



Digital Promise<sup>®</sup>

Accelerating Innovation in Education

# Use Research Like a Champion

By Sierra Noakes, M.Ed.

*October, 2018*



# Introduction

Completing a difficult task requires a combination of skill and will. For example, while young athletes may have all of the will they can muster to become professionals, they still need to focus on skill development and growth to achieve their goal. The use of research and evidence to inform decisions in schools and districts is a surprisingly parallel story.

Athletes put in a significant amount of work to achieve their goals. Why? Research suggests that intrinsic motivation provides the foundation on which athletes, in collaboration with their coaches and teammates, build and develop their professional skills (Lewthwaite & Wulf, 2017). To get the ball rolling toward becoming a professional athlete, there needs to be a foundational will to put in the work.

Similarly, to get the ball rolling toward more widespread use of research and evidence in K-12 education decision-making, we must first determine whether the will exists. The National Center for Research in Policy and Practice recently revealed important insights about the willingness of education decision-makers to use research and evidence (Penuel et al., 2016). In a study with 733 different school and district leaders, most education leaders self-reported positive attitudes when asked about the value of research (Ibid). Moreover, most education leaders also self-reported regular use of research and evidence to inform decisions (Ibid).

Professional athletes demonstrate that will and motivation are essential to achieving success. However, skill is still required to succeed. Athletes deeply focus on skill development, particularly by collaborating with and learning from experts in their field, such as coaches. In a recent study, Jowett (2017) found that,

while coaching “has been often viewed as a context within which coaches operate to largely bring about changes in athlete’s performance and wellbeing,” coaching effectiveness is tied to the quality of coach-athlete relationships. This implies that in order for athletes to develop and improve, they must have an open dialogue and a trusting, ongoing relationship with their expert coach. Together, coaches and athletes improve practice.

Similarly, recent evidence demonstrates that education leaders have the motivation to make research and evidence-based decisions, yet the skill development process is less clear. Education leaders do not have defined coaches to support them in improving their data-driven decision-making practices. Few studies have been able to push beyond the veil of self-reporting by district and school leaders to understand the ways in which individuals within districts actually use research and evidence to inform decision-making; as of yet, researchers have just begun to measure the quality and rigor of research and evidence use by education leaders (Coburn & Turner, 2011). Most studies suggest limited use of research and evidence in education leadership roles (Coburn & Turner, 2012). Given the clear desire to make research and evidence-based decisions, it is likely there is a lack of skill to successfully do so. Even among the 733 education leaders involved

in the recent study conducted by Penuel et al. (2016), the researchers found that few leaders consulted research when confronted with a challenge. Moreover, researchers found that education leaders' interpretations and conclusions based on research were frequently inappropriate and inaccurate (Ibid).

Together, these findings suggest there is a desire among education leaders to use research and evidence to inform decisions. However, like athletes, education leaders need support from experts in developing capacity and skill.

## Support for Education Leaders

In order to work toward increasing districts' and schools' capacities to effectively use research and evidence to guide and inform decisions, it's valuable to first understand the challenges that make skill development difficult. Studies have found that the use of evidence to develop and inform decisions is limited by staff capacity (including time), research skills, and support, as well as organizational culture and an institution's historical relationship with research (Marsh, Pane, & Hamilton, 2006). Many districts do not have the internal capacity and research skills to devote to analyzing and interpreting data; often, this is because most districts are small and have limited staff numbers within their administration (National Center for Education Statistics, 2011). This limited capacity can lead to cases where claims are based on statistically insignificant or inappropriately interpreted findings (Marsh, Pane, & Hamilton, 2006).

Digital Promise's Marketplace Initiative, which has collaborated with district leaders across the country to develop tools and resources that support their edtech evaluation efforts, wanted to understand how these tools help support education decision makers use evidence to inform procurement and adoption decisions. In 2018, Digital Promise administered a survey to further contribute to the research that exists on research and evidence use in schools and districts. Most research on this topic only considers the perspectives of superintendents and principals. This new survey, however, intended to incorporate perceptions and attitudes around research

and evidence use across a more expansive list of education roles, including educators, coaches, and instructional specialists.

To guide our future work, the survey also sought to understand self-reported research and evidence use across Digital Promise networks to understand who needs coaching and support going forward and in what areas. Through the survey, findings uncover differences between education leaders' perceptions of the significance of research and evidence to inform program adoption and procurement. Moreover, the survey finds interesting differences in the types of research and evidence used by various education roles to inform decisions around the adoption and procurement of innovative educational programs.

In addition to understanding the significance and types of evidence education leaders and practitioners use to make decisions, this survey sought to learn more about a piloting tool developed by Digital Promise to support education leaders and educators in conducting pilots around education technology and innovative programs, the Edtech Pilot Framework. The survey intended to learn about who accesses the Digital Promise Edtech Pilot Framework and to understand their motivations to use the Framework. Further, the survey intended to uncover potential correlations between self-reported research and evidence use and toolkits developed by Digital Promise, such as the [Edtech Pilot Framework](#).

# Methodology

In June 2018, Digital Promise administered a 12-question survey through SurveyMonkey, which was completed by 143 individuals in the education field.

Most respondents came from Digital Promise's [Research and Evidence Use in Edtech](#) community on edWeb. Digital Promise launched this community in the fall of 2017 to engage educators, education leaders, researchers, and product developers in discussions around strategies to effectively and appropriately use research and evidence to inform decisions. The second network we administered the survey to was the League of Innovative Schools, a national network organized by Digital Promise of more than 100 forward-thinking education leaders who are working together to improve outcomes for students and solving the challenges facing K-12 schools. Researchers administered the survey to these two networks to understand and compare their use of research and evidence.

The survey required respondents to note their role/occupation in education and whether they are members of the League of Innovative Schools, which enabled researchers to make interesting comparisons in the analysis. In addition, the survey asked respondents, "How significant a role does research and evidence play at your school or district in decisions about procurement and program adoption?" with the option

to answer on a scale from 1, meaning no role, to 10, meaning an essential role.

Respondents were also asked to note the types of evidence they use to inform program adoption decisions, with options to choose from including pilots conducted by their own school or district, pilots conducted in another district, recommendations from colleagues, research provided by the developer, and "other" to include any other type of evidence. Finally, in an effort to understand a potential correlation between research and evidence use and the Edtech Pilot Framework, respondents were asked about their familiarity with the tool, why they visited the site, and how useful the site was in meeting their needs.

Survey responses were coded to equate to numeric values. For example, when asked whether a respondent was familiar with Digital Promise's Edtech Pilot Framework, "no" responses were coded to equal 0 while "yes" responses were coded to equal 1. After coding the responses, analysis was completed using IBM SPSS Statistics software version 25. The analysis included descriptive and frequency statistics, as well as independent sample T-tests, when appropriate.

## Key Player Profile

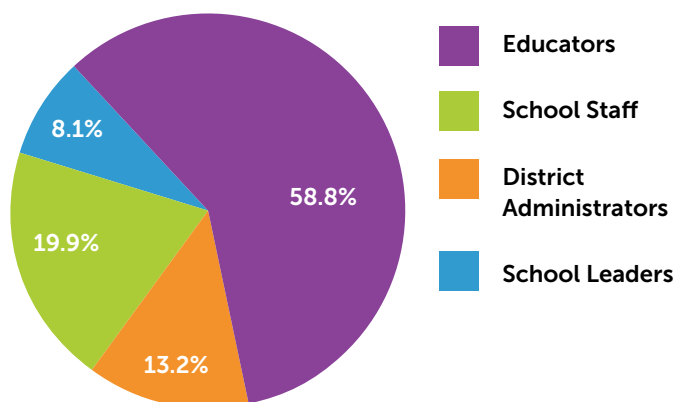
Researchers sought to learn from superintendents and principals to understand their responses compared to the available literature. However, researchers also targeted teachers and school staff, such as coaches, instructional and educational technology

specialists, and librarians, to give voice to their use of research and evidence. The survey was administered and open throughout the month of June 2018. Through each effort to administer the survey, potential participants were notified that 10 respondents selected

at random would receive a \$25 gift card to Amazon. Researchers requested members of edWeb to complete the survey through an email sent by the edWeb team, as well as at the end of a webinar hosted on June 13, 2018. League members received two emails in June 2018 that asked them to complete the brief survey to help inform Digital Promise’s work. In total, 143 individuals responded to the survey.

Of those who completed the survey, 95 percent of respondents were directly involved in K-12 education decision-making (see *Figure 1*). The largest portion of respondents were educators, followed by school staff, which included roles like librarians, instructional and/or technology specialists, paraprofessionals, program coordinators, and coaches. About 13 percent of respondents were district administrators, including superintendents, and about eight percent were principals and school leaders. Additionally, seven individuals who work for education technology companies, education nonprofits, or higher

education institutions completed the survey. Respondents represent an expansive view on K-12 decision-making across the United States, with representation from 35 states, in addition to four respondents involved in K-12 education outside of the U.S.



*Figure 1:*  
Distribution of Survey Respondents by Education Role  
[Survey Question: What is your role?]

## Results

### Research and Evidence are Important in Decision-Making

- Overall, education leaders’ responses aligned with the findings of Penuel et al. (2016); education leaders reported that research and evidence play a significant role in decision-making.
- On average, all respondents in K-12 education roles reported a mean of 7.45 when asked to rate the significance of the role of research and evidence in decision-making in their school or district on a scale from one, meaning no role, to 10, meaning an essential role.

- Survey results indicate that the types of research and evidence used to inform decisions varies by role.

Survey results demonstrate that among those who responded across 35 states, research and evidence play a significant role in adoption and procurement decisions for innovative programs. Among all of the participants employed in K-12 education settings, nearly two-thirds rated research and evidence as a playing highly important or essential role in decision-making (see *Figure 2*).

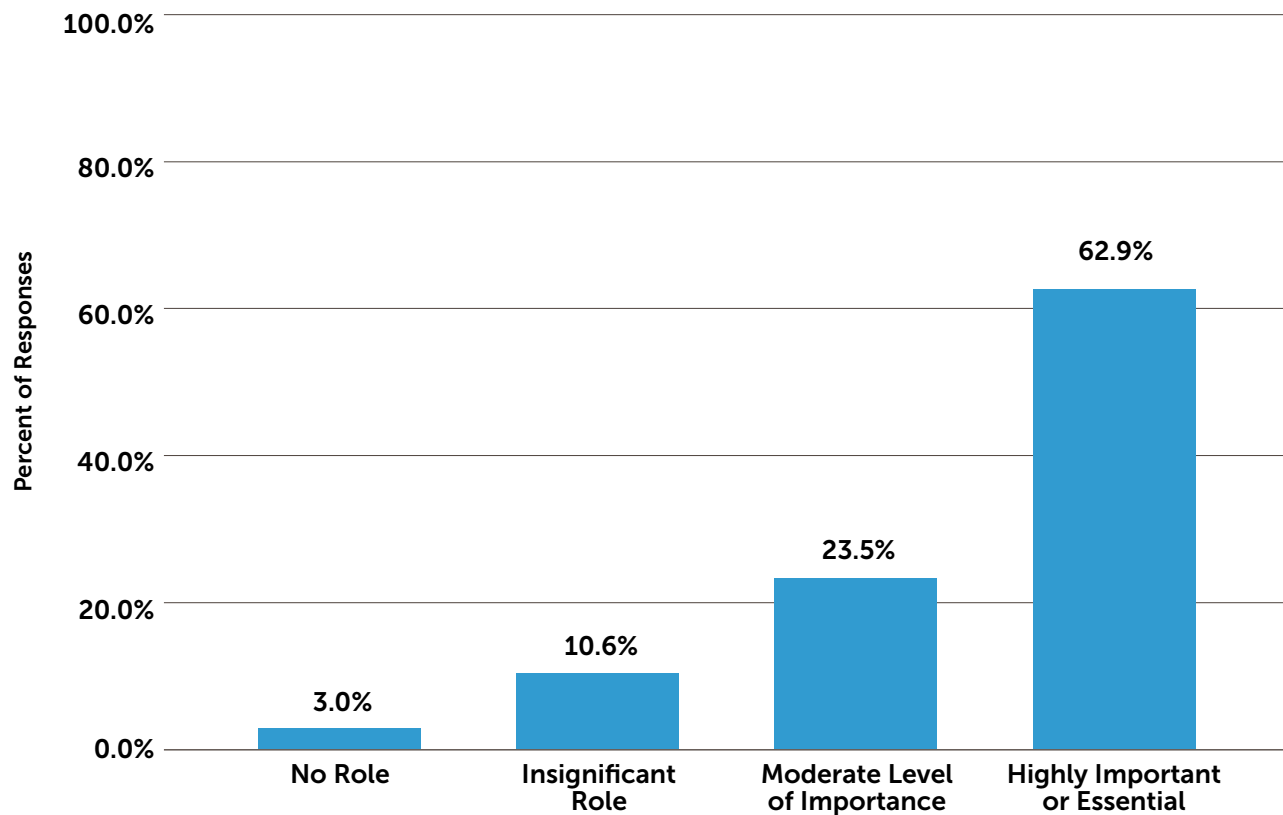


Figure 2:  
Level of Significance Research and Evidence Play in K-12 Program Adoption Decisions (N = 136)

On average, respondents in K-12 education settings reported that research and evidence play a moderate to highly important role in decisions about program procurement and adoption, though responses varied by role (see Table 1). When asked how significant a role research and evidence play at respondents' schools or districts in decisions about procurement and program adoption, school leaders reported a statistically significantly higher score, an average of 8.20, compared to educators, an average of 7.45 ( $p < .10$ ).

This likely indicates an important discrepancy between leadership's intention and actual implementation. The finding may suggest that the top-down nature of decision-making processes in schools often leaves teachers out of important conversations around the goals of implementing innovative programs

and the basis for procurement and adoption decisions. It may also indicate that, while principals and school leaders intend to make decisions based on research and evidence, educators disagree that their leaders' skills lead to appropriately interpreted conclusions and, thus, decisions. Studies suggest that education leaders have proposed policies based on students' performance on a single test, without appropriately accounting for the multitude of outside factors that influence a student's performance (Marsh, Pane, & Hamilton, 2006). In turn, the common misuse of data by education leaders can foster a mistrust of research and data among practitioners, which may be the basis for this statistically significant difference.

| Role                                     | N   | Mean | Std. Deviation |
|--|-----|------|----------------|
| Overall                                  | 132 | 7.45 | 2.34           |
| Educator                                 | 78  | 7.45 | 2.33           |
| Superintendent or District Administrator | 18  | 7.61 | 2.79           |
| School Staff                             | 26  | 7.04 | 2.47           |
| Principal or School Leader               | 10  | 8.20 | 1.32           |

Table 1:

Average responses rating how significant a role research and evidence play at respondents' schools or districts in decisions about procurement and program adoption, by role on a scale of 1 (no role) to 10 (essential role).

When asked about the types of evidence used to inform program adoption decisions, respondents most frequently cited pilots conducted by their school

or district as the most common form of evidence, followed closely in frequency by recommendations from colleagues. However, responses varied by role (see Figure 3).

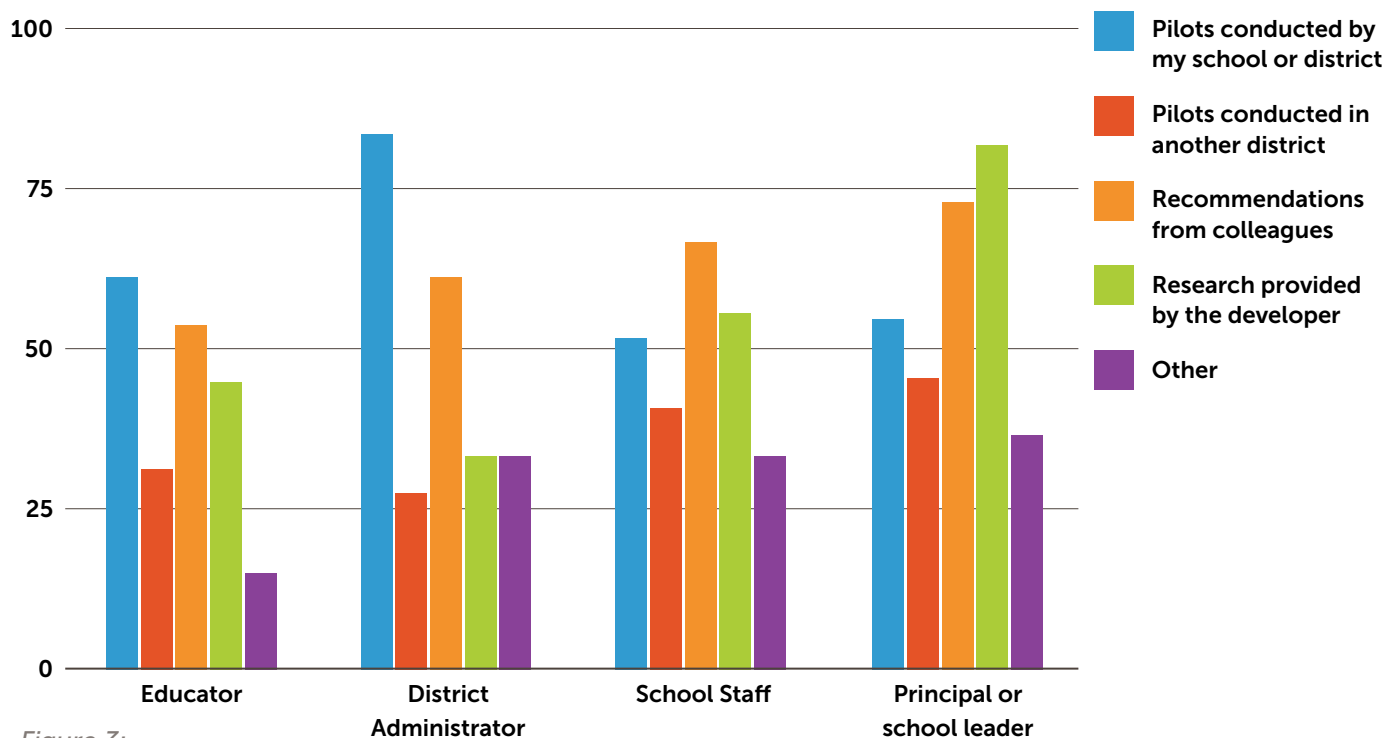


Figure 3:

The Types of Evidence Used to Inform K-12 Program Adoption Decisions by Role (N=136)

District and school leadership reported fairly different types of evidence that inform their program adoption decisions. About 83 percent of district administrators reported using pilots conducted by their school or district as a form of evidence used to make program adoption decisions, compared to only 55 percent of school leaders. On the other hand, more than 80 percent of school leaders reported using research provided by the developer to make decisions, compared to only 33 percent of district administrators.

Educators use a variety of evidence and research to inform their decisions. The majority of educators use pilots,

about half use recommendations from colleagues, and far fewer use evidence gathered by other schools or districts.

These findings illustrate the lack of collaboration in decision-making across the various roles in K-12 education. Likely, this finding suggests that district and school leaders should communicate more regularly with one another as well as educators to define types of evidence that should support program adoption and procurement decisions.

## Digital Promise's Contributions to Evidence-Based Decision Making

Members of the League of Innovative Schools included in this survey value the role of research and evidence and evidence in decision-making significantly more than non-League members surveyed. This result may be, in part, due to their work with Digital Promise. For instance, the Edtech Pilot Framework has supported members of the League of Innovative Schools in more regularly accessing, collecting, and using research and evidence to inform adoption and procurement decisions around innovative programs and products. When asked how significant a role research and evidence play at

respondents' schools or districts in decisions about procurement and program adoption, superintendents in the League of Innovative Schools reported a statistically significantly higher score, an average of 8.21 out of 10, compared to respondents not affiliated with the League of Innovative Schools, who reported an average of 7.05 ( $p < .10$ ). These results are promising for Digital Promise's research and evaluation efforts since they suggest that League leaders may value and use research more than non-League members.



# Discussion

## Education Decision Makers Need Support Skill Building

This survey echoes the results of the National Center for Research in Policy and Practice's recent study (Penuel et al., 2016) in suggesting that there is a strong desire to use research and evidence, as well as thorough recognition of the need to do so. This survey highlights that research and evidence play a moderate to critical role in the majority of K-12 decisions around the adoption and procurement of innovative programs.

These findings also imply that educators are interested in research and evidence, especially piloting, to inform their program adoption decisions. In order to support educators in collecting relevant data to inform decisions, it is important for organizations, including Digital Promise, to continue to provide professional learning opportunities along with free tools and resources to support educators in conducting pilot studies.

Our theory of action is to be capacity builders. In 2014, in collaboration with [Johns Hopkins University, Digital Promise](#) conducted a study to understand the process K-12 education leaders follow to make education technology (edtech) procurement decisions.

This study identified that K-12 education leaders conducted pilots as a reliable and relevant source to make these decisions. The survey's results also align with these findings, demonstrating that piloting continues to be the most common type of evidence used to inform these decisions. As a follow-up, in 2015, [Digital Promise](#) conducted a study with the University of California at Davis to identify best practices in edtech piloting; based on these findings, Digital Promise created the [Edtech Pilot Framework](#) to help education leaders and educators build their skills in conducting, interpreting, and using research and evidence to inform decisions that impact students. The Edtech Pilot Framework includes nearly 150 open-source tools and resources to support educators throughout the process of conducting pilot studies. In addition to conducting research and creating the Edtech Pilot Framework, Digital Promise has also conducted 45 pilot studies in partnership with K-12 school districts and led more than 20 webinars to support education practitioners in conducting edtech pilots. All of these efforts aim to build districts' capacity to make evidence-based procurement and adoption decisions.

## Limitations

The limitations of this survey mirror the limitations of this work across the field; self-reporting is not an accurate assessment of actual research and evidence use to inform decisions, much less the quality of that use. In fact, the discrepancy between school leaders' and teachers' reported level of significance of research and evidence use in decision-making further perpetuates the theory that the

will to use research and evidence to inform decisions is not matched with an appropriate skill level to accurately analyze and interpret evidence and research. Additionally, this survey involved a small sample size and those who did complete the survey did so voluntarily, which may mean they are more likely to indicate a desire to use research.

## Future Studies and Support

Like those inspired to become professional athletes, the results of this survey suggest educators and education leaders express a strong desire to use research and evidence to inform decisions about edtech and innovative programs. Unlike athletes, though, there is no clear coach or expert to support districts, schools, or individuals in acquiring the skills to analyze and interpret information to drive decision-making. Over the past five years, Digital Promise has engaged in capacity building efforts to support K-12 school districts across the United States in accessing and using research and evidence to make program and product selection, adoption, and procurement decisions.

Digital Promise is committed to further study of research and evidence use in education so we can better support research and evidence use in innovative program design, selection, adoption, and implementation. Digital Promise will continue work alongside educators and education leaders to provide professional learning opportunities to build education leaders and educators' skills to use research and evidence to inform innovative program adoption and procurement decisions, thus allowing for the continuous improvement of programs that impact students' learning and school experiences.

# Appendices

## Appendix A: References

- Adams-Bass, V., Atchison, D., & Moore, L. (2015). Pilot-to-Purchase Project: Piloting Ed-tech Products in K-12 Public Schools. Retrieved from [https://digitalpromise.org/wp-content/uploads/2016/02/UCDavis\\_EdTechPilotReport.pdf](https://digitalpromise.org/wp-content/uploads/2016/02/UCDavis_EdTechPilotReport.pdf).
- Coburn, C.E. & Turner, E.O. (2011). Research on Data Use: A Framework and Analysis. *School of Education and Social Policy, 9(4)*, pp. 173-206. doi: 10.1080/15366367.2011.626729.
- Coburn, C.E. & Turner, E.O. (2012). The Practice of Data Use: An Introduction. *American Journal of Education, 118(2)*, pp. 99-111. Retrieved from <http://www.sesp.northwestern.edu/docs/publications/57151017757c9a4d4e1cb3.pdf>
- Jowett, S. (2017). Coaching effectiveness: the coach-athlete relationship at its heart. *PubMed*, pp. 154-158. doi: 10.1016/j.copsyc.2017.05.006.
- Lewthwaite, R. & Wulf, G. (2017). Optimizing motivation and attention for motor performance and learning. *Sports Psychology, 16*, pp. 38 - 42. doi: 10.1016/j.copsyc.2017.04.005.
- Marsh, J., Pane, J., & Hamilton, L. (2006). Making Sense of Data-Driven Decision Making in Education. Santa Monica, CA: RAND.
- Morrison, J.R., Ross, S.M., Corcoran, R.P., & Reed, A.J. (2014). Fostering Market Efficiency in K-12 Ed-tech Procurement. Retrieved from [https://digitalpromise.org/wp-content/uploads/2016/02/DP\\_ImprovingEdTechPurchasing\\_FullReport.pdf](https://digitalpromise.org/wp-content/uploads/2016/02/DP_ImprovingEdTechPurchasing_FullReport.pdf).
- National Center for Education Statistics (2011). Common Core of Data (CCD), "Local Education Agency Universe Survey," 1979-80 through 2009-10. Retrieved from [https://nces.ed.gov/programs/digest/d11/tables/dt11\\_092.asp](https://nces.ed.gov/programs/digest/d11/tables/dt11_092.asp).
- Penuel, W.R., Briggs, D.C., Davidson, K.L, Herlihy, C., Sherer, D., Hill, H.C., Farrell, C.C., & Allen, A-R. (2016). Findings from a national survey of research use among school and district leaders (Technical Report No. 1). Boulder, CO: National Center for Research in Policy and Practice.

## Appendix B: Decision-Making Around Edtech and Innovative Programs Survey

1. What is your role?
  - a. Superintendent
  - b. District Administrator
  - c. Principal or School Leader
  - d. Educator
  - e. School Staff
  - f. Entrepreneur
  - g. Other (please specify)
2. In which state is your school or district?
3. How significant a role does research and evidence play at your school or district in decisions about procurement and program adoption?
  - a. 1 (no role) → 10 (essential role)
4. What types of evidence do you use to inform your program adoption decisions? (Choose all that apply)
  - a. Pilots conducted by my school or district
  - b. Pilots conducted in another district
  - c. Recommendations from colleagues
  - d. Research provided by the developer
  - e. Other (please specify)
5. Are you familiar with the Digital Promise Edtech Pilot Framework, a free resource to support the pilot process?
  - a. Yes
  - b. No
6. Have you visited the Digital Promise Edtech Pilot Framework?
  - a. Yes
  - b. No
7. Why did you visit the Digital Promise Edtech Pilot Framework? (Check all that apply)
  - a. To find tools and resources to pilot innovative programs
  - b. To find free tools and resources about innovative programs
  - c. To learn about piloting
  - d. Colleagues recommended it
  - e. To get information about piloting Micro-Credentials
  - f. To view video case studies
  - g. To read Pilot Study Briefs, reports on pilots conducted in other districts
  - h. Other (please specify)

- 8.** To what extent do you agree with the following statement: I found the Digital Promise Edtech Pilot Framework useful.
- a.** Strongly disagree
  - b.** Disagree
  - c.** I don't know
  - d.** Agree
  - e.** Strongly agree
- 9.** Have you heard of Digital Promise's Pilot Study Briefs?
- a.** Yes
  - b.** No
- 10.** Have you read one or more of the Pilot Study Briefs?
- a.** Yes
  - b.** No
- 11.** How useful was the information you read in the Pilot Study Brief?
- a.** Not useful at all
  - b.** Slightly useful
  - c.** Moderately useful
  - d.** Very useful
- 12.** Is your district a member of the League of Innovative Schools
- a.** Yes
  - b.** No
  - c.** I don't know