Focus Groups to Support the Development and Utility of EdWise for Parental Stakeholders

Findings from the Parental Focus Groups

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Table of Contents

Executive Summary	2
Review of the Relevant Literature	5
A Brief Look at Educational Data Systems	5
A Historical Perspective: Have Things Changed?	6
A Concluding Caveat	9
Methods	11
Recruitment	11
Focus Group Interviews	13
Analysis	15
Findings from the Parental Focus Groups	16
What Parents Value in Available Information	16
What Data Parents Want from Information Sources	23
What Parents Want from a Website	24
Website Design Considerations	25
Limitations	27
Discussion and Implications	28
References	32
Appendices	35
List of Figures	
Figure 1. Map of Cities Visited	11
Figure 2. Data Features Desired by Parents	21
Figure 3. Data Display Favored by Parents	26
List of Tables	
Table 1. Focus Group Gender and Ethnicity	12
Table 2. Student Grade Levels Represented	13



Executive Summary

In the summer of 2015, The Ewing Marion Kauffman Foundation released an education data tool, EdWise, that made publically available much of the data about public education that had been released by the Missouri Department of Elementary and Secondary Education (DESE). EdWise is a rich source of aggregate, grade level information on student performance, as well as demographic and financial data about schools and districts in the state. It includes data from up to 20 years on some of the variables. The tool was designed to inform the Kauffman Foundation about the condition of education in the schools the philanthropy supports in Kansas City. However, multiple groups including researchers, school district staff, and other non-profit organizations heard about the tool with the potential that it had much wider utility beyond just internal Foundation use. This report was commissioned to determine whether the current structure and functions of EdWise might have utility for parents, an important group whose use of data for decision-making is of special interest given the new emphasis on parental involvement in education at the federal and state level as laid out in the Every Student Succeeds Act (ESSA).

EdWise is a complex tool with over 600 variables from over 500 school districts in Missouri in a searchable database. Initial focus groups conducted on behalf of the Kauffman Foundation before the release of EdWise suggested that putting a complex education data tool in the hands of parents would not provide the information that the foundation sought. Rather than eliciting feedback about the tool, this study sought information about the nature of education data that parents wanted to make decisions about their child's education and the characteristics of the sources of data that they would find useful.

WestEd, a nationally recognized educational research and development organization, conducted focus groups of parents, grandparents, and guardians during the months of February through May of 2016. A total of 118 individuals participated in 21 focus groups. The Missouri PTA staff and staff from three nonprofit organizations (the Children's Education Alliance of Missouri, the Columbia Housing Authority, and Vision for Children at Risk) assisted with the identification of individuals and the convening of the focus groups. Diversity among the participants was a key issue in terms of geographical location, urbanicity, age and grade level of the students being served, type of school (i.e., charter, or district), ethnicity, and socio-economic status.

Findings from the focus groups indicated that the primary information parents wanted was school safety. This was particularly true for the youngest children. Parents wanted to ensure that their children are safe and learning in supportive environments. Most parents also wanted information about school diversity and demographics. Standard quantitative indices of school success such as test scores, graduation rate, and educator qualification were deemed of secondary importance by parents.

Parents of students at different grade levels had specific information that was relevant to them. Information about the supportive and caring environment of schools was the most essential data point for parents with young children. Enrichment programs began to take on more importance as the students enter middle school and were of particular importance for parents whose children are entering high school.

Parents were less inclined to seek out quantitative data such as test scores, graduation rate, or dropout rate. They indicated they wanted descriptive, qualitative, or almost impressionistic information about the classroom, school, or district. They wanted to "feel the vibe" about the school. While parents indicated they accessed quantitative data, they sought out and relied on qualitative data in making education decisions.

The sources from which parents indicated they sought information were varied. Parents sought information from other parents through school, social, or church groups. They would do a walk-through to get a feel for the school. Some parents, particularly those who are interested in quantitative data seek various websites. Local district websites were indicated as more useful than the statewide longitudinal data systems. Other websites, such as those that address real estate, contained useful information for parents.

Parents want websites that are easily accessible, understandable, and navigable. They want sufficient explanations about metrics and drill-down capabilities for those parents who seek a deeper level of information. Parents rejected presentations that might easily lead to misunderstandings of a metric. They want a simple path to the desired information with sensible icons. Parents want the capacity to translate information from English to Spanish. Basic information about a school should be readily displayed with the contact information of administrators.

It was clear from the results of this study that a data-intense website that requires parents to sort through the plethora of variables is not the most informative or useful for the majority of parents. The findings from this study are both interesting and timely for the continued development of the EdWise data tool and to inform how local and state education agencies can provide and display data in ways that are meaningful, relevant, accessible, and relevant to parental stakeholders. The initial findings from these focus groups and findings from workshops held by Wayman and Smith (2016) resulted in a stream-lined version of EdWise that restricted the variables to those most relevant to parents and provided a mechanism to support geographic sorting. Called EdWise-P, the database is the next step of this current system.

EdWise-P creates a simple path to basic information with a condensed set of tools for a faster experience than the previous iteration. Its intended users are education support organizations, civic and neighborhood leaders, and the media. For these audiences and for their purposes, EdWise-P provides access to a wealth of education data that can answer specific education questions and lead to further investigation. However, as noted in the

list of its intended users, this version is not yet intended for parents and does not yet meet the broad standards expressed by focus group participants. The way in which data are presented and navigated remains inadequate and inaccessible for the general parental audience. As noted in the findings presented in this report and in findings from initial EdWise focus groups (Knight & Aghababa, 2015), there is still a need to customize and simplify a version of EdWise for non-technical audiences and to improve the aesthetics and navigability of the data presentation methods.

This study provides insights more generally into the information parents identify as important and the preferred formats of presentation. States, districts, and other information providers need to take into consideration the findings in terms of how best to address the needs of this stakeholder group. In sum, the information parents seek to make decisions are more likely to be descriptive and qualitative data, rather than the quantitative data typically found in large district and state data systems. That said, if parents do seek out data from data systems, they want the systems to be easily accessible, have a drill-down capacity to better understand what is being presented, and have appropriate supports such as the provision for FAQs, definitions, and language translations.

Review of the Relevant Literature

This review of the literature focuses on both data systems to support educational decision making and the information needs of parents. Both of these topics are timely and relevant because ESSA requires data use from the federal to the local level and also addresses parental needs for information. We briefly review the educational technology literature, noting that there is a dearth of research that pertains to stakeholders other than educators. We then turn to the literature on what information parents need to make educational decisions.

A Brief Look at Educational Data Systems

There is a vast literature on the development and use of data systems in education ranging over a few decades. Wayman, Stringfield, and Yakimowski (2004) provided and extensive review of data systems up to that point. Wayman (2005, 2007) noted that there are four main types of data systems used by school districts to provide access to student data for classroom teachers to use for instruction: (a) student information systems, (b) assessment systems, (c) instructional management systems, and (d) data warehouses. Wayman further notes that these systems typically do not perform all of the needed functions individually. Thus, commercial vendors have sought applications that combine features and provide diverse solutions. Vendors now are providing suites of separate applications under one tool. Wayman and colleagues (2004) provided an early summary of some of the technologies that had been developed, including detailed descriptions and critiques of their capacities. This is a helpful document that provides information about different types of applications and their functionalities.

Hamilton, Halverson, Jackson, Mandinach, Supovitz, and Wayman (2009) reviewed the literature on data-driven decision making and derived five recommendations, one of which is that every district must have some sort of data system to inform practice. Mandinach and Jackson (2012) more recently reviewed emerging technologies that include diagnostics and performance management tools, interactive whiteboards, data dashboards, classroom response systems, virtual learning environments, among other technologies. But these technologies are geared to classroom and school use. Even the data systems that Wayman examines are used by educators at the classroom, school, and district level.

At the state level, state education agencies are required to have statewide longitudinal data systems. The Statewide Longitudinal Data Systems Grants Program has funded almost every state over several rounds of grants, expending over \$1 billion to develop and implement these large and complex data systems. In the first round of funding in 2005 and the next two or three subsequent rounds, the focus was on building the technological structure. In the most recent round, 2015, the focus was on data use, recognizing that the

next step to development was the actual use of the data. According to the Program's website (National Center for Education Statistics, 2017):

These systems are intended to enhance the ability of States to efficiently and accurately manage, analyze, and use education data, including individual student records. The SLDSs should help states, districts, schools, educators, and other stakeholders to make data-informed decisions to improve student learning and outcomes; as well as to facilitate research to increase student achievement and close achievement gaps.

The systems have been used primarily for accountability and compliance purposes, and only recently has there been a focus on more locally relevant data use for classroom and district continuous improvement. Some states, like Arizona, have developed ancillary tools like data dashboards for more real-time data use by educators.

But again, the systems are geared toward educator data use, not necessarily other stakeholder groups due to the complexity of the interfaces and the data contained in the systems. It is possible that several assumptions were made: (a) these data systems are about data mining, not consuming information; (b) there is a certain level of data literacy that is needed to examine the data housed in these systems; and (c) the data housed in the systems are not the data or information parents seek and need for their own decision making. When the Kauffman Foundation developed EdWise, with an objective to provide data to a broad range of stakeholders, this was perhaps a unique and forward-thinking perspective on data use.

A Historical Perspective on Parental Use of Information: Have Things Changed?

The concept of parents wanting information about schools and districts is not a recent phenomenon. Almost two decades ago, A-Plus Communications (1999) conducted a study for Education Week's Quality Counts entitled, Reporting Results: What the Public Wants to Know. The purpose of this work was to understand what information various stakeholder groups (including parents) want in order to hold schools accountable so they make improvements. Admittedly, the focus of the study was on accountability reporting, but taking into consideration the information parents deemed important. The report yielded four key findings. First, parents sought performance data (e.g., test scores, promotion rates, graduation rates). But parents also sought more detailed information about school safety and educator qualifications. Second, parents wanted comparative data across schools as well as in comparison to a standard. Yet, this finding came with a caveat about the overreliance on test scores. Third, the report yielded information about the design characteristics of accountability reports. Parents wanted the reports to be short and well designed, with access to additional levels of detail. Finally, the report documents a level of dissonance between the information contained in the accountability reports and what parents actually want. The ultimate finding of this work was that, "what the public wants to know is not necessarily what school districts and state education departments want to provide" (p. 13)

School safety and teacher qualifications were the most desired data, followed by class size, graduation rates, dropout rates, state testing results, parental satisfaction survey results, SAT/ACT scores, and promotion rates. The least desired data were about technology offerings, attendance at parent-teacher conferences, and demographics. Other sources of data that were moderately desired included information about course offerings, attendance rates, expenditures, salaries, hours of homework, and number of students.

The study also examined parents' perceptions about what makes for a good accountability report. It was salient that many parents had never seen such a report. Less than one-third of the parents reporting having seen an accountability report. Five topics were thought to be important for inclusion in the reports: funding expenditures, student performance, time allocation; school environment, and action steps for school improvement. Parents reported that they rated the credibility of reports from school districts or the federal education agency as only moderately credible. Non-profit organizations had the most credibility.

The report concludes with 10 key points that remain relevant today in terms of the information parents seek and need:

- 1. Not everyone has seen an accountability report;
- 2. Student performance data loom large but too much reliance on testing data is not good;
- 3. Important data go beyond test results to include variables such as school safety and educator qualifications;
- 4. It is helpful to include comparative data;
- 5. Labels can be problematic;
- 6. Demographic data can be problematic;
- 7. Reports should be short and easy to understand;
- 8. Stakeholders will likely need help to understand the information;
- 9. Priorities differ across stakeholder groups educators, parents, the general public; and
- 10. Community stakeholders should be consulted about what information is important to them.

In a recent study, the Data Quality Campaign (2016b) conducted an extensive national survey of parents to understand what data parents want and other aspects of parental needs around data. The study found that 89% of the parents want student test scores, and grades while 48% want indicators of school quality (i.e., how well schools are preparing students for the future). A large majority of parents (87%) want data to help them make educational decisions. The study noted that data such as test scores are "polarizing" in that they focus solely on one indicator of student and school performance, sometimes to the exclusion of other sources of data. This sole reliance narrows the focus and eliminates other important factors. As the report states, "Although assessment data is one important piece of student information, the narrow focus of the public conversation has ignored the fact that parents by and large want access to multiple types of education" (p. 1). Yet 91% of the parents report being only somewhat interested in receiving information about socio-emotional learning. They are more interested in receiving data that are perceived to help

their children progress successfully. Parents want and use data that indicate on-track performance. Of the parents who currently report not receiving data, they want to receive information about student performance and progress. The study also found that parents trust educators to use data to support improvement.

Digging down into the survey (Harris Poll, 2015), additional information emerges. For parents, the most important characteristics of school quality are preparedness for the future (48%), educator qualifications (48%), and school safety (47%). When asked about knowledge of the data being collected, 72% report that they know what the schools are collecting while 70% report understanding how the data are being used.

The Data Quality Campaign (2016b) noted a socio-economic status effect where the more affluent parents preferred what is known as "hard data" such as grades test scores, and graduation rates. In contrast, parents from less affluent circumstances were more accepting of socio-emotional data. Quoting from the report:

- Among parents who have received the following information, most want it:
 - How their child is progressing in school (96%);
 - If their child is on track to graduate (94%);
 - If their child needs remediation or extra help (93%);
 - How the school keeps their child safe (93%);
 - How the school is preparing their child for the future (92%); and
 - If their child is ready for more advanced coursework (90%).
- Among parents who have not received the following information, most wish they did:
 - How the school keeps their child safe (95%);
 - How the school is preparing their child for the future (95%);
 - If their child needs remediation or extra help (92%);
 - If their child is on track for graduation (91%);
 - If their child is ready for more advance coursework (91%); and
 - How their child is progressing in school (88%).

The Data Quality Campaign (2016b) study also reported that parents feel that schools and districts can do more to provided data, but they also feel that the data they do receive is timely and secure. They also feel the data are accessible and easy to understand. Yet, 70% report that there is a problem with one of the most important indices of school quality – how schools are preparing students for the future.

Yet, overall, the Harris Poll (2015) survey found no patterns for gender, age, region, and wealth among parents. Most parents (93%) receive information about how their child is progressing in school, if their child is on track to graduate ((80%), if there is a need for remediation (78%), school safety (76%), preparation for the future (70%), and if the child is ready for more advanced coursework (70%). Yet one possible impediment is that there is no one central repository of information for educational information (64%). Parents have to seek out and have access to the needed information.

The release of data is not without problems. As the A-Plus Communications (1999) showed, parents are skeptical about information found in public media such as newspapers, television, and radio. Even the chamber of commerce was seen as relatively unreliable. Yet over the past few decades, real estate sites have become a source for information about schools and districts. Real estate websites like Zillow are linked to information about local schools as a selling point for rentals and purchases. Even before the advent of websites, real estate agents were armed with CD-ROMs filled with test scores and other data that parents could use as a proxy for real estate values. Yoshinaga and Kamenetz (2016) have noted that there is a "legal gray area" around the provision of such data. High performing schools positively affect real estate values. Yet certain data may be off limits in terms of Fair Housing Act policies, information that potential purchasers may want to know. Such data may include demographics, crime rates, diversity, income disparity, socio-economic status, and racial composition of the schools.

Parental engagement is being emphasized in ESSA (Congress of the United States, 2015). Data use is a foundational component of the legislation. The Data Quality Campaign (2016a) released a document that outlines how ESSA impacts data use and how to ensure that various stakeholder groups have access to the data they need. This includes the kind of data that state and local report cards should make accessible to parents and communities. A major theme of the document is that states and districts should measure what matters to stakeholders. Data that might include are student growth measures, assessment results, chronic absence data, student mobility, enrollment, and school finance and expenditures. The Data Quality Campaign urges states to design their report cards in a way that the information is transparent to families and communities. They must be easily accessible and use language that is understandable to a wide audience.

A Concluding Caveat

The literature assumes that if data and information are made available to stakeholders, people will know how to use them. Making data available to parents is a first step. But another issue looms large and has heretofore received little or no attention in the research literature. Having access to and being given data is one thing. Knowing how to make sense of the information is an entirely different and more complicated issue. There can be no assumptions about the level of sophistication most parents have when it comes to dealing with data and information. The field knows that educators often lack data literacy and have not been trained adequately to effectively and responsibly use data (Mandinach & Gummer, 2013, 2016a, 2016b). States have only recently begun to attend to the importance of educator data literacy (Data Quality Campaign, 2014; Mandinach, Friedman, & Gummer, 2015). If educators lack the capacity to use data, how can we expect parents to be able to understand, interpret, and make meaning from what may be exceedingly complex information? There may well be a disparity among parents who differ in their education levels, but even among the most educated, understanding educational data is not a trivial enterprise.

A second issue is the relationship between the information parents seek and whether data systems or technological solutions, as they currently are implemented, can address and

support the parental needs. To date, the literature has not addressed this issue. Therefore, the research reported here fills a need in both literatures.

Methods

Recruitment

This research study sought the feedback and experiences of a diverse group of Missouri parents. The researchers relied on third party organizations to help recruit and secure commitments from parent participants. Research protocols limited the contact researchers could make with schools and districts. As a result, recruitment strategies were subject to change depending on the needs of each parent population being recruited and the capacity of each partnering organization. The research team worked with the National PTA to establish a relationship with the Missouri PTA and its school-level affiliates. Table 1 outlines the sample for the study. These affiliates helped to inform parents of upcoming focus groups and secure commitments. To broaden the population of parents participating in focus groups, researchers also contacted nonprofit organizations that work with families in need (the Children's Education Alliance of Missouri, the Columbia Housing Authority, and Vision for Children at Risk), charter schools, and university programs. For three of the focus groups, internal staff at the Kauffman Foundation helped to provide the contacts and set up the final focus groups. Parents were compensated for their time commitment with a \$50 gift card from Amazon.com. In one instance, feedback from the third party organization resulted in the research team providing lunch to stimulate participation among parents and guardians when gift cards alone, would not suffice, in part because the participants did not have access to online technologies where the gift cards could be used.

Researchers held 21 focus groups in a variety of settings in urban, suburban, and rural areas across Missouri: Belton (1), Columbia (6), Florissant (1), Independence (1), Kansas City (7), Springfield (1), and St. Louis (4). Sessions were held in schools, community centers, and conference rooms located in nonprofit organization offices, school district offices, a hotel, and a university.



Figure 1. Map of cities visited to conduct parent focus groups.

The researchers met with 118 parents of varying backgrounds and socioeconomic statuses. Of the 118 participants, 21 were male and 97 were female, and 66 were white, 35 African American, 13 Hispanic, and 3 Asian. Seventy-one of the parents were recruited through the PTA and 47 were recruited through nonprofit organizations. Fifty-one parents had students in schools in an urban setting, 50 parents had students in a suburban setting, and 17 parents had students in a rural setting. Table 1 shows the location and demographic information for participants at each focus group.

Visit	Focus Group Location	Male	Female	Total	White	Black	Hispanic	Asian	Other
	Briarcliff ES 1/2	1	2	3	3	-	-	-	-
s City #1	Crestview ES	1	8	9	4	2	3	-	-
	Independence School District Central Office	2	7	9	9	-	-	-	-
Kansas	Briarcliff ES 2/2	1	5	6	3	-	3	-	-
Ка	Grace Early Childhood Center - Belton	-	8	8	8	-	-	-	-
ouis	Children's Education Alliance of Missouri	-	4	4	2	2	-	-	-
	Hazelwood HS	1	3	4	2	2	-	-	-
St. Louis	Confluence Academy	2	6	8	-	6	2	-	-
^o	McCluer HS	1	4	5	1	4	-	-	-
	Vision for Children at Risk	5	6	11	-	11	-	-	-
	PTA Convention 1/2	-	9	9	6	2	-	1	-
	PTA Convention 2/2	-	2	2	2	-	-	-	-
Columbia	Columbia Housing Authority	-	4	4	3	1	-	-	-
Col	Grant ES	-	2	2	2	-	-	-	-
	Mizzou 1/2	1	5	6	4	1	-	1	-
	Mizzou 2/2	1	6	7	6	-	-	1	-
£2	Scuola Vita Nuova	-	7	7	1	-	5	-	1
Kansas City #	Pershing MS	-	4	4	4	-	-	-	-
	Kauffman Center 1/3	-	3	3	-	3	-	-	-
	Kauffman Center 2/3	1	3	4	4	-	-	-	-
	Kauffman Center 3/3	-	3	3	2	1	-	-	-
	Total Number	21	97	118	66	35	13	3	1
	Total Percent	18%	82%	100%	56%	30%	11%	3%	1%

Table 1. Focus group participant gender and ethnicity by location

Source: WestEd analyses.

Parents attending the focus groups had children in varying grade-levels, from soon-to-be pre-kindergarteners to recently graduated high school seniors: 39 parents had children in pre-kindergarten or younger; 77 had children in elementary school; 31 had children in middle school; 41 had children in high school; and 31 had children graduated from high school. Table 2 shows the student grade levels represented by participating parents.

	Pre- Kindergarten or Younger	Elementary School	Middle School	High School	Post-High School	Total
Kansas City #1	5	20	8	2	2	37
St. Louis	10	22	4	20	6	62
Columbia	20	23	8	8	10	69
Kansas City #2	4	12	11	11	13	51
Total Number	39	77	31	41	31	219
Total Percent	18%	35%	14%	19%	14%	100%

Table 2. Student grade levels represented by participating parents

Source: WestEd analyses.

Focus Group Interviews

The focus groups were conducted with the use of an interview protocol that consisted of two parts that addressed information needs and technology design issues. Each group was asked the same questions, but in a semi-structured manner to take into consideration the responses of the participants and reduce redundancy of questions. In this semi-structured format, each question was addressed and the desired information elicited from the participants.

Focus group interview times and dates were established through communication between the researchers and PTA or nonprofit representatives in each area. These representatives contacted parents and secured their commitment to attend a session. The sessions were held at different times of the day and on different days of the week to accommodate the needs of the participants. Many of the sessions occurred at night to include working parents. The duration depended on the number of participants, ranging from an hour to two hours. Semi-structured interviews were conducted in groups ranging from 2 to 11 parents. The participants were told that the writing of the research results would include quotes and themes from the discussions. Researchers typed notes throughout the discussion and did not voice record the interviews. Researchers assured the participants that names and other identifying information would not be mentioned or reported.

Education Information

Participants were asked the ages and grade-levels of their children, how long they have been members of the school and district community, and if the participant was involved in the school's PTA. Scenarios were presented to participants to help ground the discussion and have participants think about different viewpoints from which parents may seek education data. These scenarios are described below. Variations of these scenarios were pursued if there was a need to solicit further information. If a group became off topic or did not understand the scenario, the researchers made attempts to rephrase the scenarios or provide parallel examples to solicit the information.

- You are a new parent to a school and even to the area. You are pretty savvy about the neighborhood, education, and what you want for your family, but you want to know more about the school, the district, and the state. At an informal gathering you spot a neighbor who seems knowledgeable about the school and area. The neighbor has a child the same age as yours. What kinds of questions do you ask this neighbor? What is most important for you to know? How would you use that information?
- If you were a real estate agent trying to sell a house in the neighborhood where your children attend school, what information do you share? What messages do you have for these parents?
- A parent new to the area approaches you to ask about your child's school. What are the most important things you would share with this parent?
- You are a PTA officer for your child's school. What information do you share with parents and community members? How can they learn more about the school? What are some developments at the school that parents and the community should be aware of?
- You are looking to move in the near future and have the ability to take time to find an area that is right for you and your family. What types of information will help you make a decision about where to move? How will you access that information?
- Your child will be entering elementary/middle/high school next year. At the grocery store, you run into a teacher who you know teaches at that school. What questions do you have for that teacher? What do you want to know about the school your child will attend?

Participants were asked to reflect on types of and sources of educational information: (a) the educational information that is important to them; (b) the information that they currently have access to; (c) the information they wish they had access to; (d) the kinds of decisions they have to make as parents now and in the future and what information will help assist them in making these decisions; (e) the sources they seek out to explore education and schooling information; (f) which sources have a good reputation and why; (g) the forms of information parents seek most consistently and the forms they avoid; and (h) the information they want to have on a school and its leadership and faculty.

Participants were asked to think through the similarities and differences in the types of information and the level of detail they desire when their children are in different grade levels. The participants thought through if there were differences in the information they use and desire when their children are entering elementary school, middle school, and high school.

Participants were asked how they reconcile conflicting information. Specifically, what do parents tend to trust or rely on if their own experiences or verbal feedback they receive from other parents conflicts with published data and statistics? The researchers provided examples for parents to consider. In Case 1, parents were told that a school had received a grade of a "D", but that there were good values, strong school safety, and parents walking down the hall had excellent impressions of the school. In Case 2, parents were told the

school had received a grade of "B" or "A", but that the impressions of the school were not positive. Parents were asked which schools they would choose and why.

Website Information

Participants were asked to consider examples of three websites that present data and information in different ways. The researchers led parents through a navigation of three websites that display education data: a National Science Foundation website (https://nsf.gov/nsb/sei/edTool/explore.html) that uses questions to help guide users to available data; the Illinois Report Card website (http://www.illinoisreportcard.com/) that organizes information by key topics of interest; and the Jacksonville Public Education Fund website (http://www.jaxpef.org/) that organizes information by school-level areas. Each site was displayed using paper copies to parents one at a time and parents were able to reflect on their reactions to the graphics, the ease of the site's navigability, what they liked and did not like about the website, and what aspects were clear or confusing. Participants then compared the three websites and ranked them in order of preference. The website pages that were used as prompts during the focus groups are found in Appendices B, C, and D.

Analysis

The computer program ATLAS.ti was used to examine and uncover themes across participants and focus group sessions. Focus group sessions were transcribed during each session and notes were reviewed for accuracy by the researchers. Listening to the participants, transcribing their dialogue, and reviewing and analyzing discussion notes brought a deeper understanding of the initial emerging themes. Researchers discussed these initial findings, compared them to their notes, and refined the emerging themes.

Findings from the Parental Focus Groups

Findings from the parental focus groups are reported based on the topic areas addressed by parents: what they value from available information; what data and information they would like access to; and what they want from a website focused on education data. An examination of this data and of the EdWise website then follows.

What Parents Value in Available Information

Parents were asked to consider the kinds of education data to which they pay attention, where they go for education information, and how they determine data to be valuable and reliable.

Data To Which Parents Pay Attention

When asked about the data to which parents pay attention, all focus group sessions began with a discussion of standard quantitative indices of school success, such as test scores, graduation rates, school grades, and educator qualifications. Parents discussed paying attention to reports that detail school, district, and state test score averages. Graduation rates were discussed readily by parents who had children in high school or by parents who had recently moved or were thinking about moving. Seven focus groups consisted of parents who had moved based on education data they sought out and ten focus

groups consisted of parents who have considered or are considering moving based on this data. These parents considered the graduation rates of area schools when making home buying decisions. Parents were looking for data that could help determine if schools would be successful with their children, with one commenting, "Will I trust these people to be with my child more than I am? Will they give her a strong foundation to move on in life?" Another parent described the search process: "I was in a situation where I could transfer my daughter and I could pick my top three schools in the district. I went to a website and looked at attendance, school websites, if teacher information was available. I picked the teacher I wanted. I looked at graduation rates, curriculum, the transportation route to the school, the district's rating. I looked for gifted [and talented] testing. I looked for special needs services, emotional needs, and if the school supports them. I wanted to make sure the school could cover my kid's needs, emotional and academic."

Data on teacher qualifications also were of interest and were brought up by 13 of the 21 focus groups. For those parents who noted the importance of educator qualifications as

"Will I trust these people to be with my child more than I am? Will they give her a strong foundation to move on in life?"

-Parent participant

an informative data source, parents reported that they pay attention to teacher qualifications such as their backgrounds, training, and number of years of experience. As explained later, there were differences of opinion among parents who favored an experienced teaching staff and those who favored a younger teaching staff that may be more open to innovative practices. When possible, parents reported examining where teachers attended educator training programs. Some parents brought up feeling hesitant to send a child to a school where many teachers were alternatively certified through a program like Teach For America. Parents looked for how long a teacher had been in the profession and at a particular school. Parents were particularly concerned with teacher turnover, which was discussed in 17 focus groups. One parent commented, "I would look at staff turnover. Are there new teachers every year? I would avoid a lot of turnover."

It became clear that different types of information were more important as children progressed through grade levels. Parents of children in pre-kindergarten and elementary school sought information on a school's learning environment. These parents looked for data to show the school had a supportive and caring culture, climate, and staff. A parent with a child in elementary school commented, "Climate is huge. I do PTA to know what my child's day is like. Climate is how much the teacher enjoys the building and colleagues, how much warmth is in the building."

Parents of children in middle school expressed a deeper interest in the enrichment activities available at a school. These parents were looking for information on available student electives and extracurricular activities. One parent noted, "Many schools offer varying programs. I would like to see a matrix of what the programs offered at each school are. That would let you see what you didn't know existed: [International baccalaureate], career and [Advanced Placement] courses, STEM, STEAM, and gifted and talented. You would be able to see what programs are offered through the state, in districts, and how schools

"I would like to see a matrix of what the programs offered at each school are. That would let you see what you didn't know existed.

-Parent participant

compare. In addition to parents wanting to know more about student electives, there was a desire for school staff to be supportive of students in transitioning to be more independent and self-directed.

Parents of children in high school expressed a similar concern for enrichment activities as parents in middle school, with an added emphasis on advanced course offerings (Advanced Placement and International Baccalaureate),college and career readiness activities and initiatives within the school, and amenities provided at the school site. One parent noted, "There is one great high school in the district with a lot of amenities and staff. It provides strong academics and has technology for students, and has staff and coaches. Amenities are huge." These parents were less concerned with having staff members being supportive. As one parent said, "By the time students get to high school, they are who they are." As discussions continued, school safety became the most talked about data point considered by parents; Standard quantitative indices became of secondary importance. Parents with children in all grade levels discussed paying attention to any and all information that would help them understand school safety. Parents focused on the need to send their children to schools with safe and supportive learning environments. Described below, these data points varied by grade level and by urbanicity classification.

Parents of children in pre-kindergarten and elementary school looked for data to show the school had caring and supportive staff members and school counselors. To these parents, safety was centered on the culture and climate maintained by the school leaders and faculty, with one parent commenting, "I wish I could ask about how the school creates a socially welcoming environment for students.". For parents of children in secondary grade levels, safety centered on the culture and climate as

"I wish I could ask about how the school creates a socially welcoming environment for students."

-Parent participant

defined by student-level actions and data, such as rates of suspension. Parents of children in middle school discussed bullying as being an area of concern. Parents of children in high school focused on the prevalence of drugs and violence.

Where parents live impacted how they perceive information about school environment. Parents in suburban and rural areas focused on the environment within a school. For the purposes here, within school environment means details on the school leaders, teachers, their mindsets, and their approach toward creating a supportive classroom and school environment. One suburban parent commented, "I think the principal is why the school is so successful. The principal sets the example and the teachers take that example and it affects their behavior and how they work with students."

In contrast, parents in urban areas focused on a more limited definition of school environment while also focusing on the environment of the surrounding neighborhood. These discussions focused on school safety policies and the safety of that neighborhood. These parents expressed a deep understanding of and concern for the area's crime history and rates and how they impact the school and surrounding area. The parents wanted information about school safety procedures and processes. Were there security officers? Were there metal detectors? Were there surveillance cameras? How safe would their children be from violence? What was the school doing to protect the children? They expressed fear about guns being brought into the schools and about predators lurking in the neighborhood.

In addition to safety, parents in urban areas expressed interest in how schools focus on the unique needs of their students in ways that did not come up in suburban and rural groups. Parents in urban areas recognized that many students face issues related to poverty and mobility. They were interested in the ways schools understood these problems and worked to address them, at a school level and in partnership with other organizations. One parent commented, "I want to know what resources are available in the community. We have organizations that provide coats, clothes, and shoes. School partnerships are important. Can the school provide for student needs?"

Where Parents Go for Education Data

The vast majority of parents shared how they access education information from a variety of sources. The types of information that parents want and the level of detail that parents want this information is not accessed through one or two main sources. Parents have easy access to quantifiable data such a test scores and graduation rates and these data are important to parents. Parents get this education information from a variety of sources: local district and school websites, the state department of education, GreatSchools.org, and real estate websites and realtors. As parents were directly asked to imagine they were a local realtor and consider what information they would share with other parents, experiences with real estate websites and realtors were discussed in every focus group. It was revealed that many parents have used this information, with one parent commenting, "Realtors provide a lot of information. Some will tell you where you do and don't want to live. The realtors find school information useful and perspective parents find it useful."

Absent a reliable and comprehensive source of information, many parents simply use Google to conduct searches and explore websites that appear in the results. Relying on Google was explicitly stated in 16 of the 21 focus groups. Parents expressed assessing the website's utility and functionality in just a few clicks and will quickly return to the Google search results if the website is hard to navigate.

Parents in 7 of the 21 focus groups commented on using the Missouri Department of Elementary and Secondary Education website (<u>https://dese.mo.gov/</u>) but, while it contains valuable information, that information is hard to access and make sense of. One PTA president commented that, "approximately 10 percent of the parents in my PTA know of and use DESE, though I wish more could and

"I try to use DESE but it is not user friendly and it is not intuitive."

-Parent participant

would." Another parent who works as a demographer and is comfortable making sense of data similar to what is contained on DESE said, "I try to use DESE but it is not user friendly and it is not intuitive."

Parents expressed a strong preference for both descriptive and qualitative data, including parent and student experiences. They sought this data through social media and comments left by parents on various websites. However, the way by which parents access qualitative data is not limited to the internet. Parents discussed talking with other parents, attending school functions, interacting with community members through religious organizations, contacting PTA members and leaders, and attending board meetings. Parents also discussed visiting schools to talk with principals and teachers. These visits help them develop an idea for a school's culture, climate, curriculum, classroom activities, and homework policies. Parents expressed having great value for websites and sources of information that can provide this type of qualitative data. Parents largely believe this data demonstrates a more complete picture of a school.

Determining Value and Reliability

As described above, parents who access websites for education information often determine a website's utility in a matter of computer mouse clicks. Parents are looking for "trusted," third party sources of information, with one parent noting, "Making this information public on a neutral website will make the districts work to maintain equity." But parents want this information to be easily accessed and professionally presented. If a source of information is difficult to navigate or does not appear to be professional, parents will abandon that source and seek others. All but one focus group (20) discussed seeking out multiple sources of information.

Parents want sources of information that make clear what the data mean and where they come from. They acknowledged the limitations inherit within websites that provide parent feedback: biased parents are likely to provide an incomplete portrayal of the school. However, websites that provide parent comments with the information on when these comments were published are more likely to be trusted than websites showing quantitate data with no information on when the data was published or with no information on how that data were collected and measured.

Parents expressed frustration when these different forms of quantitative and qualitative data conflict with one another. As the conflict became apparent at the first focus group, WestEd introduced a set of questions that specifically would elicit more information about conflict resolution, as described in the Methods section above. In almost all instances, parents deferred to the impressionistic or descriptive information. If the school received a poor rating but the parents felt positively about the school, the parents focused more on the positive

"[If I had conflicting information,] I would have to visit the school and then go with my gut feeling.

-Parent participant

feelings. Conversely, if the school was highly rated by the parents had negative impressions of the school, they again opted for their feelings rather than the data source. Parents more readily believe their intuitions and the more subjective information than the harder, quantitative evidence, with one parent commenting, "I would have to visit the school and then go with my gut feeling."

Participants were asked about the presentation of certain data elements. Figure 2 demonstrates a data display with four features that were expressed by the majority of parents, 17 of the 21 focus groups, as being necessary in assisting their ability to make sense of education data. This example, from a school's page on the Illinois Report Card website, provides users with a question mark (*1A) next to the name of the data being displayed. This feature allows users to click the question mark and learn the definition of the data, in this case, what PARCC means. Parents expressed wanting the ability to quickly learn and define education phrases and terms without having to navigate to a new page. This display provides icons that allow users to interact with the displayed data by downloading it to Excel, to PDF format, or to print the image (*2A). Parents expressed wanting these abilities as they navigate education data. The display also allows users to quickly compare data by grade level, student groups, or by school, district, and state. It also allows users to toggle between different subject areas (*3A). Parents expressed wanting this as it allows them to more easily access and interpret data. Finally, this display also provides a graphical display of the data (*4A). While a minority of parents were comfortable reading data in tables and charts, the majority of parents wanted graphical displays of data when possible.

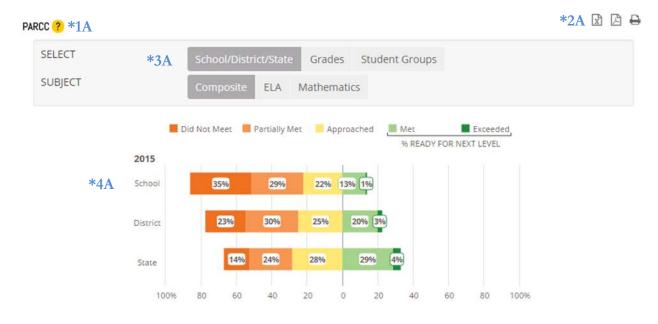


Figure 2. Four examples of data features desired by parents

Figure 2 demonstrates four main features parents look for when searching for education data. *1A: The question mark allows users the ability to click and learn the definition of "PARCC." Parents want the ability to quickly learn what phrases and terms mean without having to navigate to a new page; *2A: These functions allow users to interact with the displayed data by downloading it to Excel, to PDF, or printing the image. Parents expressed wanting these abilities as they navigate education data; *3A: This feature allows users to toggle to different types of data without having to navigate to a new webpage. Parents expressed wanting this feature as It allows them to more easily access and interpret data; *4A: This feature provides a visual display to compare data at the school, district, and state level. Parents expressed a desire to compare data at these levels and to have data displayed in a graphic when possible. Source: Illinois Report Card (http://www.illinoisreportcard.com/).

Same Information, Different Interpretation

Not only do parents have to deal with conflicting data and information, different parents also exhibited conflicts in how they interpreted particular data sources. Five focus group discussions yielded evidence of a conflict with how parents interpreted the same source of information concerning technology, student demographics, and teacher experience. Technology in schools was a data or topical point with conflicting interpretations. Ten of the focus groups discussed technology available within a school and district, and all but two parents expressed that they wanted a school to provide varying technological experiences to students to help develop important skills. However, two parents expressed a desire to not have elementary-aged students use technology at the school or to do so minimally. These parents expressed that technology use is already prevalent. They did not want children to have more time on devices. They expressed that the use of technology came at the expense of collaborative and engaging teaching practices.

A second example of conflict is how parents interpreted student demographic information. Diversity and demographics was discussed in 15 of the focus groups and overwhelmingly, parents desired data on a school's student demographics to find diverse schools that could provide their children with experiences with diverse peers. One parent commented on searching for the most diverse schools and loved that she found an elementary school "that was like a little United Nations." Another parent sought out a diverse neighborhood into which to move so that her daughters would have as diverse as possible

"I want to find a school environment that is diverse. I chose this school because it is like a little United Nations."

-Parent participant

educational experience. The language of the school she selected was primarily Spanish. She only spoke English.

However, there were instances when parents described not wanting a school to be diverse. One parent's child attended a suburban school that was now accepting students from Kansas City Public Schools due to accreditation issues. This parent viewed diversity as a sign of potential decreases in school-wide achievement and safety due to perceived deficiencies in the urban school from which new students are coming, explaining, "The school has changed from six years ago. There have been environmental changes...with an influx of students that increased free and reduced lunch rates and changed demographics. There was then turnover in teachers, so now we have more new teachers. We've seen challenges with discipline and focus." For another parent, race and ethnicity was clearly an issue. This parent made it explicitly apparent that not only did he not want his children in a diverse school, but also sought out a school with a faculty lacking diversity. It is important to note that these two examples were a stark minority. For all other parents, diversity was an asset and demographic data were seen as helpful resources in school selection.

A third example of conflict is how parents interpreted teacher experience, which was of interest in the majority (13) of focus group sessions. Most parents expressed an inclination to send their children to schools where teachers had several years of experience. However, in three focus group sessions, parents expressed a desire to see a school staff that had younger teachers in the school, even if they were less experienced. These parents thought that younger teachers would be more comfortable incorporating technology and innovative practices, whereas more experienced teachers may not be as

comfortable or as open to changing their practice. After voicing this opinion, the parent group was split between parents who agreed with this thought and those who still favored a more experienced teaching staff.

What Data Parents Want from Information Sources

Parents were asked to what data they would like to have access. The variety of information desired by parents, and described below, would be difficult to capture within one source. Some of this data would be suitable only for school-specific websites. Parents recognized these limitations. However, parents expressed a desire for a source of information that could provide an overview of key education data, a high level analysis of that data, and direction to more nuanced sources of information (including district, school, and appropriate nonprofit websites).

Though the type of qualitative data desired by parents depended on the urbanicity of the focus group location, as described previously, all focus group sessions generally concluded with parents expressing a desire for schoolspecific qualitative data and quantitative data that are comparable across schools, districts, and years. The quantitative data that parents already access largely are those data they desire: academic data such as test scores, graduation rates, and proficiency rates; school-level data such as attendance, class size, total enrollment, student demographic information, and district-level data such as financial information. One parent commented, "I am focused on statistics and trends. If I see trends that other

schools are increasing in various ways and our school is not, that would be a consideration to leave. We can use that information to make decisions." Parents wanted the ability to have access to a variety of data and to be able to make sense of it or not pay attention to it as they saw fit.

School-specific information, both qualitative and quantitative, that is largely housed on school and district websites is dependent on the capacity of those schools and districts to provide updated and accurate information. As a result, these data are more difficult for parents to access reliably. Parents expressed frustration in not being able to depend on the quality and timeliness of the data on these websites. Parents want reliable access to school and district mission and vision statements, school and district leadership information, data on how schools and districts prepare students to be college and career ready, and how successful students are in college or in obtaining employment. Parents also expressed a desire to have financial information such as per pupil spending, teacher salary information, and expenditures on facilities and programs.

Parents expressed a desire for qualitative data to be paired with these quantitative measures. Parents greatly appreciate access to parent comments that can be provided

"I am focused on statistics and trends. If I see trends that other schools are increasing in various ways and our school is not, that would be consideration to leave.

-Parent participant

on social media websites. However, parents also recognize that these are not always the best places to go for reliable information. There was a general consensus that websites that can provide clear and accurate quantitative data with a section for parent comments and feedback would be highly valued.

What Parents Want from a Website

Parents considered the different ways in which education data could be published and navigated through website platforms. Parents were shown examples of three websites and asked to consider what they liked and disliked about each website, how easy or difficult it was to navigate each website, and then to compare the three. The purpose of this exercise was to provide feedback to the Kauffman Foundation about potential modifications to EdWise to make it more user-friendly and accessible to the general public. Parents liked website features that made it easy to navigate the

"I like to have a snapshot of information without having to navigate off the [web]page."

-Parent participant

available information with minimal computer mouse clicks. One parent noted, "I like to have a snapshot of information without having to navigate off the [web]page." They favored websites that were designed in warm colors and with a clear and easy-to-use search feature that allowed for varied search terms (e.g., topics, districts, schools, addresses, and zip codes).

Parents also appreciated website functionality that allowed them to better understand the presented information. The ability to access frequently asked questions (FAQs) and have a quick way to define an education term or specific measurement made them more likely to value and use a website. For example, a website that allowed a user to hover his/her computer mouse over the term "PARCC" to learn the meaning of the acronym and read a brief description of it was strongly favored. Included in website functionality was the ability to translate a webpage from English to another language. Both Spanish-speaking parents and English-speaking parents noticed when this capability was and was not present and valued websites that provided for this ability.

Parents strongly favored the presentation of information through icons and "quick facts" that allowed them to gain a general sense of multiple points of data quickly without having to navigate to a new webpage. Parents liked the ability to then select one of these points of data to further explore it and gain more clarity and understanding, if it was of interest to them. The ability to use that data to compare schools to one another, to the district overall, and to the state was an essential feature for the participants. One parent noted, "I like the comparison of the school, state, and district. I like to see if a school is better or worse and that can tell me to pick a different school or stay in it." Parents also wanted to know when the featured data was collected and published. Recency of data makes a difference to the parents.

Parents also liked having a variety of ways to retain and share the information provided on a webpage. Features that allowed parents the ability to download the data to Excel, print the page, convert the page to a PDF, or share a link to the page via email, Facebook, or Twitter were perceived as helpful and valuable.

Parents largely disliked features that made webpages appear unprofessional. These included the use of stock photography, unattributed data, unexplained abbreviations and acronyms, and unrefined graphs and tables. These features made parents less likely to explore a website in depth to understand is capabilities and use. Rather, they would close that page and begin a search for a new website. Parents also disliked loud and bold colors. They found them to be both unprofessional and disconcerting. More muted tones were preferred and did not deter from the real data.

Parents expressed a need to balance the information available with how that information is presented. While some parents mentioned wanting a lot of data available to them, there was an overwhelming agreement in not wanting to navigate through several webpages or hard to understand text and graphics. One parent noted, "People don't have time to read everything. We want to be able to scan and find something quickly," and another adding, "If [the webpage] has a snapshot and data below, that is great. I don't want to click back and forth." Presenting

"If [the webpage] has a snapshot and data below, that is great. I don't want to click back and forth."

-Parent participant

data clearly and simply is necessary to parent data use and understanding.

Website Design Considerations

As noted above, the primary reason for asking parents about website design considerations was to solicit direct feedback that could be used to inform the Kauffman Foundation's efforts to better customize EdWise for parent use. Parental use of EdWise was not an original objective of the Foundation, but they did want to study how the data dashboard resonated with the stakeholder group. Parents provided direct feedback that can help inform efforts to make EdWise more accessible to parents. In its current form, EdWise-Public (EdWise-P) seeks to create a simple path to basic information with a condensed set of tools for a faster experience. Its intended users are education support organizations, civic and neighborhood leaders, and media. As noted in its list of intended users, this version is not yet intended for parents and does not yet meet the broad standards expressed by focus group participants. A comparison of this version and the broad standards and guidelines shared by participants can help inform future iterations that improve on the designs aesthetics and navigability.

Participants expressed a desire to quickly access and view diverse education data with the option to explore that data further. For example, the Illinois Report Card allows a user to search a school, select that school, and have access to one page that provides the school's: name, grade-level, contact information, leadership information, test score averages, average class size, total enrollment, graduation rate, ready for college rate, percent FRL, percent ELL, percent with disabilities, amount spent on instruction, and amount spent on operations. Users can translate the page to Spanish.

Figure 3 demonstrates a key feature of the Illinois report card that the majority of participants liked: The Fast Facts icons. This feature displays icons that provide an overview of 10 school-level data points that users can click for further examination. A user can take their computer mouse and hover it over the icons to read a description of what each variable displayed is and what it means. This feature meets the needs of parent participants because it provides an easy way for them to quickly explore a lot of data without navigating to new pages, allows them to better understand data with which they may be unfamiliar, and allows them to decide which data to explore further. Also, participants favored these icons instead of websites that used stock photography. They found stock photography to be insincere. In the absence of pictures of actual students in the school, participants found icons to be an acceptable way to accompany data and make for more user-friendly webpages. That said, there is a potential problem with using actual pictures in terms of protecting the privacy of students.

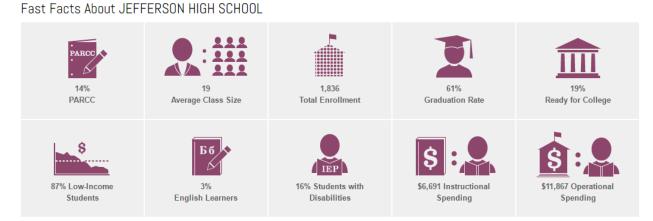


Figure 3. Example of a data display favored by the majority of participants

Figure 3 demonstrates a data display favored by the majority of participants. Parents preferred displays that had multiple data points displayed simultaneously to limit the need to navigate to other webpages. Source: Illinois Report Card (<u>http://www.illinoisreportcard.com/</u>).

The Illinois Report Card platform demonstrated ease of use, ease of understanding, and ease of navigation, with the user having to make limited decisions. The way in which these data are navigated closely matches how many parents use the Internet: through a search engine. Overwhelmingly, parents are going to Google, entering a search term, and navigating from there. The Illinois Report Card directs parents to data through a similar method: parents enter a search and navigate to data. The way in which the parent refines this search is minimal. This is not the case with EdWise-P.

EdWise-P presents users with over 10 decisions to be made on the first page. A user has to read and consider several options before deciding on how they will use the website and access the data. This involved process does not match the processes parents currently undergo to search for and access information. The focus group findings yield considerations for adapting EdWise-P or a future platform to be parent-friendly. Overwhelmingly, parents preferred websites that provided a search bar to access information throughout the site. Parents compared this preference to being comfortable with search engines. Providing a home page that predominantly promotes a general search bar, like the home page of the Illinois Report Card website, will help parents be more comfortable in accessing information.

After finalizing a search, parents overwhelmingly preferred having multiple forms of data displayed to them that they could then further dissect and analyze. It is recommended to have a template that populates a synthesis of important data for schools and districts prior to a user having to select and filter for terms.

Limitations

A limitation of this study is the representation of particular groups of parents. The researchers recruited parent participants through outreach to local PTA officers and to local nonprofit organizations that work with families in need. This type of outreach made it difficult to secure equal numbers of parents that represent all grade levels, socioeconomic status, and urbanicity. Using the PTA as a conduit for sample recruiting also introduced a potential bias to the sample. Researchers recognize that PTA members tend to be more active than other parents. This is a bias that was unavoidable in this study. While parents who identified as upper middle class did attend focus group sessions, there were no parents with more affluent backgrounds. Perspectives from parents from more affluent communities may have provided for different conversations and feedback. While there were parents from rural areas represented, the researchers were not able to secure commitments from parents in more extreme rural school districts. Some parents mentioned having moved from these types of school districts, but no participating parent currently lived in those areas.

Additionally, relying on third party partners to recruit parents made it difficult for the researchers to maintain consistent numbers of parent participants across focus groups. The research team worked with these partners to generate communications to potential parent participants and to cap outreach after a certain number of parents (10) committed to attend the focus group. Limiting outreach was done in an effort to ensure each participant could be an active member of the group and to meet the target number of gift cards given for participation. However, some partners were more capable in ensuring parent commitments than others. In the best scenarios, the research team was able to communicate with partner organizations without issue and was able to receive updates if and when parents had to cancel their participation commitment, allowing for further outreach to be conducted. In the worst scenarios, partner organizations were not able to find parent participants and failed to communicate that to the research team until right before the focus group date. This fluctuation in partner organization communication and outreach effectiveness resulted in focus group sessions that had 2 or 3 parents in attendance when 8 to 10 were expected.

Discussion and Implications

The current study examined two topics. First, it examined the information that parents in Missouri want and need to make decisions about their children's education. Second, it examined the design characteristics that parents see as desirable to make data systems informative, usable, and accessible. This information is seen as helping the Foundation to modify EdWise to make it more approachable to diverse stakeholder groups.

The study included focus groups with parents from across the state who represent diversity among socio-economic, ethnic, educational background, public/private, and geographical location designation groups. Despite the diversity, one message was clear in all of the focus group – parents care deeply about their children and the education they receive. Most want information that will help them make better and informed decisions about education. They want the information to be easily accessible and easy to understand. They want that information from user-friendly interfaces that provide a nice balance of information without complexity.

In education, districts, schools, and educators are often judged rightly or wrongly on objective, quantitative indices of quality. This may include test scores, graduation rate, dropout rate, educators' qualifications, school grade, and per pupil expenditures. Indices may include measures at the individual student, classroom, school, and district levels. Such data may reside in local and state data repositories where they can be used for comparisons, compliance, and accountability. For educators, they want data that can lead to a process of continuous improvement. Parents are different. They want data and information to make informed decisions about their child's education. And that data may well be more qualitative and not necessarily or easily reside on a data system. In reality, whether for educators, parents, or other stakeholder groups, data use is all about how the evidence is interpreted and made actionable through the decision making process.

Yet the focus in this study is about the data and information parents report they want and need to make educational decisions. As is acknowledged in ESSA (Congress of the United States, 2015), parents form an essential stakeholder group which is in part why the legislation has emphasized parental engagement. Parental needs around information are likely to differ from other stakeholder groups (A-Plus Communications, 1999). Further, it is likely that parents may have limited sophistication with data, thereby limiting their ability to effectively interpret and make meaning from the data. Having data systems that can provide consumable and easily understandable information may well be the essential factor in getting the appropriate data into the hands of parents and others.

Many of the findings in this report concur with the few studies found that address parental data use. Parents want to know about traditional school performance indices. Parents also want to know about their own child's performance and have easy access to student-level data, typically through a parent portal on a local data system. But what now seems to loom largest for parents is information about school safety. This topic is especially important for parents with young children, but the importance continues throughout the levels of education. It is especially important for parents in challenged schools. Parents want to

know that their children will be safe and secure in a supportive environment. Parents also have specific information needs based on the age of the children; that is, for elementary, middle, or high school level children, there are some common information needs but also specific needs. For example, college and career readiness information looms large in high school, but preparedness begins at the middle school level. Enrichment activities are important at both the middle and high school levels. In contrast, the most important information at the elementary school level is safety and support. Parents want to make sure their children have a loving and supportive environment.

Parents tend to go to a variety of sources to obtain information. These include various websites such as Great Schools, real estate sites (such as Zillow), and local district and school websites. They rarely go to state department of education websites. When parents go to websites, they most often access Google and conduct a simple search. But the prevalent sources of information are not technology-based. Parents talk to other parents. They talk to PTA members and leaders, to church and community leaders. They get a feel for the schools by walking the halls, talking with the principal, with the teachers, and others in the school. They get an impression of the school by what the expressed vision of a teacher is, information about the curriculum, classroom activities, homework policies, and displays in the halls.

Perhaps the most interesting finding is how parents reconcile disparate and conflicting information, essentially making a statement about how they prioritize educational data. Parents were given two conflicting sets of information with the objective of eliciting the prioritization of information. The sets juxtaposed quantitative, objective data with the more impressionist information. In Case 1, parents were told that a school had received a grade of a "D", but that there were good values, strong school safety, and parents walking down the hall had excellent impressions of the school. In Case 2, parents were told the school had received a grade of "B" or "A", but that the vibes were not good. Parents were asked which schools they would choose and why. In almost all instances, parents deferred to the impressionistic or descriptive information. Parents more readily believe their intuitions and the more subjective information than the harder, quantitative data. This finding has major implications for the provision of information.

Another finding affects how different parents interpret the same data. Two examples arise from the focus groups. The first was about the racial or ethnic make-up of schools. The second about technology in the schools. In the first instance, parents sought information about the demographic composition of schools. For all but two participants, the parents expressed a desire for their children to be in diverse schools. One parent actually bought a home in a primarily Spanish-speaking neighborhood to ensure a diverse environment for her two children. Yet, two parents sought the demographic data to select schools that lacked diversity.

In the second example, many parents wanted to know about the technology available in their children's schools. Technology was seen as an asset. Yet two mothers wanted to know about technology to avoid those schools. They did not want their children exposed to technology. One mother explicitly states that technology means that teachers are not doing their jobs and not providing for a collaborative learning environment.

The point of these two examples is that the same data may be interpreted differently by different people. The role of data repositories is to provide access to the desired information, leaving the interpretation of the data to parents and other stakeholders. The validity of the data themselves lies in the data quality – that is, the timeliness, accuracy, and completeness. Yet there is validity of interpretation in how the end users make meaning of the data provided to form the basis for their decisions. That is clearly the case in the examples of the conflicting data sources.

The study also sought to understand what makes good data displays and repositories. This is particularly relevant and timely, given that states are now struggling to design effective and meaningful school report cards and data dashboards. This issue is both about what data are accessible as well as how they are displayed in an understandable manner. Parents want data that is easily accessed, displayed, and understood. They want FAQs, drill-down capability, translations, and explanations of indices. They want easy navigation. They want a warm and friendly design and they want to know how recent are the data. These findings not only inform the design of robust websites dedicated to education data, but also ways in which schools and districts can better tailor their website design and content. Schools and districts can apply these findings to make their websites more parent-friendly and to empower parents with information they can navigate, make sense of, and make decisions from.

The need for data and information is only going to increase over time. It is essential that data repositories are secure, accessible, user friendly, and contain data that are valid and of high quality. These data need to be readily available to end users. But the issue remains about whether the kinds of data that parents find most useful and actionable are the ones that typically reside in data warehouses and district websites. This does not seem to be the case. The question therefore remains – how do districts and schools both the quantitative and objective data that reside in these data systems, while also providing the more descriptive and impressionistic data that parents seemingly find most useful? Therein lies the data to information to actionable knowledge abyss that needs to be solved.

This report has the potential to inform the Kauffman Foundation about the viability for EdWise and implications for future development. WestEd does not want to be in the position of extrapolating the findings beyond what the evidence can support. That said, there are a few implications that can be drawn for the Foundation. First, parents seek information that may not be readily available on any data system. The preference for qualitative data make the provision of the desired data different for data systems writ large. This has direct implications for EdWise if a goal for the Foundation is to reach parents as a stakeholder group. Second, the study yielded valuable information about desired and less desired design characteristics for data systems and data displays that are most approachable for lay audiences such as parents. These design characteristics are applicable for EdWise and can help the Foundation to make further modifications beyond those they have already made. Third, the static nature of the data that reside not just in EdWise but in many data systems, including statewide longitudinal data systems, delimits how the data can be used. Static data can help to address some educational questions and decisions, but not all. Note that this is not a criticism of EdWise. It is simply a statement of fact for a class of data systems that contain static data. Finally, EdWise is a powerful tool as it currently exists for some audiences, but perhaps not for stakeholder groups that are less sophisticated with data analytics. EdWise has the potential to be a phenomenal data analytic tool for individuals who are fairly sophisticated with statistical analysis and are data literate. Even for some educators, the Tableau interface may be too much of a stretch. But in the hands of quantitatively facile users, EdWise can serve as a very powerful analytic device. Substantial interface modifications may allow for EdWise to be more user friendly to broader audiences.

WestEd is aware that the Foundation has been trying to support the effective use of data to inform educational decisions for a variety of stakeholder groups. EdWise-P is a tool that can readily accomplish that task for a subset of the population and for specific types of decisions. It is seen as a compromise of what could be accomplished within the constraints of the available data. For parents and unsophisticated users, EdWise-P may be too complex. It is not an adequate, appropriate, or sufficient vehicle to communicate and interface for parents. For decisions about continuous improvement, the data do not support those kinds of decisions. But for sophisticated users who seek to make decisions from more accountability-oriented data, EdWise can be a powerful analytic tool with wonderful graphical displays and capabilities. It does well what it does well, for particular audiences and for specific data. However, for the purposes of this specific study, clearly the limitations of EdWise make it a challenging tool with limited and less desired data for parental audiences. Even if the Foundation were to modify EdWise-P to make the interface more user-friendly, the data problem will persist. The data that EdWise is capable of tapping are not the comprehensive and more qualitative data parents typically want. Their desired data cannot be easily housed on EdWise and other data systems. This is not the fault of the system's design. It is simply the nature of parental needs for the purposes of the educational decisions they must make.

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Appendix A

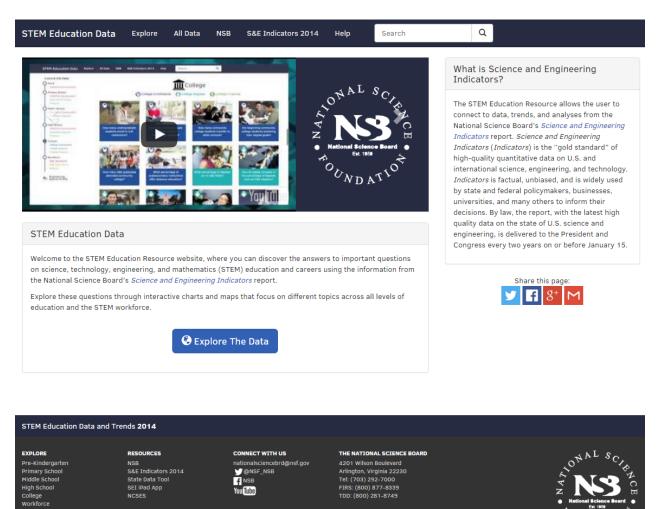
Visit	Dates	Focus Group Location	Number of Participants	Number of Focus Groups
Kansas City #1	2/22/16 - 2/25/16	Briarcliff ES 1/2	3	
		Crestview ES	9	
		Independence School District Central Office	9	
		Briarcliff ES 2/2	6	
		Grace Early Childhood Center - Belton	8	
		Total	35	5
		Children's Education Alliance of Missouri	4	
		Hazelwood HS	4	
St. Louis	3/14/16 - 3/17/16	Confluence Academy	8	
		McCluer HS	5	
		Vision for Children at Risk	11	
		Total	32	5
		PTA Convention 1/2	9	
	4/20/16 - 4/24/16	PTA Convention 2/2	2	
Columbia		Columbia Housing Authority	4	
Columbia		Grant ES	2	
		Mizzou 1/2	6	
		Mizzou 2/2	7	
		Total	30	6
	5/2/16 - 5/6/16	Scuola Vita Nuova	7	
Kansas City #2		Pershing MS	4	
		Kauffman Center 1/3	3	
		Kauffman Center 2/3	4	
		Kauffman Center 3/3	3	
		Total	21	5
	Total	118	21	

Focus group locations, dates, sites, and number of participants

Source: WestEd analyses.

Appendix B

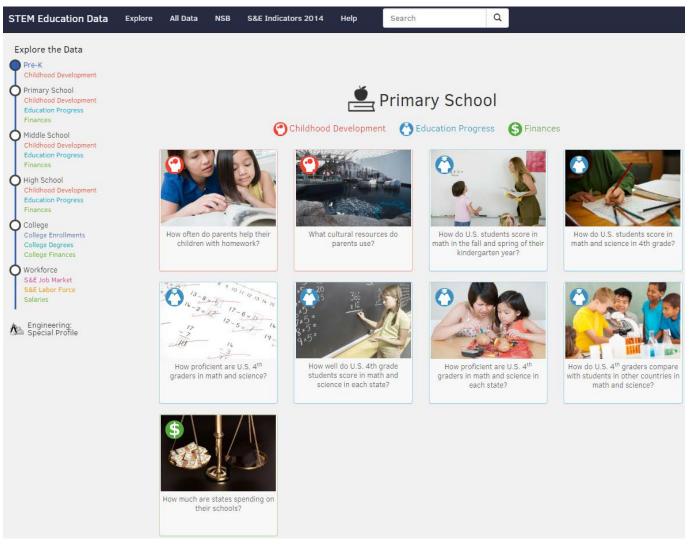
Website example: The National Science Foundation, slide 1 of 3



Source: https://nsf.gov/nsb/sei/edTool/explore.html

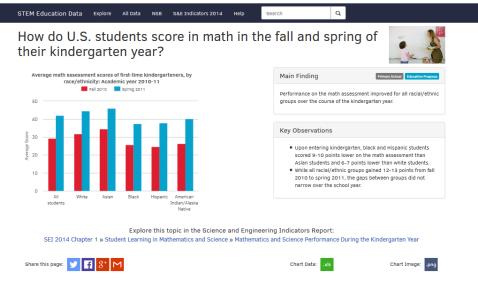


Website example: The National Science Foundation, slide 2 of 3



Source: https://nsf.gov/nsb/sei/edTool/explore.html

Website example: The National Science Foundation, slide 3 of 3



Source: https://nsf.gov/nsb/sei/edTool/explore.html

Appendix C

Website example: Illinois Report Card, slide 1 of 3



Stay Informed and Get Engaged

Welcome to IllinoisReportCard.com, your source for information about public schools across Illinois. This new online school report card goes beyond test scores to present a complete view of your schools. The information here will help you be an informed partner in your child's education.

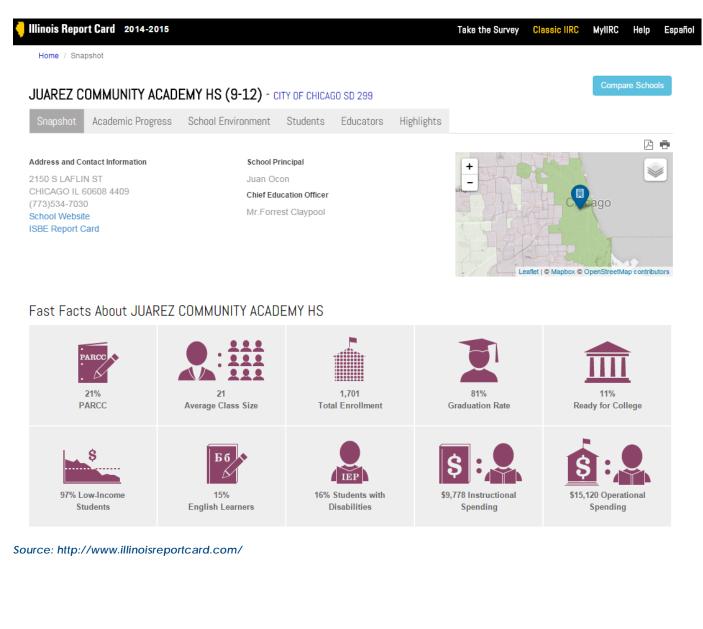
Classic IIRC, a source of additional Illinois educational data, is available by clicking on the "Classic IIRC" link in the top banner of this screen.

Source: http://www.illinoisreportcard.com/

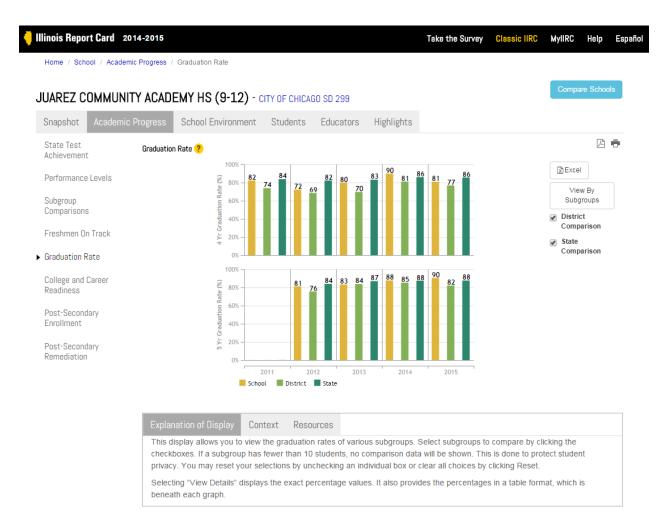
Video Overview



Website example: Illinois Report Card, slide 2 of 3



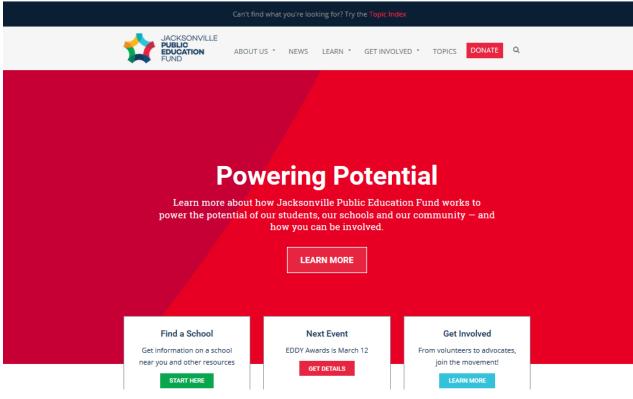
Website example: Illinois Report Card, slide 3 of 3



Source: http://www.illinoisreportcard.com/

Appendix D

Website example: Jacksonville Public Education Fund, slide 1 of 3



Source: http://www.jaxpef.org/

Website example: Jacksonville Public Education Fund, slide 2 of 3



JACKSONVILLE PUBLIC EDUCATION

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Learn.

Your source for comprehensive information about performance and progress in Duval County Public Schools. Check out our latest research, browse performance data, and use the compare tool to see how different schools stack up.

Search and compare schools in your area

Search by Address, Zip code, or School Name

Don't have a school in mind? Browse all schools

What's New

Check out the new white paper and interactive visualization on testing. How much time do students in different school districts spend in

Source: http://www.jaxpef.org/

District Performance

Take a look at how the district as a whole is performing. Compare school scores for the district, and look back of

School Performance

Q

See how a specific school is performing, view information about for individual schools, and compare multiple schools

Website example: Jacksonville Public Education Fund, slide 3 of 3



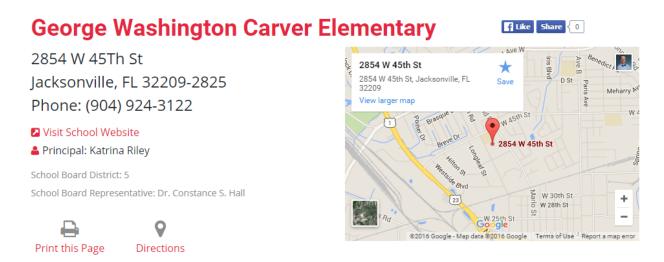
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George Washington Carver Elementary Performance Data



Source: http://www.jaxpef.org/



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