dakota principals have a less positive perception of CS, compared to their U.S. peers. They more frequently offer CS courses, but less likely offer programming/coding or CS extracurriculars. They are much less likely to report growth in and support for CS, and much more likely to indicate low demand and classroom space as barriers.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for South Dakota.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 81% of South Dakota principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 55% of South Dakota principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 69% of South Dakota principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 27% of South Dakota principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in South Dakota.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 4% of South Dakota principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in South Dakota, with 37% indicating school board commitment (U.S. average 41%).
- **Not enough demand from students** (63%), **insufficient budget for a CS teacher** (57%), **lack of teachers trained in CS** (53%), **focus on test preparation for other subject areas** (53%), and **not enough demand from parents** (53%) are the greatest barriers to offering CS for South Dakota principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Engage with parents and students** to hear about what they perceive as important.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.

¹ Source: code.org/promote



K-12 Computer Science Education South Dakota

Data Tables

The descriptive data tables below show responses by 121 South Dakota K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	SD	US
Image of CS careers (average % positive)	79	85
People who do CS make things that help improve lives. (% agree)	77	82
CS can be used in a lot of different types of jobs. (% agree)	81	88
Value of CS in schools (average % positive)	64	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	60	71
Most students should be required to take a computer science course. (% agree)	55	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	52	67
...other elective courses like art, music, and foreign languages?	87	90
Opportunities & Participation	SD	US
CS offerings (average % positive)	52	55
About how many different types of CS courses are available in your school this year? (% 1+)	69	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	96	95
...AP courses	21	18
...Other	47	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	39	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	40	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	45	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	26	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	32	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	27	53

School Infrastructure	SD	US
Demand for CS (average % positive)	5	11
Demand for CS education among parents in your school is (%)		
...High	4	8
Demand for CS education among students in your school is (%)		
...High	5	15
Support for CS (average % positive)	30	36
CS education is currently a top priority for my school. (% agree)	15	25
My school board believes CS education is important to offer in our schools. (% agree)	37	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	39	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There is not enough demand from students.	63	34
...There is not enough money to train or hire a teacher.	57	48
...There are no teachers available at my school with the necessary skills to teach computer science.	53	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not		
...There is not enough demand from parents.	53	35
...We do not have the necessary computer software.	37	35
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...We do not have sufficient budget to purchase the necessary computer equipment.	33	37
...There is not enough classroom space.	30	18
...We do not have the necessary computer equipment.	23	29
...There are no teachers available to hire with the necessary skills to teach computer science.	23	11
...There are too many other courses that students have to take in order to prepare for college.	20	23
...Internet connectivity is poor at my school.	7	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	22	16
...There were no teachers available at my school with the necessary skills to teach computer science.	15	18
...There was little demand from students.	14	5

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/fs3Tgv
All reports: g.co/cseduresearch

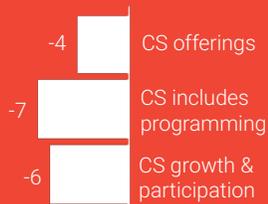
Tennessee principals have somewhat lower perceptions of CS, compared to the average U.S. principal. They are also less likely to offer CS courses or to include programming/coding in their offerings. Their responses indicate lower anticipated growth, less prioritization of CS, and lower support for CS among their school boards.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Tennessee.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of Tennessee principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 54% of Tennessee principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 50% of Tennessee principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 47% of Tennessee principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Tennessee.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 6% of Tennessee principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Tennessee, with 31% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (69%), **insufficient budget for a CS teacher** (50%), and **lack of teachers trained in CS** (43%) are the greatest barriers to offering CS for Tennessee principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Prioritize funding** to meet the demand for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.

¹ Source: code.org/promote

Data Tables

The descriptive data tables below show responses by 331 Tennessee K-12 principals compared to the full sample of 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	TN	US
Image of CS careers (average % positive)	82	85
People who do CS make things that help improve lives. (% agree)	78	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	67	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	66	71
Most students should be required to take a computer science course. (% agree)	54	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	63	67
...other elective courses like art, music, and foreign languages?	87	90
Opportunities & Participation	TN	US
CS offerings (average % positive)	51	55
About how many different types of CS courses are available in your school this year? (% 1+)	50	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	90	95
...AP courses	16	18
...Other	40	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	43	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	65	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	56	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	45	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	53	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	47	53

School Infrastructure	TN	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	6	8
Demand for CS education among students in your school is (%)		
...High	12	15
Support for CS (average % positive)	31	36
CS education is currently a top priority for my school. (% agree)	20	25
My school board believes CS education is important to offer in our schools. (% agree)	31	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	43	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	69	48
...There is not enough money to train or hire a teacher.	50	48
...There are no teachers available at my school with the necessary skills to teach computer science.	43	50
...We do not have sufficient budget to purchase the necessary computer equipment.	39	37
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...We do not have the necessary computer software.	36	35
...There is not enough demand from parents.	32	35
...There is not enough demand from students.	31	34
...We do not have the necessary computer equipment.	26	29
...There are too many other courses that students have to take in order to prepare for college.	25	23
...There is not enough classroom space.	20	18
...There are no teachers available to hire with the necessary skills to teach computer science.	11	11
...Internet connectivity is poor at my school.	2	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	18	16
...There were no teachers available at my school with the necessary skills to teach computer science.	17	18
...There was not enough money to train or hire a teacher.	15	15



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/43wUaX
All reports: g.co/cseduresearch

Texas principals have similar perceptions of CS relative to the average U.S. principal, but they are less likely to have CS courses and are less likely to include programming/coding in their offerings. They are also somewhat more likely to indicate that their school boards support offering CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Texas.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 88% of Texas principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 60% of Texas principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 57% of Texas principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 53% of Texas principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Texas.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 8% of Texas principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Texas, with 45% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (49%), focus on test preparation for other subject areas (48%), and insufficient budget for a CS teacher (40%)** are the greatest barriers to offering CS for Texas principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 1454 Texas K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	TX	US
Image of CS careers (average % positive)	85	85
People who do CS make things that help improve lives. (% agree)	82	82
CS can be used in a lot of different types of jobs. (% agree)	88	88
Value of CS in schools (average % positive)	73	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	70	71
Most students should be required to take a computer science course. (% agree)	60	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	70	67
...other elective courses like art, music, and foreign languages?	91	90
Opportunities & Participation	TX	US
CS offerings (average % positive)	54	55
About how many different types of CS courses are available in your school this year? (% 1+)	57	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	94	95
...AP courses	23	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	38	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	65	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	59	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	49	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	53	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	53	53

School Infrastructure	TX	US
Demand for CS (average % positive)	11	11
Demand for CS education among parents in your school is (%)		
...High	8	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	39	36
CS education is currently a top priority for my school. (% agree)	27	25
My school board believes CS education is important to offer in our schools. (% agree)	45	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	45	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	49	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	48	48
...There is not enough money to train or hire a teacher.	40	48
...We do not have the necessary computer software.	36	35
...We do not have sufficient budget to purchase the necessary computer equipment.	35	37
...We do not have sufficient budget to purchase the necessary computer software.	34	36
...There is not enough demand from students.	33	34
...There is not enough demand from parents.	32	35
...We do not have the necessary computer equipment.	30	29
...There are too many other courses that students have to take in order to prepare for college.	20	23
...There is not enough classroom space.	19	18
...There are no teachers available to hire with the necessary skills to teach computer science.	11	11
...Internet connectivity is poor at my school.	9	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	18	18
...There were too many other courses that students have to take in order to prepare for college.	14	16
...There was not enough money to train or hire a teacher.	14	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/2VFygV
All reports: g.co/cseduresearch

Utah principals more likely have positive images of CS, compared to the average U.S. principal. They are less likely to offer CS extracurriculars, but more likely to offer CS courses and have opportunities that include programming/coding. They anticipate growth in CS and are somewhat more likely to report support for CS from their school boards.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

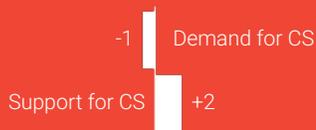
Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Utah.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 92% of Utah principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 61% of Utah principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 65% of Utah principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 60% of Utah principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Utah.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 8% of Utah principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Utah, with 46% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas** (55%), **lack of teachers trained in CS** (51%), and **insufficient budget for a CS teacher** (47%) are the greatest barriers to offering CS for Utah principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 300 Utah K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	UT	US
Image of CS careers (average % positive)	90	85
People who do CS make things that help improve lives. (% agree)	88	82
CS can be used in a lot of different types of jobs. (% agree)	92	88
Value of CS in schools (average % positive)	72	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	72	71
Most students should be required to take a computer science course. (% agree)	61	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	65	67
...other elective courses like art, music, and foreign languages?	93	90
Opportunities & Participation	UT	US
CS offerings (average % positive)	56	55
About how many different types of CS courses are available in your school this year? (% 1+)	65	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	98	95
...AP courses	16	18
...Other	45	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	51	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	59	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	66	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	54	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	58	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	60	53

School Infrastructure	UT	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	8	8
Demand for CS education among students in your school is (%)		
...High	13	15
Support for CS (average % positive)	38	36
CS education is currently a top priority for my school. (% agree)	25	25
My school board believes CS education is important to offer in our schools. (% agree)	46	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	44	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	55	48
...There are no teachers available at my school with the necessary skills to teach computer science.	51	50
...There is not enough money to train or hire a teacher.	47	48
...There is not enough demand from parents.	42	35
...We do not have sufficient budget to purchase the necessary computer equipment.	39	37
...We do not have sufficient budget to purchase the necessary computer software.	37	36
...There is not enough demand from students.	37	34
...We do not have the necessary computer software.	34	35
...We do not have the necessary computer equipment.	29	29
...There are too many other courses that students have to take in order to prepare for college.	28	23
...There is not enough classroom space.	22	18
...There are no teachers available to hire with the necessary skills to teach computer science.	11	11
...Internet connectivity is poor at my school.	5	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	20	18
...There was not enough money to train or hire a teacher.	18	15
...There were too many other courses that students have to take in order to prepare for college.	14	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

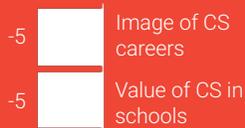
These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/fQbpZ8
All reports: g.co/cseduresearch

Vermont principals place less value on CS than the average U.S. principal. They are less likely to offer CS, including Advanced Placement, but offerings are more likely to include programming/coding. They indicate increased participation in CS but are less likely to anticipate growth, prioritize CS, or say that school boards and staff support CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

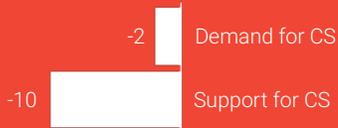
Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Vermont.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 87% of Vermont principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 52% of Vermont principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 48% of Vermont principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 50% of Vermont principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Vermont.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Vermont principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Vermont, with 31% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS** (46%), **insufficient budget for a CS teacher** (42%), and **not enough demand from parents** (34%) are the greatest barriers to offering CS for Vermont principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.
- **Engage with parents and students** to hear about what they perceive as important.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 124 Vermont K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	VT	US
Image of CS careers (average % positive)	80	85
People who do CS make things that help improve lives. (% agree)	74	82
CS can be used in a lot of different types of jobs. (% agree)	87	88
Value of CS in schools (average % positive)	67	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	71	71
Most students should be required to take a computer science course. (% agree)	52	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	62	67
...other elective courses like art, music, and foreign languages?	84	90
Opportunities & Participation	VT	US
CS offerings (average % positive)	53	55
About how many different types of CS courses are available in your school this year? (% 1+)	48	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	98	95
...AP courses	11	18
...Other	46	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	47	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	67	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	70	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	52	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	66	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	50	53

School Infrastructure	VT	US
Demand for CS (average % positive)	9	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	14	15
Support for CS (average % positive)	27	36
CS education is currently a top priority for my school. (% agree)	17	25
My school board believes CS education is important to offer in our schools. (% agree)	31	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	32	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	46	50
...There is not enough money to train or hire a teacher.	42	48
...There is not enough demand from parents.	34	35
...There is not enough demand from students.	30	34
...We do not have sufficient budget to purchase the necessary computer software.	28	36
...We do not have sufficient budget to purchase the necessary computer equipment.	24	37
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	22	48
...We do not have the necessary computer software.	22	35
...We do not have the necessary computer equipment.	16	29
...There are too many other courses that students have to take in order to prepare for college.	14	23
...There are no teachers available to hire with the necessary skills to teach computer science.	8	11
...There is not enough classroom space.	6	18
...Internet connectivity is poor at my school.	4	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	16	15
...There were no teachers available at my school with the necessary skills to teach computer science.	15	18
...There were too many other courses that students have to take in order to prepare for college.	15	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

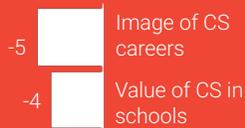
These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/Yjm7SZ
All reports: g.co/cseduresearch

Virginia principals place a slightly lower value on CS, compared to the average U.S. principal. They are less likely to offer CS courses, but more likely to offer CS extracurriculars. Virginia principals indicate less growth of CS and less school board support for CS. They are somewhat less likely to prioritize CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Virginia.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 84% of Virginia principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 53% of Virginia principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 49% of Virginia principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 47% of Virginia principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Virginia.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 7% of Virginia principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Virginia, with 37% indicating school board commitment (U.S. average 41%).
- **Focus on test preparation for other subject areas (50%), lack of teachers trained in CS (44%), and not enough demand from parents and students (39%)** are the greatest barriers to offering CS for Virginia principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Engage with parents and students** to hear about what they perceive as important.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 413 Virginia K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	VA	US
Image of CS careers (average % positive)	81	85
People who do CS make things that help improve lives. (% agree)	77	82
CS can be used in a lot of different types of jobs. (% agree)	84	88
Value of CS in schools (average % positive)	68	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	68	71
Most students should be required to take a computer science course. (% agree)	53	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	64	67
...other elective courses like art, music, and foreign languages?	87	90
Opportunities & Participation	VA	US
CS offerings (average % positive)	55	55
About how many different types of CS courses are available in your school this year? (% 1+)	49	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	21	18
...Other	49	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	42	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	73	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	64	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	44	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	52	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	47	53

School Infrastructure	VA	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	7	8
Demand for CS education among students in your school is (%)		
...High	13	15
Support for CS (average % positive)	32	36
CS education is currently a top priority for my school. (% agree)	21	25
My school board believes CS education is important to offer in our schools. (% agree)	37	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	41	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	50	48
...There are no teachers available at my school with the necessary skills to teach computer science.	44	50
...There is not enough demand from parents.	39	35
...There is not enough demand from students.	39	34
...There is not enough money to train or hire a teacher.	38	48
...We do not have sufficient budget to purchase the necessary computer software.	38	36
...We do not have sufficient budget to purchase the necessary computer equipment.	33	37
...We do not have the necessary computer software.	33	35
...We do not have the necessary computer equipment.	24	29
...There is not enough classroom space.	19	18
...There are too many other courses that students have to take in order to prepare for college.	15	23
...There are no teachers available to hire with the necessary skills to teach computer science.	7	11
...Internet connectivity is poor at my school.	7	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	15	18
...There were too many other courses that students have to take in order to prepare for college.	15	16
...There was not enough money to train or hire a teacher.	14	15

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/yKYP57
All reports: g.co/cseduresearch

Washington principals value CS slightly less than the average U.S. principal. Yet, CS offerings, reported growth, and student demand are higher than average. They are less likely to prioritize CS and perceive less staff support for CS. Barriers include lack of classroom space, insufficient technology and budget, and competing college requirements.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Washington.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 86% of Washington principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 53% of Washington principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 57% of Washington principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 61% of Washington principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Washington.

- **Parents’ demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 7% of Washington principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Washington, with 43% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (51%), focus on test preparation for other subject areas (50%), insufficient budget for a CS teacher (47%), and insufficient budget for technology (47%)** are the greatest barriers to offering CS for Washington principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.
- **Prioritize funding** to meet the demand for CS education.

¹ Source: code.org/promote



Washington

Data Tables

The descriptive data tables below show responses by 349 Washington K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	WA	US
Image of CS careers (average % positive)	83	85
People who do CS make things that help improve lives. (% agree)	79	82
CS can be used in a lot of different types of jobs. (% agree)	86	88
Value of CS in schools (average % positive)	68	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	68	71
Most students should be required to take a computer science course. (% agree)	53	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	65	67
...other elective courses like art, music, and foreign languages?	87	90
Opportunities & Participation	WA	US
CS offerings (average % positive)	56	55
About how many different types of CS courses are available in your school this year? (% 1+)	57	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	97	95
...AP courses	18	18
...Other	51	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	43	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	69	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	68	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	57	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	60	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	61	53

School Infrastructure	WA	US
Demand for CS (average % positive)	10	11
Demand for CS education among parents in your school is (%)		
...High	7	8
Demand for CS education among students in your school is (%)		
...High	19	15
Support for CS (average % positive)	33	36
CS education is currently a top priority for my school. (% agree)	20	25
My school board believes CS education is important to offer in our schools. (% agree)	43	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	37	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	51	50
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	50	48
...There is not enough money to train or hire a teacher.	47	48
...We do not have sufficient budget to purchase the necessary computer equipment.	47	37
...We do not have sufficient budget to purchase the necessary computer software.	41	36
...We do not have the necessary computer software.	41	35
...We do not have the necessary computer equipment.	38	29
...There is not enough demand from students.	37	34
...There is not enough demand from parents.	33	35
...There is not enough classroom space.	33	18
...There are too many other courses that students have to take in order to prepare for college.	32	23
...There are no teachers available to hire with the necessary skills to teach computer science.	15	11
...Internet connectivity is poor at my school.	10	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were too many other courses that students have to take in order to prepare for college.	20	16
...There were no teachers available at my school with the necessary skills to teach computer science.	16	18
...There was not enough money to train or hire a teacher.	13	15

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

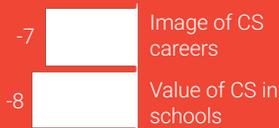
These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/FUMFaP
All reports: g.co/cseducationresearch

West Virginia principals are less likely than the average U.S. principal to have positive perceptions of CS. They are also less likely to have various CS offerings, include programming/coding in their offerings, or indicate growth in CS. They are less likely to prioritize CS or report student and parent demand and staff and school board support.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for West Virginia.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 82% of West Virginia principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 49% of West Virginia principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 38% of West Virginia principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 35% of West Virginia principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in West Virginia.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of West Virginia principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in West Virginia, with 28% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS** (61%), **insufficient budget for a CS teacher** (42%), and **focus on test preparation for other subject areas** (39%) are the greatest barriers to offering CS for West Virginia principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.
- **Integrate CS** education offerings via flexible curricula, empowering teachers to incorporate CS into their subjects.

¹ Source: code.org/promote



K-12 Computer Science Education West Virginia

Data Tables

The descriptive data tables below show responses by 148 West Virginia K-12 principals compared to the full sample of 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	WV	US
Image of CS careers (average % positive)	78	85
People who do CS make things that help improve lives. (% agree)	74	82
CS can be used in a lot of different types of jobs. (% agree)	82	88
Value of CS in schools (average % positive)	64	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	59	71
Most students should be required to take a computer science course. (% agree)	49	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	64	67
...other elective courses like art, music, and foreign languages?	86	90
Opportunities & Participation	WV	US
CS offerings (average % positive)	48	55
About how many different types of CS courses are available in your school this year? (% 1+)	38	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	94	95
...AP courses	14	18
...Other	45	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	45	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	51	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	52	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	34	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	44	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	35	53

School Infrastructure	WV	US
Demand for CS (average % positive)	7	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	9	15
Support for CS (average % positive)	25	36
CS education is currently a top priority for my school. (% agree)	16	25
My school board believes CS education is important to offer in our schools. (% agree)	28	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	30	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	61	50
...There is not enough money to train or hire a teacher.	42	48
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	39	48
...We do not have sufficient budget to purchase the necessary computer equipment.	32	37
...There is not enough demand from parents.	28	35
...We do not have the necessary computer software.	28	35
...We do not have sufficient budget to purchase the necessary computer software.	28	36
...There is not enough demand from students.	27	34
...We do not have the necessary computer equipment.	23	29
...There are too many other courses that students have to take in order to prepare for college.	18	23
...There are no teachers available to hire with the necessary skills to teach computer science.	18	11
...There is not enough classroom space.	18	18
...Internet connectivity is poor at my school.	3	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There was not enough money to train or hire a teacher.	18	15
...There were no teachers available at my school with the necessary skills to teach computer science.	14	18
...There were too many other courses that students have to take in order to prepare for college.	12	16

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014–2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.



This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

This report: goo.gl/RJcpo5
All reports: g.co/cseduresearch

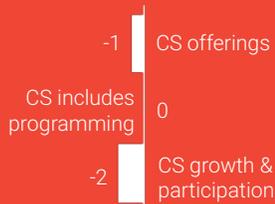
Wisconsin principals place a lower value on CS learning, compared to the average U.S. principal. They are more likely to integrate CS into other subjects, but less likely to offer CS extracurriculars. They are also less likely to indicate high demand for CS.

Values below indicate percentage point difference from the U.S. average. See back for full data tables.

Perceptions



Opportunities & Participation



School Infrastructure



State Policy as of 2017¹

- Dedicated state funding for CS PD
- Requires all high schools to offer CS
- K–12 CS curriculum standards

Background

Broadening equitable student access to computer science (CS) education is critical to our future, not only because of the increasing demand for qualified workers to fill computing-related jobs but also because it develops critical thinking to solve complex problems, creativity to foster new ideas, and skills to drive innovation. To inform the public on progress made toward ensuring broad participation in K–12 CS education, this report provides results from 2014–15 and 2015–16 Google-Gallup surveys. Topics include perceptions, opportunities, support, and infrastructure. It also offers recommendations to broaden access to CS learning for Wisconsin.

Findings

Results from the 2014–15 and 2015–16 Google-Gallup surveys show that while perceptions of CS are increasingly positive, there is still inconsistent implementation of CS education for students in U.S. schools.

- **Positive perceptions of CS prevail** among students, parents, and educators, including 87% of Wisconsin principals who believe that CS can be used in many different jobs (U.S. average 88%).
- **The value of CS is high**, where 52% of Wisconsin principals agreed that most students should be required to take CS (U.S. average 60%).
- **CS offerings are limited**, with 57% of Wisconsin principals reporting offering CS classes (U.S. average 57%).
- **Growth in CS opportunities is anticipated** by 51% of Wisconsin principals by 2019 (U.S. average 53%).

To help prepare schools for CS education, the study also identifies challenges to providing CS education for all students in Wisconsin.

- **Parents' demand for CS is not being heard**; 91% of U.S. parents want their child to learn CS, whereas only 5% of Wisconsin principals believe there is strong parent demand for CS (U.S. average 8%).
- **Principals perceive weak school board support for CS** in Wisconsin, with 40% indicating school board commitment (U.S. average 41%).
- **Lack of teachers trained in CS (50%), insufficient budget for a CS teacher (43%), and not enough demand from parents (42%)** are the greatest barriers to offering CS for Wisconsin principals.

Recommendations

- **Promote broad, diverse participation** by taking advantage of interest and growth while integrating equity practices into CS recruitment and pedagogy.
- **Expand CS offerings** by connecting with communities, legislators, and organizations advocating for CS education.
- **Increase qualified CS teachers** through incentives and support of quality teacher preparation and certification.
- **Prioritize funding** to meet the demand for CS education.
- **Engage with parents and students** to hear about what they perceive as important.

¹ Source: code.org/promote



Data Tables

The descriptive data tables below show responses by 620 Wisconsin K-12 principals compared to the full sample of 18,938 surveys collected in 2014-2015 and 2015-2016 from U.S. K-12 school principals; sample size may vary by question. Percentage point differences from the U.S. for each category were calculated from the percentages bolded below. Full methodology is at goo.gl/7qwXgP.

Perceptions	WI	US
Image of CS careers (average % positive)	84	85
People who do CS make things that help improve lives. (% agree)	81	82
CS can be used in a lot of different types of jobs. (% agree)	87	88
Value of CS in schools (average % positive)	68	72
It is a good idea to try to incorporate CS education into other subjects at school. (% agree)	70	71
Most students should be required to take a computer science course. (% agree)	52	60
Do you think offering opportunities to learn CS is more important, just as important, or less important to a student's future success than (% just as/more important)		
...required courses like math, science, history and English?	61	67
...other elective courses like art, music, and foreign languages?	88	90
Opportunities & Participation	WI	US
CS offerings (average % positive)	53	55
About how many different types of CS courses are available in your school this year? (% 1+)	57	57
For each of the CS classes available this year, how many are (% 1+)		
...Introductory level	95	95
...AP courses	13	18
...Other	45	47
As far as you know, is CS taught as part of other classes at your school? (% yes)	54	46
How many school clubs or after-school activities that expose students to CS are at your school? (% 1+)	56	65
CS includes programming: Do the computer science opportunities offered in your school include any of the following elements?	63	63
...Computer programming and coding (%)		
CS growth & participation (average % positive)	48	51
[Of those offering CS] In the last 3 years, has CS participation increased, stayed about the same, or decreased? (% increased)	53	56
In the next 3 years, will the number of opportunities to learn CS in your school increase, stay the same, or decrease? (% increase)	51	53

School Infrastructure	WI	US
Demand for CS (average % positive)	8	11
Demand for CS education among parents in your school is (%)		
...High	5	8
Demand for CS education among students in your school is (%)		
...High	12	15
Support for CS (average % positive)	34	36
CS education is currently a top priority for my school. (% agree)	22	25
My school board believes CS education is important to offer in our schools. (% agree)	40	41
The majority of teachers and counselors in my school think it is important to offer CS. (% agree)	40	43
Barriers		
As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. (%)		
...There are no teachers available at my school with the necessary skills to teach computer science.	50	50
...There is not enough money to train or hire a teacher.	43	48
...There is not enough demand from parents.	42	35
...We have to devote most of our time to other courses that are related to testing requirements and computer science is not	39	48
...There is not enough demand from students.	39	34
...We do not have the necessary computer software.	27	35
...We do not have sufficient budget to purchase the necessary computer equipment.	27	37
...We do not have sufficient budget to purchase the necessary computer software.	27	36
...There are too many other courses that students have to take in order to prepare for college.	26	23
...We do not have the necessary computer equipment.	21	29
...There are no teachers available to hire with the necessary skills to teach computer science.	14	11
...There is not enough classroom space.	13	18
...Internet connectivity is poor at my school.	9	10
What was the largest barrier your school had to overcome to offer CS? (%)		
...There were no teachers available at my school with the necessary skills to teach computer science.	21	18
...There were too many other courses that students have to take in order to prepare for college.	13	16
...There was not enough money to purchase the necessary computer equipment.	11	12

Suggested citation: Google Inc. & Gallup Inc. (2017, December). K-12 Computer Science Education: State Reports. Results From the 2014-2016 Google-Gallup Study of Computer Science in U.S. K-12 Schools. Retrieved from <https://goo.gl/n7bZLs>.

K-12 Computer Science Education State Reports Methods

2017

This report summarizes the status of computer science (CS) education using data from 18,938 surveys collected in 2014–2015 and 2015–2016 from U.S. K–12 school principals.

These data are from a multi-year Google-Gallup study of U.S. K–12 students, parents, teachers, principals, and superintendents.

g.co/cseduresearch

Data Sources

The state reports are based on English language web surveys completed by 18,938 K–12 (including elementary, middle and high school) principals between November 11–December 10, 2014 and between January 5–26, 2016. Principals were contacted using a sample provided by an established education sample provider. The sample sources are comprehensive and are representative of all principals in the U.S. at the time of data collection.

We produced state reports for states with over 100 principal respondents over both survey cycles. These are Alabama (n = 249), Arizona (n = 453), Arkansas (n = 276), California (n = 1461), Colorado (n = 423), Connecticut (n = 248), Florida (n = 730), Georgia (n = 575), Idaho (n = 152), Illinois (n = 768), Indiana (n = 380), Iowa (n = 425), Kansas (n = 383), Kentucky (n = 286), Louisiana (n = 206), Maine (n = 180), Maryland (n = 307), Massachusetts (n = 413), Michigan (n = 792), Minnesota (n = 373), Mississippi (n = 169), Missouri (n = 514), Montana (n = 115), Nebraska (n = 370), New Hampshire (n = 111), New Jersey (n = 402), New Mexico (n = 166), New York (n = 675), North Carolina (n = 735), Ohio (n = 822), Oklahoma (n = 423), Oregon (n

= 270), Pennsylvania (n = 583), South Carolina (n = 222), South Dakota (n = 121), Tennessee (n = 331), Texas (n = 1454), Utah (n = 300), Vermont (n = 124), Virginia (n = 413), Washington (n = 349), West Virginia (n = 148), and Wisconsin (n = 620). Comparisons are made between principals in the state and the overall U.S. principals surveyed in this study (n = 18,938).

In addition to sampling error, question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of public opinion polls.

To ensure that respondents were thinking only about computer science – and not computer use more generally – respondents were provided with a definition of computer science after answering initial questions about computer science activities. In addition, respondents were reminded multiple times throughout the survey that computer science involves using programming/coding to create more advanced artifacts, such as software, apps, games, websites and electronics, and that computer science is not equivalent to general computer use.

Analysis

Positive percentages for survey questions are calculated as indicated in the right column for each question below. Summary percentages by topic for the data tables on the reports are calculated as noted in the “value =” definition from each of the bolded categories below. Percentage point differences are

calculated from the difference between the state percent value and the overall U.S. percent value; percentage point differences are rounded after calculations. These percentage point differences from the U.S. are also represented in the charts on the front of the reports.

Knowledge & Perceptions

Image of CS careers (value = average % of 2 questions, NULL if any are NULL)

People who do computer science make things that help improve people’s lives. [Strongly disagree, Disagree, Neutral, Agree, Strongly agree, Don’t know] % agree/strongly agree

Computer science can be used in a lot of different types of jobs. [Strongly disagree, Disagree, Neutral, Agree, Strongly agree, Don’t know] % agree/strongly agree

Value of CS in schools (value = average % of 4 questions, NULL if any are NULL)	
It is a good idea to try to incorporate computer science education into other subjects at school. [Strongly disagree, Disagree, Neutral, Agree, Strongly agree, Don't know]	% agree/strongly agree
Most students should be required to take a computer science course. [Strongly disagree, Disagree, Neutral, Agree, Strongly agree, Don't know]	% agree/strongly agree
Do you think offering opportunities to learn computer science is more important, just as important, or less important to a student's future success than ...required courses like math, science, history and English? [More important, Just as important, Less important, Don't know]	% just as/more important
...other elective courses like art, music, and foreign languages? [More important, Just as important, Less important, Don't know]	% just as/more important
Opportunities & Participation	
CS offerings (value = average % of 6 questions, NULL if any are NULL)	
About how many types of computer science courses are available in your school this year? [0, 1-2, 3-5, More than 5, Don't know]*	% with 1 or more
[Of those offering CS] For each of the different computer science classes available in your school this year, how many are? [None, 1, 2, 3, 4, 5, More than 6, Don't know]	% with 1 or more
...Introductory level	% with 1 or more
...Advanced Placement (AP) courses	% with 1 or more
...Other	% with 1 or more
[Of those offering CS] As far as you know, is computer science taught as part of any other classes at your school? [Yes, No, Don't know]	% yes
[Of those offering CS] Approximately how many school-sponsored clubs or after-school activities that expose students to computer science are available to students in your school? [0, 1-2, 3-5, More than 5, Don't know]	% with 1 or more
CS includes programming (value = % selected)	
Do the computer science opportunities offered in your school include any of the following elements. Select all that apply.	
...Computer programming and coding*	% selected
CS growth & participation (value = average % of 2 questions; NULL if both are NULL)	
[Of those offering CS] Has participation in opportunities to learn computer science in your school increased, stayed about the same, or decreased in the last three years? [Increased, Stayed about the same, Decreased, Don't know]	% increased
Do you expect the number of opportunities to learn computer science in your school will increase, stay the same, or decrease in the next three years? [Increase, Stay the same, Decrease, Don't know]	% increase
School Infrastructure	
Demand for CS (value = average % of 2 questions, NULL if any are NULL)	
Which of the following best describes the demand for computer science education among parents in your school? Is demand... ...[High, Moderate, Low, Don't know]	% high
Which of the following best describes the demand for computer science education among students in your school? Is demand... ...[High, Moderate, Low, Don't know]	% high
Support for CS (value = average % of 3 questions, NULL if any are NULL)	
Computer science education is currently a top priority for my school. [Strongly disagree, Disagree, Neutral, Agree, Strongly agree, Don't know]	% agree/strongly agree
My school board believes computer science education is important to offer in our schools. [Strongly disagree, Disagree, Neutral, Agree, Strongly agree, Don't know]	% agree/strongly agree
The majority of teachers and guidance counselors in my school think it is important to offer opportunities to learn computer science. [Strongly disagree, Disagree, Neutral, Agree, Strongly agree, Don't know; teacher and counselor separated into two questions for second survey cycle, combined in this analysis]	% agree/strongly agree

*To calculate the overall percentage of principals whose schools offer computer science classes with programming and coding, the total who reported their computer science opportunities include computer programming and coding was divided by the total number of principals who responded to the question about how many types of computer science courses are available.

Barriers

As far as you know, why doesn't your school offer any ways to learn computer science? Select all that apply. % selected

- ...There are no teachers available at my school with the necessary skills to teach computer science.
- ...There are no teachers available to hire with the necessary skills to teach computer science.
- ...There is not enough classroom space.
- ...There is not enough money to train or hire a teacher.
- ...We do not have the necessary computer equipment.
- ...We do not have the necessary computer software.
- ...We do not have sufficient budget to purchase the necessary computer equipment.
- ...We do not have sufficient budget to purchase the necessary computer software.
- ...Internet connectivity is poor at my school.
- ...There is not enough demand from students.
- ...There is not enough demand from parents.
- ...There are too many other courses that students have to take in order to prepare for college.
- ...We have to devote most of our time to other courses that are related to testing requirements and computer science is not
- ...Don't know (Programmer: If this option if selected, uncheck all other boxes)

As far as you know, which of the following barriers was the largest barrier your school had to overcome in order to offer ways to learn computer science? % selected

- ...There were no teachers available at my school with the necessary skills to teach computer science.
- ...There were no teachers available to hire with the necessary skills to teach computer science.
- ...There was not enough classroom space.
- ...There was not enough money to train or hire a teacher.
- ...We did not have the necessary computer equipment.
- ...We did not have the necessary computer software.
- ...There was not enough money to purchase the necessary computer equipment.
- ...There was not enough money to purchase the necessary computer software
- ...Poor internet connectivity
- ...There was little demand from students.
- ...There was little demand from parents
- ...There were too many other courses that students have to take in order to prepare for college.

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