Insights in Education and Work

District Administrators' Use of Data:

An Executive Summary

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ACT®

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The purpose of this report is to provide a descriptive account of district administrators' use of data for decision making in one midwestern state.

Included in this report is a summary of how often district administrators use data, their perceptions of data decision-making utility, confidence in using data, and the organizational mechanisms present to support data use. The report concludes with distinct barriers to data use.

Acknowledgments

The authors would like to thank the cross-functional team at ACT who provided invaluable guidance on the research design and survey development. These individuals are Chrys Dougherty, Teri Fisher, Laura Stevens, and Briana Huntsburger. A special thanks to Jeff Wayman who provided feedback on early versions of each survey.

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Introduction

In February of 2012, superintendents, assistant superintendents, or district leaders in one Midwestern state were invited to participate in *ACT's District Administrators' Data Use Survey* to ascertain their self-reported beliefs, attitudes, and actions related to using data. We defined data use or data-informed decision making as "systematically analyzing existing data sources within the school, applying outcomes of analyses to innovate teaching, curricula, and school performance, and, implementing (e.g. genuine improvement actions) and evaluating these innovations" (Schildkamp & Kuiper, 2010).[1] In the survey, we focused on specific types of data, including:

- National and state achievement test data (e.g., Stanford 9, K-Prep, ACT, SAT)
- Formal assessments (e.g., district benchmark assessments)
- School assessments (e.g., quizzes, grades, assignments)
- Other student data (e.g., disciplinary information, ELL status, supplementary education participation, student retention)
- Other data (e.g., survey data, classroom walkthrough data)

District administrators[2] were instructed to think of these types of data when answering the survey questions. They were asked to report how frequently they use these data to:

- inform the school's vision,
- inform school learning,
- make decisions on organizational operation and moral perspective,
- identify collaborative partnerships and the larger political context,
- inform staff placement

Responses to the level of usefulness that accessible data had for decision making were also requested. Moreover, since the frequency and usefulness of data are only as meaningful as the context in which they are used, we also sought to ascertain district-level support mechanisms for effective data use, district's perceptions of the quality of the data available, and confidence in using data. Barriers, whether perceived or actual, were also obtained. Finally, they were asked to indicate how they support school-level staff in their data use and how long they have been implementing data based initiatives across the district. For more details about the specific questions, please see the copy of the survey instrument in Appendix A3.

The remainder of this report summarizes districts' responses on *ACT's District Administrators' Data Use Survey*. We begin by describing those who responded to the survey. We then move into the major areas of data use believed to be important conditions for using data effectively. We conclude with an overall summary of results and a resource page listing the literature that describes the factors that shape effective data use. Appendix A presents a technical summary of item development, survey administration, and data analysis.

Who Responded?

ACT's District Administrators' Data Use Survey was completed[3] by 95 (55%) district leaders[4] most knowledgeable about district-level data use. All of the responding district administrators were White (100%) and nearly two-thirds were male (65%). The respondents had an average of 6.5 (*S.D.* = 7.1) years of experience as a superintendent, assistant superintendent, division director, assessment coordinator, instructional supervisor, or curriculum coordinator with most of this experience in the district currently employed (district *M* = 5.3, *S.D.* = 5.4).

Making Meaning from the Numbers

At ACT, we are in the business of presenting numbers to people. When we present a number, there is a level of precision associated with that number. Many things affect this precision including how much data are used to estimate the number. When a number is based on hundreds of thousands of pieces of data, it is very precise. However, the more precise the number, the more likely we are to find statistically significant results when comparing across groups and items even if the results might not be meaningful. We need to be able to determine to what degree differences in comparative analyses are of practical importance. In this report, we would keep in mind that comparing results across items should be done so with caution. For example, although 90% of district administrators might indicate that they have access to district-level data, this may or may not be statistically different than 75% access to school mobility data.

In addition, it may be that only certain groups in the population respond. This can lead to situations in which the sample does not look like the entire population in which we are interested. We try to get as representative a sample as possible, but there may be certain types of district administrators who respond to the survey and a different sort who do not respond. We provide exploratory results as to whether those district administrators who responded look like the population in the state in Appendix A. However, given the limited data available at the state level, we recommend being cautious in generalizing the results presented here to the entire district administrators population in the state.

District Administrators' Self-Reported Responses on Data-Informed Decision Making

What types of data do district administrators have access to and how useful are these data?

District administrators were asked if they had access to a variety of types of data and how useful they found those data to be. The district administrators reported having access to most data types generated from students' scores on state and nationally-normed tests, as well as having access to student attendance rates, student retention history, and student participation in special education programs. Of all the choices of available data, district administrators indicated having the least amount of access to survey responses from parents and students and to systematic review of student work. Figure 1 shows how useful district administrators felt some of the data types were for decision making. Each gray bar in the graph shows the percentage of responding district administrators that reported the data type as either "Very Useful" or "Extremely Useful." The blue line indicates the percentage of district administrators reporting that the data type was available. Only district administrators who indicated they had access to the data element recorded the degree to which it was useful. In general, district administrators felt the data were useful, with most data types reported as being at least 42% very useful or extremely useful to district administrators. With the exception of district data, there appears to be a gap between the abundance of data available and its level of usefulness for decision making.

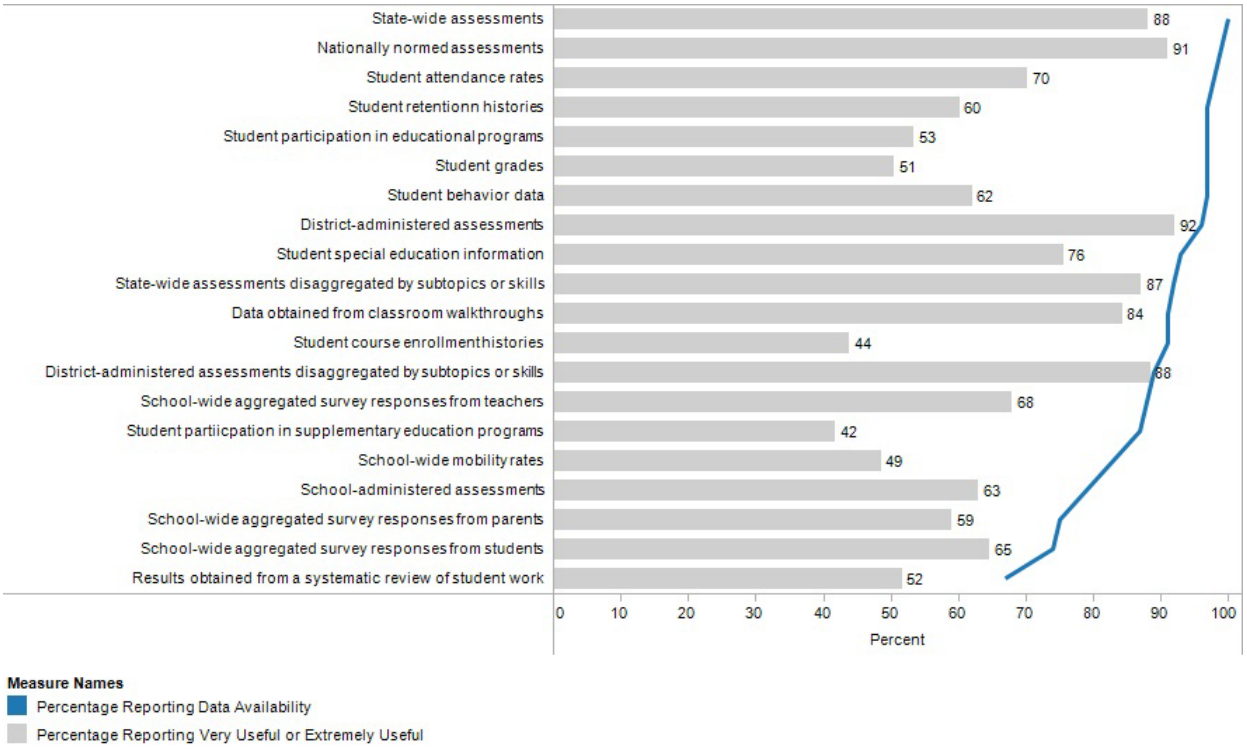


Figure 1. Accessible and useful data elements

Not quite half of district administrators gain access to these data on their own a few times a week (44%); about the same have someone provide them with the data without them asking weekly or almost weekly (44%); and slightly fewer (41%) request data from someone else weekly or almost weekly. District administrators indicate that at least some of their data are available across time. Over half (54%) of district administrators indicated that at least 75% of the data they have available to them is tracked across multiple years with another 29% indicated between 50% and 75% of their data are longitudinal.

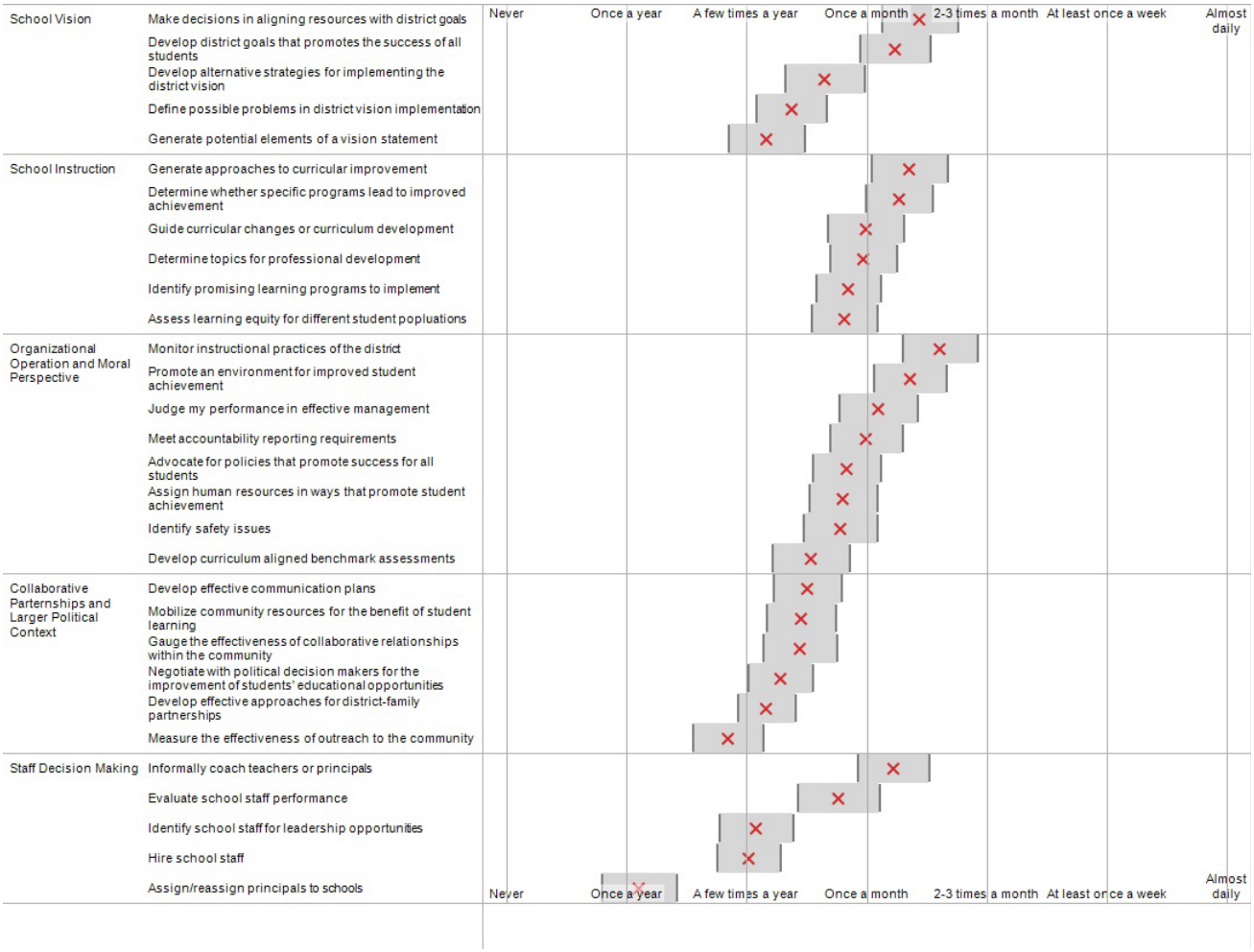
Most of the district administrators (83%) indicated they had access to an electronic data system, however, only nine percent (9%) indicated that all these systems talk to one another. The remaining district administrators reported that parts of the system are able to talk to each other (64%), none of the systems talk to each other (18%), or they only have one data system (9%). At least 90% of the district administrators have access to the data system in their office, somewhere else in the school, and/or via the internet at home.

How often do district administrators use data for decision-making?

District administrators were asked 30 questions about how often they used data to: inform the school's vision, inform school learning, make decisions on organizational operation and moral perspective, identify collaborative partnerships and the larger political context, and inform staff placement. The mean for each item was plotted (red x) as well as the confidence interval around that mean (grey box) in Figure 2.

Comparing across the ways of using data, all district administrators reported more frequently using data to monitor instructional practices of the district. Across items, district administrators

typically use data between a few times a year and 2–3 times a month, depending on the data use context. District administrators were less inclined to use data for collaborative partnerships and for the larger political context. Overall, district administrators use data to inform decision-making but do so at different frequencies based on the decision that needs to be made.



Note: red x indicates mean item score and each grey box represents a confidence interval around that mean item score.

Figure 2. Frequency of data use

What are district administrators' attitudes about data and how confident are they in using them?

Positive attitudes towards using data and confidence in one's own ability to use data are closely related. District administrators were asked seven questions about their attitudes towards using data and four questions about their confidence in their own ability to use data. The means for these were taken to create an attitude towards data variable and confidence using data variable. Figure 3 shows the responses on these, where values from 1 to 6 represent the scale from "Strongly Disagree" to "Strongly Agree". Each individual district administrator is shown with a dot; the overall mean is shown with a red X. Most of the data are in the top right hand corner, showing that most district administrator have positive attitudes towards data and are fairly confident using data.

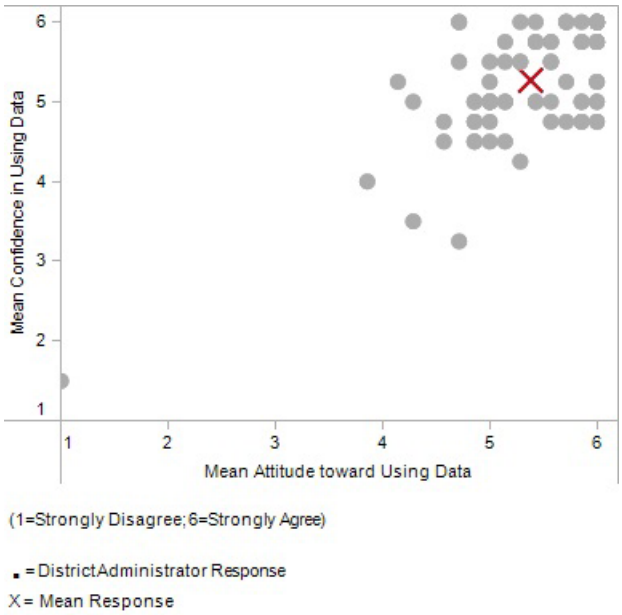


Figure 3. The relationship between confidence in using data and attitude towards using data

What are district administrators' beliefs about district benchmark assessment data and state assessment data?

District administrators were asked five questions about their beliefs of district benchmark assessment data and five questions about their beliefs of state assessment data. These questions asked about: *applicability to work, ease of interpretation, whether it is a good measure of student learning, whether it is easily accessible*, and *whether it is aligned well to curriculum standards*. Overall, there was slightly more satisfaction with the district benchmark data relative to state assessment data. In particular, district administrators believed that the district benchmark assessment data are easier to interpret, better measures of student learning, more easily accessed when needed, and well-aligned to curriculum standards. Figure 4 shows the district benchmark subscale plotted with the state subscale. The largest group of data is in the upper-right hand quadrant. These are district administrators who are generally favorable to both types of assessments. Overall, positive beliefs about one assessment type were correlated with positive beliefs about the other assessment type.

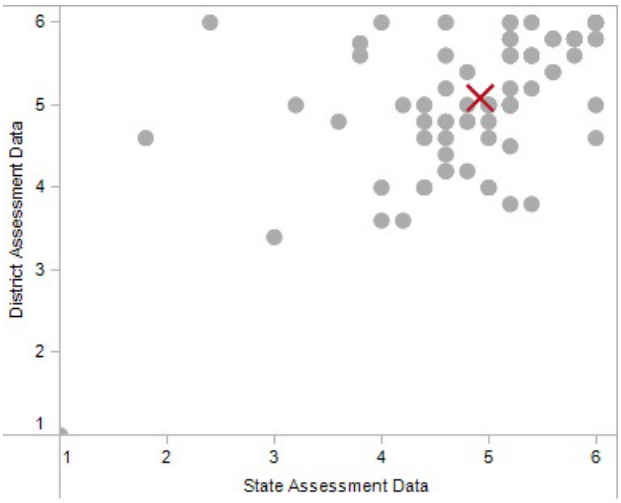


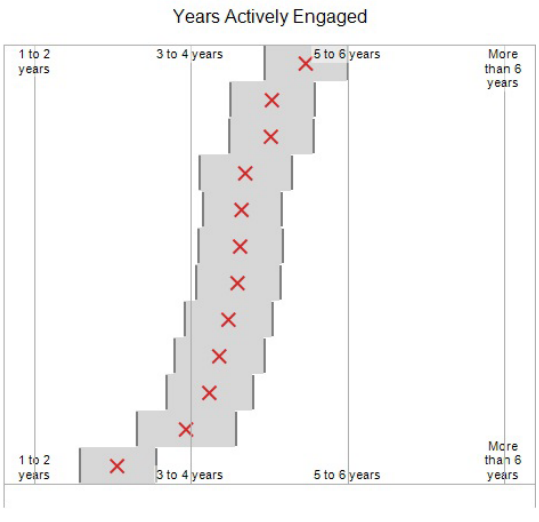
Figure 4. The relationship between beliefs about district benchmark assessment data and state assessment data

How long have districts participated in data initiatives?

District administrators were less likely to have started or have no plans to start tracking school staff use of the data system. More than half of district administrators across data initiatives have, however, begun data integration.

Of those district administrators who indicated that they had already implemented data related initiatives (approximately between 40–90% of district administrators, depending on the activity), on average, they had done so in the last four to six years. Figure 5 presents these trends.

	No plans in this area (%)	Planning but have not started (%)
Establishing a process for continuous improvement	5.0	10.0
Designing professional development to build capacity for school staff to analyze, interpret, and use data	2.5	12.5
Providing formal time for school staff to discuss data in a group setting	2.5	7.6
How to design/acquire an information management system to support data analysis	9.9	24.7
Providing school staff with an online data base of lesson plans and planning resources linked to academic standards and assessment results	10.0	17.5
Providing models to school staff to illustrate how to use data in informing their instruction	5.1	12.8
Establishing a culture of data use at the school level	5.0	7.5
Requiring school staff to follow specific data-informed decision making practices in their school improvement plan	7.7	17.9
Following up to determine if school staff has implemented instructional changes prescribed as a result of data analysis activities	7.6	20.3
Providing school staff with access to a data expert	15.2	27.8
Tracking school staff use of the data system	30.4	30.4
Providing school staff research-based guidance on differentiating instruction on the basis of student assessment data	5.2	26.0

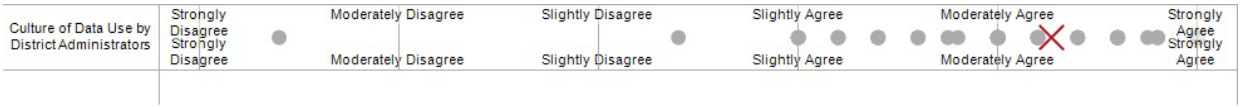


Note: red x indicates mean item score and each grey box represents a confidence interval around that mean item score.

Figure 5. Historical account of data initiatives

Do districts support a culture of data use?

District administrators were asked to indicate the degree to which they agreed that the district provided a culture of data use. On average, respondents moderately agreed that district administrators support this type of data use culture. Figure 6 presents these data.



Note: A red X indicates mean scales score and each grey dot represents a respondent's subscale score.

Figure 6. District support of data use for school decision making and planning

Participants were also asked how district administrators provide support to school-level staff in their use of data. Figure 7 presents these results. District administrators tend to assist school staff in using data to reach school goals but are less inclined, according to the district administrators, to provide support for the first round of data analysis before the beginning of school. Over one-third of survey respondents (37%) indicated they interacted with principals on how to use data two to three times a month. However, almost another third (29%) indicated they engaged in this activity a few times a year.

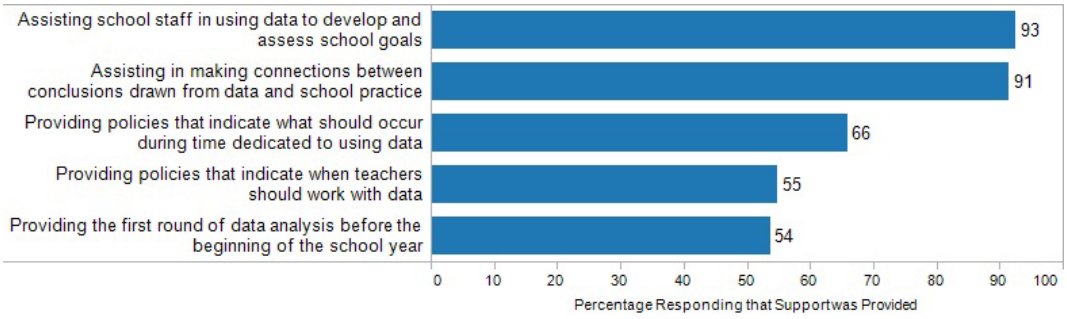
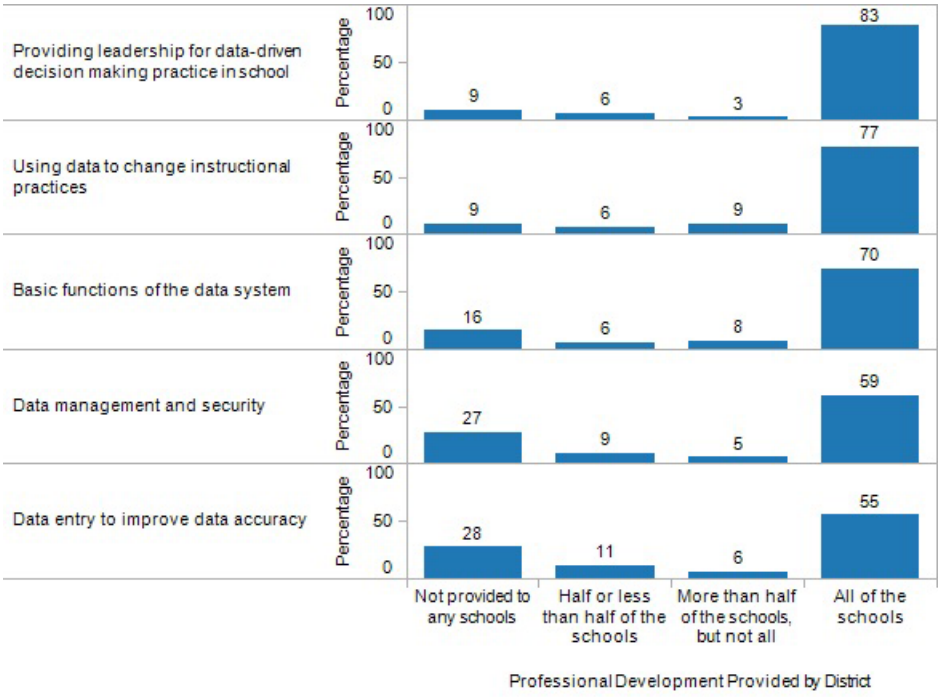


Figure 7. Percentage of district support provided

What professional development activities does the district sponsor for schools?

District administrators were asked whether the district offers professional development activities for schools to improve instruction from data-driven decision making, and if so, to what proportion of schools in the district. Over half of district administrators reported that the district offered professional development activities to all schools in the district (Figure 8).



Note: The height of a bar represents the percentage of district administrators responding to that item and category. The number above the bar is the number of district administrators responding to that item and category.

Figure 8. District-sponsored professional development activities

What are the types of barriers district administrators report?

District administrators were asked what they felt were barriers for data-informed decision making in their district. Eight potential barriers were listed, and district administrators indicated whether the potential barrier was not a barrier, was a minor barrier, or was a major barrier. We classified these into three groups (shown in Table 1).

Table 1. Barriers to Data Use.

Label	Definition	Potential barriers in this category. Lack of . . .
Not a barrier	< 50% of responses said either minor barrier or major barrier	• district leadership support for data-informed decision making • policies that provide direct access by school staff to all or portions of the data system • electronic data system
Minor barrier	between 50% to 75% of responses said either minor barrier or major barrier	• school staff-preparation on how to use data for instructional decision making • communication or sharing of data across departments within the district • student performance data in specific subject areas
Major barrier	> 75% of responses said either minor barrier or major barrier	• technical skills of school staff to access or use electronic data systems • time for school staff to conduct data-informed decision making activities

Conclusions

The goals of ACT's research on data use best practices are to understand how data are being used by educators at various levels of the organizational system—teachers, school leaders, and district administrators; to identify which practices yield the greatest impact on student growth; to highlight the ways in which educators are successful in using data; and to identify where ACT might provide support in improving educators' data-informed decision making.

Thank you! Thank you to the superintendents who endorsed the survey and thank you to the superintendents and other district leaders for filling them out. We know time is precious and that a district administrator filling in a survey is one of many requests that go beyond the usual administrator role. We thank you for filling this out. We know that you do it because you trust that we are using these data to improve students' education. Your trust is important to us, and your effort will help us to achieve our shared goal of improving education.

Endnotes

1. Schildkamp, K. & Kuiper, W. (2010). Data-informed curriculum reform: Which data, what purposes, and promoting and hindering factors. *Teaching and Teacher Education, 26*, 482–496.
2. District administrator, or district leader, is defined as a superintendent, assistant superintendent, and assessment director/coordinator. Superintendents were invited to participate in the survey but were instructed to send the survey to the person who was most knowledgeable about data and data use in their district, if they were not the most knowledgeable.
3. Completion was defined as any respondent who answered at least 20% of the survey questions.
4. District leader and district administrator will be used interchangeably throughout this report.

Resources

Here we provide a reference list of research studies that indicate the importance of various factors (e.g., access to data, access to an electronic data system and expert, and school and district leadership) informing effective data use in schools. We end with research that supports the claim that using data is important for student achievement, administrator leadership, and organizational change.

Access to data:

Coburn, C. E. & Turner, E. O. (2011). Putting the "use" back in data use: An outsider's contribution to the measurement community's conversation about data. *Measurement: Interdisciplinary Research and Perspective, 9*(4), 227–234.

Honig, M. I. & Venkateswaran, N. (2012). School-central office relationships in evidence use: Understanding evidence use as a system problem. *American Journal of Education, 118*(2), 199–222.

Marsh, J. A., Pane, J. F., & Hamilton, L. S. (2006). *Making sense of data-driven decision making in education.* Santa Monica, CA: RAND Education.

Access to an electronic data system:

Coburn, C. E., & Turner, E. O. (2011). Putting the "use" back in data use: An outsider's contribution to the measurement community's conversation about data. *Measurement: Interdisciplinary Research and Perspective, 9*(4), 227–234.

Luo, M. (2008). Structural equation modeling for high school principals' data-driven decision making: An analysis of information use environments. *Educational Administration Quarterly, 44*(5), 603–634.

Wayman, J. C., Cho, V., Jimerson, J. B., & Spikes, D. D. (2012). District-wide effects on data use in the classroom. *Education Policy Analysis Archives, 20*(25), Retrieved from http:/epaa.asu.edu/ojs/article/view/979.

Data expert:

Marsh, J. A., Pane, J. F., Hamilton, L. S. (2006). Making sense of data-driven decision making in education. Santa Monica, CA: RAND Education.

Schildkamp, K. & Kuiper, W. (2010). Data-informed curriculum reform: Which data, what purposes, and promoting and hindering factors. *Teaching and Teacher Education, 26,* 482–496.

School and district leadership:

Honig, M. I. & Venkateswaran, N. (2012). School-central office relationships in evidence use: Understanding evidence use as a system problem. *American Journal of Education, 118*(2), 199–222.

Luo, M. (2008). Structural equation modeling for high school principals' data-driven decision making: An analysis of Information use environments. *Educational Administration Quarterly*, *44*(5), 603–634.

Marsh, J. A., Farrel, C. C., & McCombs, J. S. (2015). How leaders can support teachers with data-driven decision making: A framework for understanding capacity building. *Educational Management Administration, & Leadership, 43*(2), 269–289.

Schildkamp, K. & Kuiper, W. (2010). Data-informed curriculum reform: Which data, what purposes, and promoting and hindering factors. *Teaching and Teacher Education, 26,* 482–496.

Data use:

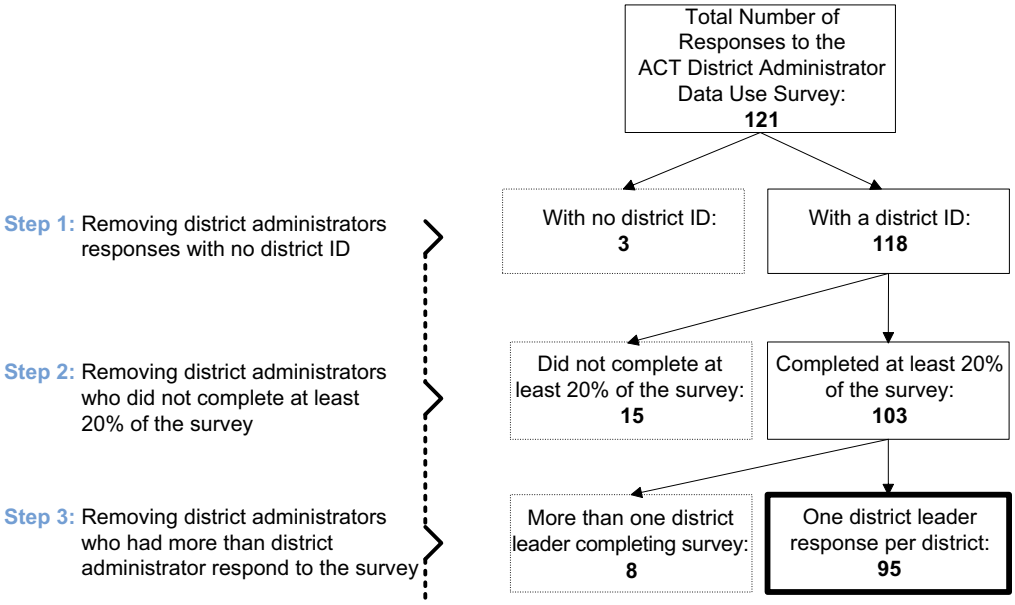
Schildkamp, K. & Kuiper, W. (2010). Data-informed curriculum reform: Which data, what purposes, and promoting and hindering factors. *Teaching and Teacher Education, 26,* 482–496.

Wayman, J. C., Cho, V., Jimerson, J. B., & Spikes, D. D. (2012). District-wide effects on data use in the classroom. *Education Policy Analysis Archives, 20*(25), Retrieved from http:/epaa.asu.edu/ojs/article/view/979.

Appendix A1. Population and Analytical Sample Description

The focus of this research study was to ascertain superintendents' and district leaders' perceptions of their use of data for decision-making, including their confidence in using data, beliefs about the utility of using data, and the support mechanisms in place at the district-level that aided in that use. As such, the research population included the 174[1] districts in one Midwestern state.

Figure A1.1 presents the number of superintendents, assistant superintendents, or district leaders from one Midwestern state who participated in the ACT data use study. A total of 121 district administrators[2] responded to the *ACT District Administrators' Data Use Survey*, however, some data were removed prior to analyses.



Note: dark black border box represents the final analytical sample; dotted lined boxes represent the respondents who were removed from the analytical file.

Figure A1.1. Analytical sample

First, those district administrators who did not have a district ID were removed (n = 3) from the analysis. This occurred when a respondent did not answer the survey questions that asked them from which district they were primarily employed or they did not answer the survey using the custom URL link, a situation in which district employment was not captured. District ID was an important variable in connecting responses with the district context.

Second, we wanted to create an analytical sample that included relatively meaningful and coherent data; therefore, any respondent who did not complete at least 20% of the survey was removed (n = 15). In essence, these were individuals who only answered the first few survey items that asked the respondents to describe themselves and the district in which they primarily worked but they exited the survey prior to providing information on their use of data. Finally, we wanted to maintain equal representation per district. A total of 8 districts had more

than one person respond to the survey. We kept only one of the respondents, typically the superintendent's responses or the respondent answering the most questions for a particular district.

In the end, a total of 95 respondents were included in the analytic sample: those survey participants were included in the reporting of district administrators' perceptions of data use. This is an estimated response rate of 55%.[3]

Appendix A2. Instrument Description

A survey instrument, the *ACT District Administrators' Data Use Survey*, was used to collect the data for this study. The survey instrument is a comprehensive survey that elicits district administrators' perceptions of their use of data for decision-making, their confidence in using data, the quality of data available, and the district-level mechanisms in place to support school data use. The instrument itself was constructed by an ACT research team in 2011. Most items originated from pre-existing survey instruments while other items were constructed by the ACT research team. The *District Administrators' Data Use Survey* is comprised of 11 reliable subscales[4] as well as several other items intended to stand on their own. The survey begins with district administrator qualification questions (e.g., years of experience being a district administrator) and ends with demographic information (e.g., gender, ethnicity, age).

The instrument was developed through an extensive review of the literature. Emphasis was given to data use studies that utilized a survey research design (e.g., Luo, 2008; Wayman, Cho, Jimerson, & Spikes, 2012)[5] and research reviews summarizing effective data use and the mechanisms that foster that use (e.g., Coburn, & Talbert, 2006; Schildkamp, & Kuiper, 2010; Spillane, 2012).[6] Through this work, the research team first developed a theoretical model of data use (see Figure A2.1) that was then used to identify the key areas that could be measured using a survey. Pre-existing survey items[7] and key concepts, found in the literature and rephrased into survey items, were aligned to the areas in the theoretical model to identify the survey's content coverage. What resulted was a draft district administrator data use survey that measured the following areas: interventions to promote data use, data characteristics, data user characteristics, school and district organizational support, and the frequency of data use.[8]

This draft survey was then reviewed by two external experts on data use and four internal ACT staff experts in educational best practices. The reviewers were asked to provide feedback on each survey item for clarity, applicability to the teaching profession, and relevance to the field of data use. Where applicable, modifications were made to the survey item.

The survey was then field tested through cognitive interviews. The cognitive interview asked superintendents and assistant superintendents to speak out loud as they were answering each survey item. Periodically, the researcher stopped the process to ask specific questions about the respondents' interpretation of the item or scale. Recruitment was done by convenience.

The goals of the cognitive interviews were to reduce the length of the survey and ensure that items and the scale were being interpreted as intended. This process resulted in a 25% reduction in the survey length and minor edits to the items. We also wanted to identify the types of data (e.g., standardized assessments, grades) that respondents thought of as they answered the survey questions (e.g., how often do you use data to plan lessons) and whether it was necessary for us to provide a list of data types as a way to create continuity in responses. Interview responses showed that respondents varied in how they defined "data" so instructions were also added to the survey requesting that respondents think of these types of data—national and state achievement test data, formal benchmark assessments, grades, disciplinary information—when responding to how data inform their educational practice.

Survey items were developed primarily by the ACT research team, but items from pre-existing surveys were also used.[9] Subscale scores were calculated by averaging across items that comprised the given subscale. Those who answered at least 50% of the items that make up the subscale received a subscale score. Below, we discuss when a subscale was created and

when individual items were used. The major areas of the *ACT District Administrators' Data Use Survey* including sample items, the scale, and reliability results are described next; Table A2.1 summarizes this information. Appendix A3 presents the *ACT District Administrators' Data Use Survey* in its entirety.

Data Availability. The survey consisted of six major questions associated with the types of data district administrators have available to them and how such data are accessed. Respondents were asked to report whether they had access to 20 data elements and, if accessible, their level of usefulness for making decisions about instructional matters. Participants were asked to indicate whether they had access to and found useful, for example: *Student test scores on state-wide assessments and School-wide aggregated survey responses from parents.* Accessibility was scored on a dichotomous scale (0 = no; 1 = yes) and usefulness was scored on a five-point scale (1 = not useful; 5 = extremely useful). Data were analyzed at the item level.

Respondents were also asked how often they accessed these data, what percentage of the data was longitudinal, and whether the data were accessible using an electronic data system, and if so, from where was the system accessible. Respondents were also asked whether the data systems they have available to them talk to one another. The respondents were then provided an opportunity to respond to an open-ended question asking them to indicate the data they would like to have access to but currently do not. These questions were analyzed at the item level.

Data Use. These items pertained to five areas in which district administrators use data—school vision (5 items), school instruction (6 items), organizational operation and moral perspective (8 items), collaborative partnerships and the larger political context (6 items), and staff development and decisions (5 items). Most of these areas for district administrator use originate with the work conducted by Luo (2008), however, the last areas emerged through superintendent and assistant superintendent cognitive interviews by ACT researchers. Items are self-rated on a seven point scale: 0 = never; 7 = almost daily. Sample items for each of the five areas include:

- I have used data to develop district goals that promotes the success of all students.
- I have used data to identify promising learning programs to implement.
- I have used data to assign human resources in ways that promote student achievement.
- I have used data to gauge the effectiveness of collaborative relationships within the community.
- I have used data to hire school staff.

The ACT research team has found each subscale to have internal consistency although analyses at the item level were conducted and reported. Cronbach's alpha (α) reliability coefficients using the state data were:

- 0.90 for data use for school vision
- 0.90 for data use for school instruction
- 0.92 for data use for organizational operation and moral perspective
- 0.93 for data use for decision making in collaborative partnerships and the larger political context
- 0.83 for data use for staff decision making

Data Characteristics. Respondents were asked to report on their perceptions of the quality of assessment data. Using 10 items, two areas were measured–perceived quality of state assessment data (5 items) and perceived quality of district benchmark assessment data (5 items). Using a six point scale (1 = strongly disagree; 6 = strongly agree), prompts asked respondents to describe these two types of assessments using the same descriptors. For example, two separate questions asked, one for district benchmark data and another for state assessment data, *whether these data were applicable to the respondent's work*. Each survey respondent received a subscale score for quality of state assessment data and perceived quality of district benchmark assessment data. These subscale scores have internal consistency (state α = .92, district benchmark α = .93).

Data User Characteristics. Respondents were asked to report on their beliefs in using data (7 items) and confidence in using data (4 items). A six point, self-rated scale (1 = strongly disagree, 6 = strongly agree) was used. Example items measuring beliefs in using data included: *data are almost always useful in helping educators plan instruction,* and *data are almost always useful in improving student learning.* Example items measuring confidence in using data included *I am confident in my ability to identify data that best meets my needs* and *I am confident in my ability to draw correct inferences from data*. Each survey respondent received a subscale score for beliefs in using data and confidence in using data. These subscale scores have internal consistency (beliefs α = .95, confidence α = .94).

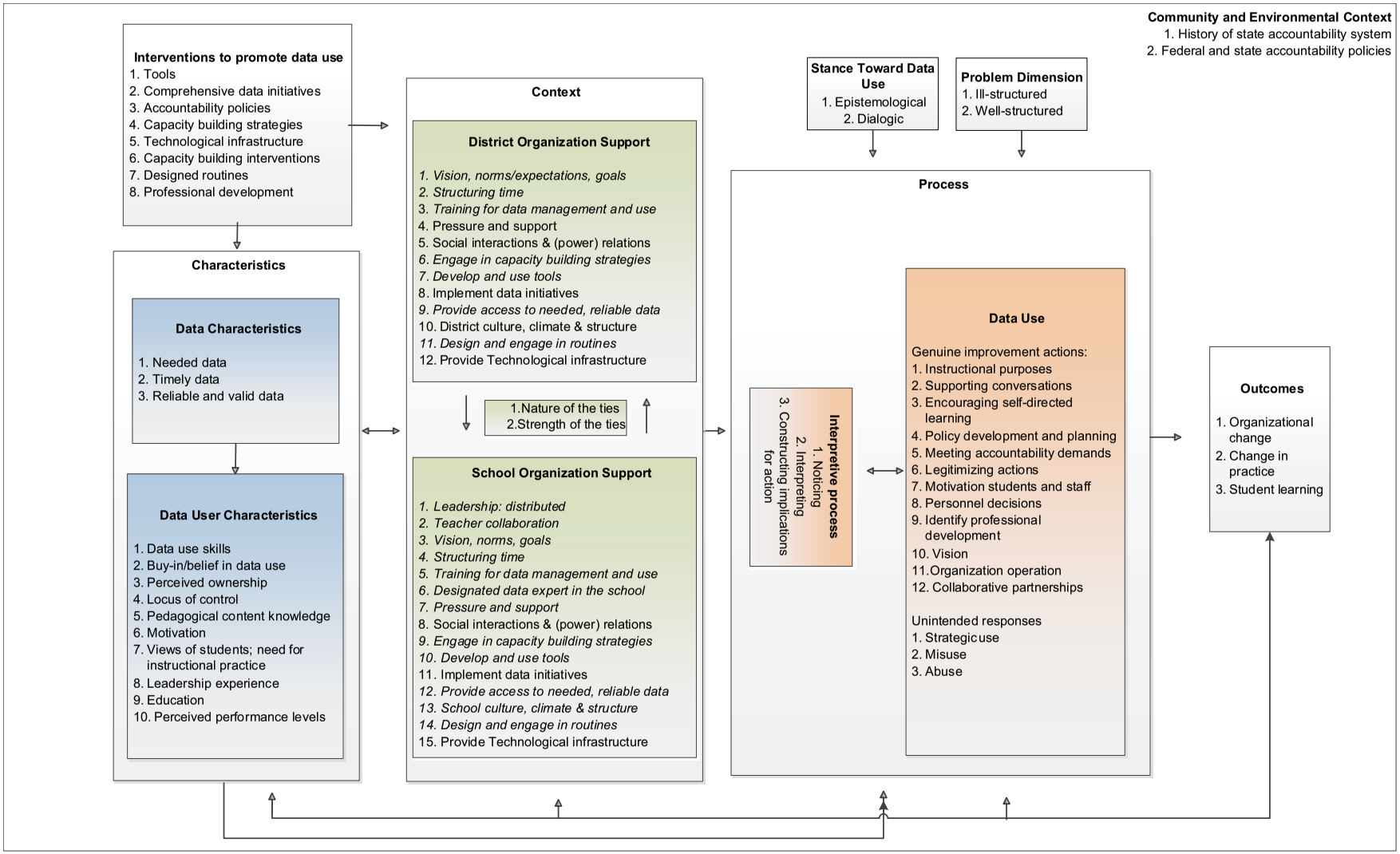


Figure A2.1. Theoretical model of data use

District Leadership and Support. District administrators were asked to indicate the degree to which they agreed that the district provided a culture of data use (4 items). For each item, a 6-point scale was used (1 = strongly disagree; 6 = strongly agree). Data were analyzed at the subscale level, and reliabilities for the state sample were high. An example item is *district administrators provide a clear direction about how data should be used to improve instruction and convey enthusiasm about data-informed decision making to staff.*

Respondents were also asked to indicate whether (no = 1; yes = 2) district administrators support school level staff in the last academic year through policy and action. Example items include: *providing policies that indicate when teachers should work with data, assisting in making connections between conclusions drawn from data and school practice,* and *assisting school staff in using data to develop and assess school goals*. Data were analyzed at the item level.

Last, survey respondents were asked to indicate to how many schools in their district (1 = district does not provide any schools; 2 = half or less of the schools; 3 = more than half of the schools, not all; 4 = all of the schools) they provide professional development activities on data use. Example areas of assessment include: *providing professional development to school staff on the basic functions of the system, providing professional development to school staff on data entry to improve data accuracy*. Data were analyzed at the item level.

Historical Data Use Activities. District administrators were asked to indicate for how many years their district has been actively engaged in a series of data use activities (12 items). Example items included: *how many years have you been engaged in tracking school staff use of the data system, providing models to school staff to illustrate how to use data in informing their instruction,* and *providing formal time for school staff to discuss data in a group setting.* Reliability analyses were not conducted given the nature of the scale (1 = no plans in this area; 2 = planning but have not started; 3 = 1–2 years; 4 = 3–4 years; 5 = 5–6 years; 6 = more than 6 years). Results were therefore presented at the item level.

Data Use Barriers. District administrators were asked the degree to which eight areas were believed to be a barrier (not a barrier = 1, a minor barrier = 2, or a major barrier = 3) to expanded use of data for decision-making in their district. Example reasons included *lack of school staff preparation on how to use data for instructional decision making (e.g., data interpretation skills)* and *lack of technical skills of school staff to access or use electronic data systems*. Items were analyzed to determine the frequency of district administrators who reported the barrier was either not a barrier, a minor barrier, or a major barrier. As such, when an item had <50% of responses indicate the reason was a minor barrier or major barrier, it was classified as not a barrier; if between 50% to 75% of responses said the reason was a minor barrier or major barrier, it was classified as a minor barrier; and when the reason had greater than 75% of responses indicating either minor barrier or major barrier, it was classified as a major barrier.

Table A2.1. Data Use Subscale Measures

Data Use Subscale	# Items	Scale	Alpha	n
Data Use for School Vision Decision Making	5	1 = never 7 = almost daily	0.90	79
Data Use for School Instructional Decision Making	6	1 = never 7 = almost daily	0.90	81
Data Use for Organizational Operation and Moral Perspective Decision Making	8	1 = never 7 = almost daily	0.92	78
Data Use for Decision Making in Collaborative Partnerships and the Larger Political Context	6	1 = never 7 = almost daily	0.93	78
Data Use for Staff Decision Making	5	1 = never 7 = almost daily	0.83	80
Quality of State Assessment Data	5	1 = Strongly Disagree 6 = Strongly Agree	0. 92	82
Quality of District Benchmark Assessment Data	5	1 = Strongly Disagree 6 = Strongly Agree	0.93	80
Beliefs in Data Use	7	1 = Strongly Disagree 6 = Strongly Agree	0.95	82
Confidence in Using Data	4	1 = Strongly Disagree 6 = Strongly Agree	0.94	83
Culture of Data Use by School Administrators	4	1 = Strongly Disagree 6 = Strongly Agree	0.93	82
Barriers to Data Use	8	1 = Not a Barrier 3 = Major Barrier	0.79	75

Appendix A3. ACT's District Administrators' Data Use Survey

Background

1. Which of the following most closely describes your job title?

- ○ District superintendent
- ○ Assistant/Deputy Superintendent
- ○ Division Director
- ○ Instructional Technology Coordinator
- ○ Researcher/Evaluator
- ○ Professional development Specialist
- ○ Other (please specify) _____

2. How many assistant/deputy superintendents do you have in your district?

- ○ None
- ○ One
- ○ Two
- ○ Three or more

3. What is the name of the district in which you primarily work?

_____

4. How many schools are in your district?

5. How many years have you been in your current position, including this year? (Fill in each space with zero or another whole number.)

in total? _____

in this district? _____

Data Availability

In this section, please respond to questions about the data you have available to you.

6. Do you have access to any of the following types of data? Please indicate whether each data source is currently available to you, and if so, indicate how useful each source of data was to you and/or your leadership team for making decisions about instructional matters at your district.

	Data availability		Level of usefulness for decision-making				
	No	Yes	Not useful	Minimally useful	Some-what useful	Very useful	Extremely useful
a. Student test scores on **state-wide assessments**.	O	O	O	O	O	O	O
b. Student test scores on **state-wide assessments disaggregated by subtopics** or **skills**.	O	O	O	O	O	O	O
c. Student test scores on **district-administered assessments** (e.g., benchmark assessments).	O	O	O	O	O	O	O
d. Student test scores on **district-administered assessments disaggregated by subtopics** or **skills**.	O	O	O	O	O	O	O
e. Student performance on **school-administered assessment**s (e.g., end of unit tests, classroom quizzes, homework).	O	O	O	O	O	O	O
f. Student test scores on **nationally normed assessments** (e.g., Stanford 9, ACT, SAT, PSAT).	O	O	O	O	O	O	O
g. Student special education information (e.g., diagnostic data).	O	O	O	O	O	O	O
h. Student behavior data (e.g., counselor reports, referrals, discipline).	O	O	O	O	O	O	O
i. Student grades.	O	O	O	O	O	O	O
j. Student course enrollment histories.	O	O	O	O	O	O	O
k. Student participation in educational programs (e.g., ELL, Title I, gifted and talented, special education).	O	O	O	O	O	O	O
l. Student participation in supplementary education programs (e.g., tutoring).	O	O	O	O	O	O	O
m. Student retention histories.	O	O	O	O	O	O	O
n. Student attendance rates.	O	O	O	O	O	O	O
o. **School-wide** mobility rates.	O	O	O	O	O	O	O
p. Data obtained from classroom walkthroughs.	O	O	O	O	O	O	O
q. Results obtained from a systematic review of student work (e.g., portfolio or other student work evaluated using a rubric).	O	O	O	O	O	O	O
r. **School-wide** aggregated survey responses from students.	O	O	O	O	O	O	O
s. **School-wide** aggregated survey responses from parents.	O	O	O	O	O	O	O
t. **School-wide** aggregated survey responses from teachers.	O	O	O	O	O	O	O
u. Other data not mentioned above. **Please specify in the space below.**	O	O	O	O	O	O	O

7. In a typical month, how often do you access data through the following?

	Less than once a month	Once or twice a month	Weekly or almost weekly	A few times a week	Not applicable
a. Personally accessing data from a computer system.	O	O	O	O	O
b. Requesting data from someone in my district.	O	O	O	O	O
c. Someone in my district gives me data without me asking.	O	O	O	O	O

8. By your estimate, what percentage of the data that you currently have is available for multiple years?

- ○ Less than 25%
- ○ 25% but less than 50%
- ○ 50% but less than 75%
- ○ 75% or more
- ○ Don't know

9. Do you have access to an electronic data system?

- ○ No
- ○ Yes

10. Do you currently have access to an electronic data system in any of the following locations? *(If no electronic data system is accessible, please skip this section.)*

I have access to an electronic data system . . .	No	Yes	Don't know
a. in my own office.	O	O	O
b. somewhere else in the district.	O	O	O
c. via the Internet at my home.	O	O	O

11. Are the electronic data systems you have available to you able to talk to one another (e.g., are they integrated)? *(If no electronic data system is accessible, please skip this question.)*

- ○ No, systems are unable to talk to each other.
- ○ Yes, some systems talk to each other but not all.
- ○ Yes, all systems are able to talk to each other.
- ○ I only have one data system.

12. What data would you like to have that you do not currently have access to?

_____

The remainder of this survey asks about the use of specific types of data to inform your educational practice. Please consider only the following when you think of data:

- National and state achievement test data (e.g., Stanford 9, AIMS, KPREP, ACT, SAT)
- Formal assessments (e.g., district benchmarks)
- School assessments (e.g., quizzes, grades, assignments)
- Other student data (e.g., disciplinary information, ELL status, supplementary education participation, student retention)
- Other data (e.g., survey data, classroom walkthrough data)

Data Use

In this section, please indicate the frequency in which you use data to inform your work as a district administrator.

13. How often in this current academic year (including last summer) have you used data to do the following?

	Never	Once a year	A few times a year	Once a month	2–3 times a month	At least once a week	Almost daily
a. I have used data to develop district goals that promotes the success of all students.	O	O	O	O	O	O	O
b. I have used data to make decisions in aligning resources with district goals.	O	O	O	O	O	O	O
c. I have used data to generate potential elements of a vision statement.	O	O	O	O	O	O	O
d. I have used data to identify promising learning programs to implement.	O	O	O	O	O	O	O
e. I have used data to generate approaches to curricular improvement.	O	O	O	O	O	O	O
f. I have used data to assign human resources in ways that promote student achievement.	O	O	O	O	O	O	O
g. I have used data to determine topics for professional development.	O	O	O	O	O	O	O
h. I have used data to advocate for policies that promote success for all students.	O	O	O	O	O	O	O
i. I have used data to identify safety issues.	O	O	O	O	O	O	O
j. I have used data to promote an environment for improved student achievement.	O	O	O	O	O	O	O
k. I have used data to judge my performance in effective management.	O	O	O	O	O	O	O
l. I have used data to gauge the effectiveness of collaborative relationships within the community.	O	O	O	O	O	O	O
m. I have used data to assess learning equity for different student populations.	O	O	O	O	O	O	O
n. I have used data to mobilize community resources for the benefit of student learning.	O	O	O	O	O	O	O
o. I have used data to develop alternative strategies for implementing the district vision.	O	O	O	O	O	O	O
p. I have used data to develop effective approaches for district-family partnerships.	O	O	O	O	O	O	O
q. I have used data to define possible problems in district vision implementation.	O	O	O	O	O	O	O
r. I have used data to develop effective communication plans.	O	O	O	O	O	O	O
s. I have used data to negotiate with political decisions makers for the improvement of students' educational opportunities.	O	O	O	O	O	O	O
t. I have used data to monitor instructional practices of the district.	O	O	O	O	O	O	O
u. I have used data to determine whether specific programs lead to improved achievement.	O	O	O	O	O	O	O
v. I have used data to measure the effectiveness of outreach to the community.	O	O	O	O	O	O	O
w. I have used data to guide curricular changes or curriculum development (e.g., align curriculum with content standards).	O	O	O	O	O	O	O
x. I have used data to develop curriculum aligned benchmark assessments.	O	O	O	O	O	O	O
y. I have used data to meet accountability reporting requirements.	O	O	O	O	O	O	O
z. I have used data to informally coach teachers or principals.	O	O	O	O	O	O	O

	Never	Once a year	A few times a year	Once a month	2–3 times a month	At least once a week	Almost daily
aa. I have used data to hire school staff.	O	O	O	O	O	O	O
bb. I have used data to evaluate school staff performance.	O	O	O	O	O	O	O
cc. I have used data to assign/reassign principals to schools.	O	O	O	O	O	O	O
dd. I have used data to identify school staff for leadership opportunities.	O	O	O	O	O	O	O

14. How often in this current academic year (including last summer) have you used data to do the following?

	Never	Once a year	A few times a year	Once a month	2–3 times a month	At least once a week	Almost daily
a. Interacted with principals about how to use data.	O	O	O	O	O	O	O
b. Used data to compare subgroups of students.	O	O	O	O	O	O	O
c. Used data to compare student performance data by grade.	O	O	O	O	O	O	O
d. Used data to compare schools to each other.	O	O	O	O	O	O	O
e. Used data to examine trends in school performance over time.	O	O	O	O	O	O	O

Data Characteristics & Data User Characteristics

The next set of questions asks about your perception of the quality of specific types of data. Additional questions ask about your skill set in using data.

15. These items are about your perception of the quality of state assessment data to which you have access. To what extent do you agree or disagree with the following statements?

The state data I have available to me are . . .	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
a. applicable to my work.	O	O	O	O	O	O
b. easy to interpret.	O	O	O	O	O	O
c. good measures of student learning.	O	O	O	O	O	O
d. easily accessible when needed.	O	O	O	O	O	O
e. aligned well to curriculum standards.	O	O	O	O	O	O

16. These items are about your perception of the quality of district-provided benchmark assessment data to which you have access. To what extent do you agree or disagree with the following statements? *(If no benchmark assessment data are available for your district, please skip this section.)*

The benchmark data are . . .	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
a. applicable to my work.	O	O	O	O	O	O
b. easy to interpret.	O	O	O	O	O	O
c. good measures of student learning.	O	O	O	O	O	O
d. easily accessible when needed.	O	O	O	O	O	O
e. aligned well to curriculum standards.	O	O	O	O	O	O

17. These items are about your attitudes and opinions regarding data. Please indicate how much you agree or disagree with the following statements.

Data are almost always useful in . . .	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
a. helping educators plan instruction.	O	O	O	O	O	O
b. offering information about students that was not already known.	O	O	O	O	O	O
c. improving student learning.	O	O	O	O	O	O
d. helping evaluate the quality of instruction.	O	O	O	O	O	O
e. informing progress in school or district improvement plan.	O	O	O	O	O	O
f. helping determine if a program is effective.	O	O	O	O	O	O
g. guiding conversations with parents.	O	O	O	O	O	O

18. These items are about your attitudes toward your own use of data. Please indicate how much you agree or disagree with the following statements.

I am confident in my ability to . . .	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
a. identify data that best meet my needs.	O	O	O	O	O	O
b. synthesize multiple measures when using data to make decisions.	O	O	O	O	O	O
c. draw correct inferences from data.	O	O	O	O	O	O
d. use technology to manipulate data.	O	O	O	O	O	O

District Leadership and Support

19. Please indicate the extent to which you agree or disagree with the following statements about your district administrators' role (including yourself) in the current academic year (including last summer) in supporting data use for school decision making and planning.

District administrators . . .	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
a. provide a clear direction about how data should be used to improve instruction.	O	O	O	O	O	O
b. convey enthusiasm about data-informed decision making to staff.	O	O	O	O	O	O
c. clearly communicate that data-informed decision making is fundamental to school staff's work.	O	O	O	O	O	O
d. focus on continuous inquiry, learning and improvement based on data.	O	O	O	O	O	O
e. are responsive when there are specific questions about student data.	O	O	O	O	O	O

20. Was the following <u>support</u> provided by district administration to school-level staff during this academic year (including last summer)?

	No	Yes
a. Providing policies that indicate when teachers should work with data (e.g., certain number of days per week).	O	O
b. Providing policies that indicate what should occur during time dedicated to using data (e.g. guidance on key problems to work on)	O	O
c. Assisting in making connections between conclusions drawn from data and school practice.	O	O
d. Providing the first round of data analysis before the beginning of the school year.	O	O
e. Assisting school staff in using data to develop and assess school goals.	O	O

21. For how many years has your district been actively engaged in the following data activities?

	No plans in this area	Planning but have not started	1 to 2 years	3 to 4 years	5 to 6 years	More than 6 years
a. How to design/acquire an information management system to support data analysis (that generates timely data and makes useful data accessible to staff at all levels of the system).	O	O	O	O	O	O
b. Tracking school staff use of the data system.	O	O	O	O	O	O
c. Designing professional development to build capacity for school staff to analyze, interpret, and use data.	O	O	O	O	O	O
d. Providing models to school staff to illustrate how to use data in informing their instruction (e.g., templates, proving assistance to analyzing and revising material taught).	O	O	O	O	O	O
e. Providing formal time for school staff to discuss data in a group setting.	O	O	O	O	O	O
f. Providing school staff with an online data base of lesson plans and planning resources linked to academic standards and assessment results.	O	O	O	O	O	O
g. Providing school staff research-based guidance on differentiating instruction on the basis of student assessment data.	O	O	O	O	O	O
h. Establishing a process for continuous improvement (e.g., developing measurable goals, measuring progress).	O	O	O	O	O	O
i. Establishing a culture of data use at the school level (e.g., explicit norms and expectation regarding data use, creating a safe climate for data use, mutual accountability among staff).	O	O	O	O	O	O
j. Providing school staff with access to a data expert (e.g., mentor, coach).	O	O	O	O	O	O
k. Requiring school staff to follow specific data-informed decision making practices in their school improvement plan (e.g., identifying targets, monitoring their data).	O	O	O	O	O	O
l. Following up to determine if school staff has implemented instructional changes prescribed as a result of data analysis activities.	O	O	O	O	O	O

Now think about the district-sponsored activities to support school-level staff's professional growth and development. In this survey, professional development is activities that develop an individual's skills, knowledge, and expertise as an educator.

22. Did your district sponsor any of the following professional development activities to increase school-level capacity for improving instruction based on data-driven decision making? If yes, what proportion of your schools are, or have been, involved during this academic year (including last summer)?

	District has not provided this professional development	Half or less than half of the schools	More than half of the schools, but not all	All of the schools
a. Providing professional development to school staff on the basic functions of the data system (e.g., accessing and downloading data, data queries).	O	O	O	O
b. Providing professional development to school staff on using data to change instructional practices (e.g., tools for translating data into practice).	O	O	O	O
c. Providing professional development to school administrators on providing leadership for data-driven decision making practice in their school (e.g., modeling data use, leading data discussions).	O	O	O	O
d. Providing professional development to school staff on data entry to improve data accuracy.	O	O	O	O
e. Providing professional development to school staff on data management and security.	O	O	O	O

23. To what extent, if any, is each of the following issues barriers to the expanded use of data-informed decision making in your district?

	Not a Barrier	Minor Barrier	Major Barrier
a. Lack of school staff-preparation on how to use data for instructional decision making (e.g., data interpretation skills).	O	O	O
b. Lack of technical skills of school staff to access or use electronic data systems.	O	O	O
c. Lack of time for school staff to conduct data-informed decision making activities (e.g., to reflect on or use data for teacher collaboration).	O	O	O
d. Lack of district leadership support for data-informed decision making (e.g., explicit norms and expectations regarding data use).	O	O	O
e. Lack of communication or sharing of data across departments within the district.	O	O	O
f. Lack of policies that provide direct access by school staff to all or portions of the data.	O	O	O
g. Lack of an electronic data system.	O	O	O
h. Lack of student performance data in specific subject areas.	O	O	O

Demographic Information

In closing, we would like to ask a few questions to help us determine if we surveyed a representative sample of educators.

24. Are you . . .

- ○ Male
- ○ Female

25. What is your age range in years?

- ○ Under 25
- ○ 25–29
- ○ 30–39
- ○ 40–49
- ○ 50–59
- ○ 60+

26. How do you describe yourself?

- ○ American Indian
- ○ Asian
- ○ Black or African American
- ○ Hispanic
- ○ Pacific Islander
- ○ White
- ○ Other

27. What is the highest degree you hold?

- ○ Associate degree
- ○ Bachelor's degree
- ○ Master's degree
- ○ Doctorate or first professional degree
- ○ Do not have a degree beyond a high school diploma

28. Please use the space below to provide any comments concerning this survey or the use of data for decision making.

Appendix A4. Data Collection

The *ACT District Administrators' Data Use Survey* was primarily an online survey powered by Vovici software. To ensure a maximum level of participation, we took a two-pronged approach to encourage district participation. First, superintendents were recruited to participate through a contact list available on the Department of Education's website administrators were both emailed and sent letters via the U.S. mail requesting they participate in the study. Communication was sent directly from ACT to superintendents.

Second, superintendents were directly contacted via email through the Department of Education's Superintendent listserv. Here, an ACT researcher provided the Director of Communications with the email message who then placed the message in the superintendents' weekly e-newsletter. What follows is a more detailed description of the superintendent recruitment and data collection process; Table A4.1 summaries this process in detail.

Notifications and data collection occurred between January and March 2013. This timeframe was chosen to avoid the state standardized assessment window (March/April). In addition, we wanted to avoid the end of the academic year (May/June) when other surveys were being administered and when educators were focused on closing out the school year.

Starting at the end of January, superintendents were sent a pre-notification message explaining that ACT was looking for superintendents in to participate in the *ACT District Administrator Data Use Survey*. Two pre-notification messages were sent—one via email and one through the U.S. mail. ACT sent pre-notifications directly to superintendents, describing the research study, the benefits of participating, and the timeframe for participation.

In February, superintendents were sent an email invitation to the survey. The message re-iterated the research focus, the importance of participating, and how the results would be used. The email also provided the survey link, instructions on how to log into the survey, and assurances that responses were confidential. Superintendents were provided a letter via the U.S. mail a week later with similar messaging.

Superintendents, via the state's listerv, were sent two reminder messages, one in February and another a month later. Those who received a reminder message via U.S. mail were also provided with a paper version of the survey. The survey closed on March 31st. Data were then exported from Vovici into an Excel file for data cleaning and analysis.

Table A4.1. Data Collection Process

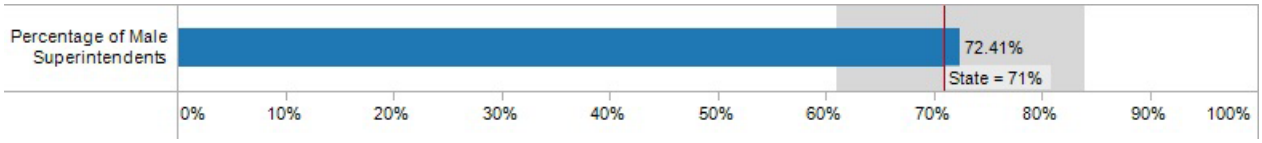
			Method	
Date	**Method**	**Description**	**State**	**ACT**
1/24/13	Email	A pre-notification message was sent describing the purpose of the research.		X
2/7/13	U.S. Mail	A second pre-notification message was sent describing the purpose of the research and the benefits of participation.		X
2/13/13	Email	An invitation asking for participation in the survey, including the online survey link.		X
2/19/13	Email	A reminder note was sent encouraging non-participants to complete the survey by the due date and thanking participants for already completing the survey.	X	
2/20/13	U.S. Mail	An invitation asking for participation in the survey, including the online survey link. A paper survey was provided to those superintendents who had not yet completed the online survey.		X
3/6/13	Email	A reminder note was sent to non-respondents only encouraging their participation.		X
3/25/13	Email	A reminder note was sent encouraging non-participants to complete the survey by the due date and thanking participants for already completing the survey.	X	

Appendix A5. Data Analysis

Preliminary analyses are addressed first; analyses specific to the results presented in the executive summary are addressed second. Three sets of preliminary analyses were conducted. First, since the results are intended to be generalized to the state's superintendents, analyses were conducted to determine if respondents were similar to the statewide superintendent population. Second, item non-response analyses were conducted to determine if data were missing at random. Simple descriptive statistics were conducted to determine the amount of missing data. Third, a measure of internal consistency was used to determine reliability estimates for key constructs measured in the survey.

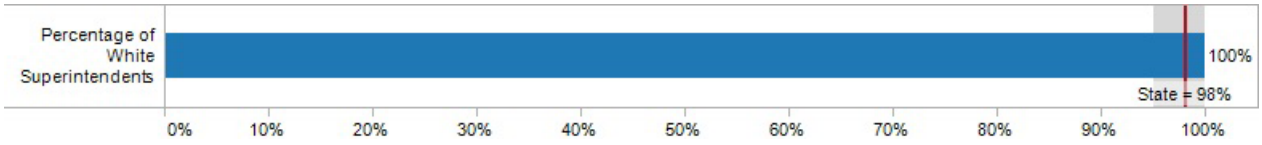
Analyses of data presented in the executive summary were descriptive in nature (e.g., frequencies, means, and standard deviations). We elaborate on all of these analyses next.

Representativeness of respondents. One of the major issues to survey research is the non-response bias that occurs when some respondents complete the instrument while others do not (Fowler, 1993).[10] To determine if our analytical sample looked like state-wide superintendents across the state,[11] we compared the two groups on a key demographic characteristic (see Figures A5.1 and A5.2 for summarized results).



Note: The red line represents the state percentage of male superintendents. The grey bar represents the 95% confidence interval around the estimated percentage of male superintendents responding to the survey. The comparison here is between the analytic sample of superintendents and all state superintendents. The state data came from the KDE website.

Figure A5.1. State level vs. analytic sample comparisons on gender



Note: The red line represents the state percentage of White superintendents. The grey bar represents the 95% confidence interval around the estimated percentage of White superintendents responding to the survey. The comparison here is between the analytic sample of superintendents and all state superintendents. The state data came from the KDE website.

Figure A5.2. State level vs. analytic sample comparisons on race/ethnicity

The results showed that, in comparison to the state, superintendents who responded to the survey are, on average, just as likely to be male (72%, vs. 71% at the state) and just as likely to be White (100%, vs. 98% at the state). Since we do not have demographic information for district leaders, information about state-wide degree attainment, or years of experience for superintendents and cannot determine the representativeness of these respondents, we therefore, caution the reader in generalizing the survey results to all district administrators in the state.

Missing data. Item non-response is an additional survey research concern. To address concerns about missing data, the data were analyzed to determine the severity of the problem

(i.e., how many respondents refused to answer each question) and to see if there were any obvious patterns for their omission. Although the amount of missing data towards the beginning of the survey was minimal, a drop-off in participation occurred towards the end of the survey. Missing data were treated as missing in all subsequent analyses; the executive summary omits results that pertain to the survey that had large amounts of missing data.

Consistency of items within constructs. To ensure that the items in the survey had internal consistency, a series of Cronbach's alpha were employed. Here, each theoretically developed set of questions were analyzed to determine if the scores generated from these items were reliable (e.g., hung together). We considered a standardized alpha coefficient above .80 as an indication that scores were reliable. Further, we looked at whether removing an item would improve the overall reliability estimate for the construct under analysis. If an item reduced the reliability estimate by .10 points, the item was removed and not used in this report.

Executive summary analyses. Analyses of data presented in the executive summary were descriptive in nature (e.g., frequencies, means, and standard deviations) since the focus of this report is to describe district administrators' frequency of data use, support mechanisms in place to support that use, and any historical use of data schools have engaged in. Depending on the survey items, either the mean and associated confidence interval were provided or the percentage of district administrators who endorsed the top two options of the scale were presented. To determine if items or subscales were presented, we first reviewed all items' level means, standard deviations, frequency distributions, the percentage of district administrators that endorsed the top option on the scale, and the percentage of district administrators that endorsed the top two options on the scale. When variation across items within a particular construct was present, data were presented at the item level. When results within a construct across items were similar, subscales were generated and presented.

The analysis for this report was generated using SAS software using Version 9.2. Copyright, SAS Institute Inc. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc., Cary, NC, USA.

Endnotes

1. The number 174 is based on a count of districts listed on the state's Department of Education's website. Respondents were instructed to have either a superintendent, assistant superintendent, or district leader knowledgeable about data complete the survey. As such, the total number of districts in the state was used in the denominator used to calculate sample size percentages.
2. District administrator, or district leader, is defined as a superintendent, assistant superintendent, and assessment director/coordinator.
3. Based on one respondent per district, 95 districts were represented and there were 174 total districts in the state, so 95/174 is approximately 55%.
4. Although the survey consists of 17 subscales, not all were addressed in the executive summary.

5. Luo, M. (2008). Structural equation modeling for high school superintendents' data-driven decision making: An analysis of information use environments. *Education Administration Quarterly, 44*(5), 603–634. Wayman, J. C., Cho, V., Jimerson, J. B., & Spikes, D. D. (2012). District-wide effects on data use in the classroom. *Education Policy Analysis Archives, 20*(25). Retrieved from http://epaa.asu.edu/ojs/article/view/979.
6. Coburn, C. E. & Talbert, J. E. (2006). Conceptions of evidence use in school districts: Mapping the terrain. *American Journal of Education, 112*(4), 469–495. Schildkamp, K. & Kuiper, W. (2010). Data-informed curriculum reform: which data, what purposes, and promoting and hindering factors. *Teaching and Teacher Education, 26,* p. 482–496. Spillane, J. P. 2012. Data in practice: Conceptualizing the data-based decision making phenomenon. *American Journal of Education, 118*(2), 113–141.
7. The pre-existing surveys used in this study include the following. All items were used with permission. Marsh et al. (2005). The role of districts in fostering instructional improvement. RAND Report. *Use of the District Instructional Improvements Teacher Survey*; Wayman, Cho, & Shaw (2009). Survey of educator data use; U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service (2008). *National Educational Technology Trends Study: Local-level Data Summary*, Washington, D.C.; Parsad, B., Lewis, L., & Farris, E. (2001). *Teacher Preparation and Professional Development: 2000*, NCES 2001–088, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics.
8. It should be noted that the survey is not intended to measure every facet of the theoretical model. Rather the model was used as a guide for what could reasonably be measured by a survey. Those areas that could be measured using this mode were included, given method applicability and survey length.
9. See footnote 8.
10. Fowler, F. J. (1993). *Survey Research Methods*. Newbury Park: Sage Publications.
11. The comparison here is between the analytic sample of superintendents and all state superintendents. The state data came from here http://education.ky.gov/districts/finrept/pages/school%20district%20personnel%20information.aspx under Superintendent's Ethic-Gender Count (2013–2014).

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