



Evaluation of ESE's TELL Mass Initiative:

Use of TELL Mass Results to Improve Teaching and Learning

June 18, 2014



TELL Mass Evaluation Report: Summary

In March and April 2012, and again in January through March 2014, the statewide *Teaching, Empowering, Leading, and Learning in Massachusetts Survey*, or TELL Mass Survey, was administered to assess and improve teaching and learning conditions across the Commonwealth and in its districts and schools. To better understand whether and how districts and schools used TELL Mass results and learn about changes that may have occurred, the UMass Donahue Institute conducted a targeted, mixed-method evaluation study. Key findings of that study are summarized below.

Survey Response and District and School Access to Reports

- More than 42,400 educators from across the Commonwealth (52%) participated in the 2012 TELL Mass survey, and more than 38,200 educators (48%) participated in 2014 survey. Overall, 239 districts and 1,077 schools met the thresholds to receive a TELL Mass report in 2012, and 172 districts and 968 schools had sufficiently high response rates to receive school-level reports in 2014. More than a third of districts and schools (140 districts and 696 schools) were able to receive a TELL Mass report in both years.
- District- and school-level survey response rates varied substantially, and as described in interviews, attaining high district- and school-level response often required an active role on the part of district and school leaders. Response rates tended to be significantly higher in Race to the Top (RTTT) districts, suggesting the RTTT requirement that districts participate and use the results helped increase participation.
- Where leaders demonstrated commitment to the survey, it was noted that this helped to raise the priority of the survey in light of competing demands for time and also helped to overcome barriers related to administrator and staff concerns about the survey and how its results would be used. Not surprisingly, interviews suggest that challenges related to administrator or staff buy-in were often greatest in buildings perceived as having cultural issues, or as one leader described it, “a level of mistrust,” between administrators and staff.

Use of TELL Mass Results for District and School Improvement

- Evaluation data suggest that many districts and schools did review and use their results, although approaches to doing so varied. Differences were evident in the way results were used (district, school, or both), the groups involved (existing decision-making teams or teams convened specifically for review), and the extent to which the results were used as part of a discrete TELL Mass-focused project or incorporated into discussions regarding existing initiatives and improvement planning.
- Regardless of approach, review of the data within schools often involved conversations with staff to better understand the specific nature of the concerns evident in the results. In some cases, this occurred through engagement of entire faculties, while in others it involved primarily teacher leaders or other teams. Typically, these conversations were viewed as offering valuable insights that could inform planning and improvement efforts. It was also noted that being able to incorporate teachers’ input into decisions—either by using the survey results directly or as a result of conversations that occurred—helped to build morale and create a greater sense of ownership throughout buildings.
- While some schools engaged full faculties, responses to the 2014 survey suggest that more often, when the data were used for improvement by schools, smaller groups of staff were involved in or aware of that use. Use of TELL Mass results may have been more common at the administrative level, although relatively low administrator response to the 2014 survey makes this impossible to say with certainty.

Characteristics and Conditions Influencing TELL Mass Use

- School leadership style and staff culture played a substantial role in how schools used TELL Mass results. Among six measured school conditions, leadership effort—or leaders’ responsiveness to staff needs and concerns—emerged as the condition most significantly and substantially related to staff involvement in or awareness of TELL Mass use. This is consistent with information gathered in interviews, in which district leaders felt that principals who were inclined towards using more inclusive and collaborative approaches were both more likely to engage faculty in their use of TELL Mass results and more successful in using the data to leverage change in their buildings.
- A relationship between positive culture and conditions (as reflected in survey results) and use of those results suggests that schools in the greatest need for improvement may be those least well-positioned to make effective use of results. Generally results were leveraged within the context of schools’ existing cultures to make focused and specific changes. In schools facing more pervasive challenges related to climate and culture, transformational change that fundamentally alters relationships in positive and productive ways may be unlikely to occur absent external support.
- Not surprisingly, time was also viewed as a critical factor influencing use of TELL Mass results, and the need to prioritize among various needs and demands was seen as increasing between 2012 and 2014. In this context, a number of factors influenced the relative priority placed on TELL Mass use and in some cases, the way in which the data were used, including district messaging related to the survey and whether or not districts were participating in RTTT. Schools with higher survey response rates were also more likely to use the results.

Improvement in Teaching and Learning Conditions

- In interviews, principals who used the results with staff often felt that the results contributed to positive changes within their buildings. Although it was acknowledged that some of those changes may have taken place eventually, having data from the survey reportedly helped to increase focus on the identified areas of need and accelerated the pace of change. In most interviewed schools where changes were made as a result of their review of TELL Mass results, improvement was observed in the rates of agreement with corresponding TELL Mass survey items from 2012 to 2014.
- Across the state as a whole, schools with greater educator involvement in or awareness of TELL Mass use were more likely to see improvements in six measured RTTT teaching and learning conditions—teacher leadership, teacher role, school leadership, leadership effort, professional development, and instructional practices and support—from 2012 and 2014. Given the relationship between use and leadership style described above, it is possible that this relationship is the result of differences in leaders’ approach to data and use of collaborative decision-making between schools that did use TELL Mass results and those that did not.
- There is less evidence that the use of TELL Mass results by administrators was sufficient to improve teaching and learning conditions. Schools whose administrators used TELL Mass results were slightly more likely to see improvement in the six teaching and learning condition scales, however the difference was only significant for one condition—instructional practices and support.
- No significant relationship was observed between use of TELL Mass results and staff turnover. While there were some small differences in turnover in schools using the results compared to those not using the results, the sizes of the differences were not sufficiently large to be statistically meaningful.

Introduction

In March and April 2012, and again from January through March 2014, the Massachusetts Department of Elementary and Secondary Education (ESE), in partnership with the New Teacher Center and a coalition of Massachusetts-based education advocacy groups, implemented a statewide survey of teaching and learning conditions. Funded through a federal Race to the Top (RTTT) grant, the *Teaching, Empowering, Leading, and Learning in Massachusetts Survey*, or TELL Mass Survey, gathered information from school-based educators across the Commonwealth about teaching and learning conditions that research has associated with both student achievement and teacher retention.

In order to help districts and schools assess and improve their own teaching and learning conditions, district- and school-level survey reports were made available to all districts and schools with sufficient proportions of their educators responding to the survey. To understand whether and how these data contributed to school improvement, the UMass Donahue Institute (UMDI or the Institute) undertook a targeted, mixed-methods evaluation study to understand the following:

- How, if at all, were TELL Mass results used by schools as a tool for improvement?
- Do schools that used their TELL Mass results appear to have different characteristics or conditions than those that did not, and if so, what are these differences?
- Do schools making use of TELL Mass results show improvement in educator working conditions and/or turnover?

This brief report synthesizes information from all data collected through the study to present high-level findings relating to each of these primary questions. Key data collection activities included telephone interviews with district and school leaders exploring their experiences with the survey and their approaches to using the results, as well as an analysis of the statewide TELL Mass results investigating broader statewide trends. The interview phase of the study engaged superintendents, assistant superintendents, directors of curriculum and instruction, and others from 11 RTTT districts (in spring 2013) and principals from 16 schools (in spring 2013 and fall 2014) in RTTT districts. Analysis of TELL Mass results, including a new item ESE added to the TELL Mass survey in 2014 regarding perceived use of the 2012 survey results and school-level composite scales developed for RTTT reporting purposes, allowed the study to incorporate data from educators in schools across the Commonwealth.¹

This final report supplements detailed interim deliverables produced for ESE throughout the study. Briefings of interview findings produced following completion of district and subsequently school-level interviews are available on the state's TELL Mass website at <http://www.tellmass.org/>. Detailed results from UMDI's analyses of TELL Mass results are presented as an appendix to this report.

¹ The RTTT composite scales, which combine responses from multiple survey items to produce a single score, include measures of teacher leadership, teacher role, school leadership, leadership effort, professional development, and instructional practices and support. For a list of the included items see Table 17 on page 19 in the technical appendix to this report.

TELL Mass Survey Participation

In both 2012 and 2014, the anonymous TELL Mass survey was open to all school-based educators, including teachers, principals, assistant principals, instructional coaches, specialists, and other school-based professionals. The survey asked for educators' opinions about teaching and learning conditions in their buildings, focusing on time, facilities and resources, community support and involvement, student behavior management, school leadership, teacher leadership, professional development, and instructional practices and support.

More than 42,400 educators from across the Commonwealth (52%) participated in the 2012 TELL Mass survey, and more than 38,200 educators (48%) participated in 2014 survey. As part of the state's Race to the Top (RTTT) initiative, districts and schools were encouraged to use the survey results to work collaboratively to improve the climate, conditions, and culture. Districts participating in RTTT were required to use staff survey results to develop and implement plans to improve teaching and learning conditions.

In order to receive TELL Mass results, districts or schools had to have more than 50% of eligible educators participating and at least five respondents. In 2012, 239 districts and 1,077 schools met the thresholds to receive a TELL Mass report, and in 2014, 172 districts and 968 schools had sufficiently high responses to receive a report (Table 1). More than a third of districts and schools (140 districts and 696 schools) were able to receive a TELL Mass report in both years of the survey.

Table 1: Districts and Schools Eligible to Receive TELL Mass Reports, by Survey Year

	Met response threshold to receive their district- or school-level TELL Mass report		
	2012	2014	Both 2012 and 2014
Districts	239 (60%)	172 (42%)	140 (36%)
Schools	1,077 (59%)	968 (52%)	696 (39%)

UMDI analysis of TELL Mass response rates. Proportions in parentheses are the percentages of operating districts and schools (i.e. those with students enrolled) at the time of the survey. Excludes schools in educational collaboratives, which were included in the 2014 survey, but not the 2012 survey.

Overall, district- and school-level survey response rates varied substantially. A number of schools—74 in 2012 and 96 in 2014—had 100% of educators respond to the survey, while others had relatively few educators participate. Response tended to be significantly higher in districts participating in RTTT. For example, in 2012, 80% of RTTT districts and 56% of schools in those districts had sufficiently high response to receive their TELL Mass results, compared to 34% of districts and 42% of schools not participating in RTTT. This is consistent with interview data that suggest that the RTTT requirement helped increase the relative priority of the survey in light of competing demands on time.

As described in interviews, attaining high district- and school-level response often required an active role on the part of district and school leadership. Efforts of this nature included ongoing communication regarding the survey; monitoring response rates using a tool provided by the Department and sending targeted messages to administrators and staff in buildings that had not met required reporting rate thresholds; and providing time for educators to complete the survey, either as part of staff meetings or by offering substitute coverage during classroom time.

While ESE's process for and communication regarding the survey was seen as straightforward and clear, successful survey implementation and high response rates were hindered by a number of field-level challenges. Overall, limited time and competing priorities were generally viewed as the most significant challenges to high response, and it was noted that, as new initiatives were being planned and implemented, the need to prioritize among competing priorities increased substantially from 2012 to 2014. "The mandates are enormous," noted one principal, adding that "there's only so much that people can do at once," which may have contributed to the lower response on the 2014 survey compared to the 2012 administration.

Administrator and staff concerns about the survey also reportedly posed challenges. For example, some district leaders described hesitance on the part of principals to promote or support the survey due to concerns that the results would be used for evaluative purposes. Perhaps reflecting this, administrator response to the survey was low and decreased from 2012 to 2014. Although ESE has recommended that TELL Mass results not be used for evaluation, the perception of the survey in several places was that it was or would be used in this way, and, in this context, concerns were expressed that the survey could be used as a forum for staff to vent about issues unrelated to the particular indicators, such as dissatisfaction over a performance evaluation. Similarly, it was noted that some teachers may have been reluctant to complete the survey due to concerns about anonymity. ESE and the New Teacher Center took a number of steps to ensure anonymity in administering the survey and reporting its results, including only reporting survey results for schools with five or more educators responding and the assignment of school-specific, but not individually identifiable survey access codes. It was suggested that, as a result, concerns about anonymity may have been less prevalent in 2014, at least in districts and schools that received and used results in 2012. Not surprisingly, district leader interviews suggested that challenges related to administrator or staff buy-in to the survey were often greatest in buildings perceived as having cultural issues, or as one leader described it, “a level of mistrust,” between administrators and staff.

Use of TELL Mass Results for District and School Improvement

To help districts and schools assess and improve teaching and learning conditions, TELL Mass reports were available to all districts and schools that met the identified response thresholds. Schools were encouraged and RTTT districts were required to use these results to identify and address an area of focus. As discussed below, evaluation data suggest that many districts and schools did make use of the results, although the way in which the results were used differed.

Reflecting their unique contexts, needs, and priorities, districts employed a variety of approaches in using their TELL Mass results. As described in interviews, districts' use of TELL Mass results focused on different levels of analyses and leveraged different forums for discussing and making use of the results. In particular, some used the results for both district and school improvement, while others focused on either identifying a district-wide focus or encouraging development of building-based plans. In a number of instances, results were reviewed through the lens of a specific initiative, such as professional development planning or creating school and administrator goals for educator evaluation systems. Although these more focused approaches differ from the process described in RTTT materials, several leaders described them as necessary in the context of heavy workloads, but also as part of strategy to bring greater focus and coherence to district improvement efforts overall.

Schools using TELL Mass results also used varied approaches, with some pursuing change as part of a discrete school-wide project, and others using the data to inform existing cycles of inquiry. Those using the results as part of a school-wide project described reviewing the results, identifying one or more areas to address, developing goals and action steps, and assessing progress on an ongoing basis—an approach consistent with the process described in the *School Guide for Using TELL Data*. More often, however, leaders described the results as highlighting issues they were then able to further analyze and address through existing decision-making processes or structures. In this context, the data were most salient to the needs assessment phase of the change process, while the latter stages of the cycle of inquiry—namely the selection of focus areas, the development and implementation of strategies, and the assessment of progress—occurred within the context of a school's broader decision-making processes.

Regardless of approach review of the data often involved conversations with staff to better understand their perspectives and the specific nature of the concerns evident in the results. Reflecting the broad nature of the survey, interviewees often described TELL Mass as helpful in identifying potential concerns, but noted that further conversation and analyses were typically necessary to begin to fully understand the reasons behind those concerns and consider solutions. In some cases, this occurred through engagement of entire faculties, while in others it involved either existing teacher leadership teams or teams established specifically for the purpose of reviewing the results. In either case, these conversations were typically seen as contributing valuable insights to school improvement and planning, and it was noted that the process of engaging staff helped build morale and create a greater sense of ownership in the changes pursued.

Responses to the 2014 survey suggest that while some schools engaged full faculties, more often, when the data were used, smaller groups of staff were involved in or aware of that use. Across the state as a whole, most educators (49%) responding to the 2014 TELL Mass survey indicated that they did not know the extent to which the 2012 survey results were used for improvement at their school.² While not surprising given that many staff might not be directly involved in school improvement planning, it does suggest that use of TELL Mass results in ways that involved or were apparent to most or all staff—as would be the case if the results were used as part of a school-wide project—was not a widespread practice.

² While in many contexts, respondents indicating “don't know” are excluded from the calculation of frequency distributions, in this case, TELL Mass results were intended to promote collective discussion, and a response of “don't know” conveys important information about how the data were used. That is, if staff did not know whether results were used, it suggests that results were not used in ways that staff was involved in or otherwise aware of that use.

Typically, subsets of educators, or fewer than 50% of a school’s staff, indicated involvement in or awareness of the use of survey results for school improvement. This finding indicates that where faculty were engaged in TELL Mass use, it was more likely that groups of staff were involved, possibly those serving in leadership roles or on leadership teams, as opposed to all staff. In relatively few schools did educators report widespread awareness of use of TELL Mass results for school improvement, or 75% or more of their educators indicating use of results (47 schools statewide).

Table 2: Levels of Awareness of TELL Mass Use in Schools

	Number of schools	Percentage of schools
Limited awareness of TELL Mass use among staff (Less than 25% of responding educators reporting use)	192	28%
Some awareness of TELL Mass use among staff (25% or more, but less than 50% of responding educators reporting use)	294	42%
Moderate awareness of TELL Mass use among staff (50% or more, but less than 75% of responding educators reporting use)	162	23%
Widespread awareness of TELL Mass use among staff (75% or more of responding educators reporting use)	47	7%
Total	695	100%

UMDI analysis of TELL Mass data. Includes schools eligible to have received 2012 results and for which more than 50% of educators responded to the 2014 survey overall and five or more staff responded to the item regarding TELL Mass use. School frequencies include only staff at the school in SY13.

Administrator use of the results may have also been fairly common, although relatively low administrator response makes this impossible to say with certainty. Administrators from 271 schools—approximately 68% of those eligible to receive their 2012 results that also had one or more administrators responding to the item regarding TELL Mass use in 2014—said their schools used the results for improvement. However, for nearly two-thirds of the schools that received their 2012 results, no administrators responded to the 2014 survey and its item regarding use of those results. Because it is impossible to know with certainty whether schools whose administrators did not respond differed in regard to leaders’ use of TELL Mass data, the proportion of schools whose administrators used the results could range from 25% to 68%.

Overall, the primary resource accessed by schools and districts using TELL Mass results were district and school TELL Mass reports made available by ESE and the New Teacher Center. District and school leaders described TELL Mass data reports as clear, concise, and easy to take and share with staff. Being able to access reports that offered different levels of detail was seen as particularly helpful, as it allowed the data to be used in different ways and with different constituencies.

Only one interviewed leader made reference to the use of other tools or resources made available through the TELL Mass website, in this case, the *School Guide for Using TELL Data* and related PowerPoint slides and activities. In part this may reflect the desire to use the results in ways that leveraged or supported existing school improvement or decision-making, as opposed to a discrete TELL Mass-focused project. Although the leader who used the resources found them very helpful, it was also noted that the process outlined in the materials was time-consuming in light of competing demands on time, and “not every school will have the time to go through such a comprehensive process.”

Characteristics and Conditions Influencing TELL Mass Use

As described in the previous section, school approaches to using TELL Mass results varied substantially. A number of characteristics and conditions appeared to have influenced whether and how schools used their TELL Mass results. As discussed briefly below, these included leadership, time, and the relative priority placed on the survey in light of competing demands and as other factors.

Leadership style and schools' existing cultures appeared to play a substantial role in whether and how schools used their TELL Mass results. Overall, schools with greater levels of awareness of TELL Mass use among faculty had significantly higher scores for each of the six RTTT teaching and learning scales—teacher leadership, teacher role, school leadership, leadership effort, professional development, and instructional practices and support.³ The leadership effort scale, or leaders' overall responsiveness to staff concerns, emerged as the condition that was most significantly and substantially related to staff involvement in or awareness of TELL Mass use when interrelationships between and among scale scores were controlled for using multivariate (regression) analysis, indicating that condition was most directly related to use of TELL Mass results with educators.

That leadership influenced use of TELL Mass is consistent with interview findings. For example, several district interviewees reported that principals who were more inclined towards inclusive and collaborative approaches generally were more likely to engage faculty in use of TELL Mass results. It was also noted that these leaders were often more successful in using the data to leverage change in their buildings. Similarly, school leaders using the results with staff often cited positive building cultures as a critical support to that use, given that, as one leader described, “you have to have a certain level of trust because looking at any data is difficult.”

Although leadership style was the most important driver, the overall relationship between positive results and use suggests that buildings in greater need of improvement may not be well-positioned to make use of the results absent external support. As it was described in interviews, for a number of reasons schools with largely positive results tended to be better positioned to make use of those results. First, positive results on the survey were likely indicative of a climate and culture that was supportive of schools' use of the results. Further, when results revealed relatively few areas of concerns, conversations and change initiatives could focus on a narrow set of indicators, and it was also noted that leaders and staff may be inclined to spend more time working with data that were generally confirming of their current direction.

Conversely, where results showed significant issues related to climate and culture, as reflected, for example, in overwhelming concerns related to trust and mutual respect, it was noted that these buildings may not have had sufficient foundations to leverage in order to begin to address those issues. In these cases, the type of widespread and potentially transformative change that may be needed would be unlikely to take place unless external facilitation and support were made available.

Not surprisingly, time was also viewed as an important factor that influenced use of TELL Mass results. In particular, having time in the schedule to discuss the data was often viewed as an important contributor to schools' ability to effectively use the results. Although most schools had some structure they could leverage to discuss results, several interviewees underscored what they viewed as an increasing need to prioritize among needs and demands in the use of that time, and as such, time spent on conversations related to TELL Mass required foregoing other activities. “You have to make decisions about how much time you can put towards different things,” noted one leader, adding that, “you want to do things well.”

³ Comparative analyses by level of educator awareness of TELL Mass use includes all schools eligible to have received their 2012 TELL Mass results who also had sufficiently high response on the 2014 TELL Mass survey and its item regarding use of the data to be assigned to a grouping, or 695 schools.

In this context, a number of factors influenced the relative priority placed on TELL Mass use. For example, although there were some cases where schools used the results independent of district involvement, in most cases, interviewees indicated that district discussions or directives contributed to the use of the results in their schools. The RTTT requirement was also described as increasing the relative priority of the survey in some schools and districts and appears to have also contributed to greater involvement of faculty in that use, as schools from districts participating in RTTT most often had at least some staff involved in or aware of use of 2012 TELL Mass results for school improvement (75%). By contrast, in schools whose districts were not participating in RTTT, limited awareness of use of the results was most common (42% of schools).

The data also indicate a relationship between level of awareness of TELL Mass use and survey response. In fact, schools with high response rates to the survey, or more than 75% of eligible educators participating, were significantly more likely have at least some awareness of use of those results than schools that had lower response rates. To some extent, this may reflect the fact that school leaders who themselves placed a high emphasis on staff feedback or in districts where use of the results was a priority for district administration were more likely to both pursue high response and use the results. However, it could also reflect the fact that when more educators were involved in the survey, the results were viewed as more reflective of staff sentiment as a whole and more valuable overall.

Improvement in Teaching and Learning Conditions

The TELL Mass survey was intended to help districts and schools assess and improve teaching and learning conditions across the Commonwealth. As such, a central question of the evaluation relates to whether schools making use of TELL Mass results show improvement in educator working conditions and/or staff retention.

In interviews, principals whose schools used TELL Mass results often indicated that those data contributed to positive changes. As might be expected, the changes differed from school to school based on the survey's results, but also, in some cases, the extent to which leaders felt they could effectively address concerns in those areas. These ranged from relatively small changes that “made the day go smoother” to more substantial changes to schedules (to provide additional time for collaboration and planning) or structures (to enhance teacher leadership and collaborative decision-making). Use of the data to improve or inform professional development, such as aligning job-embedded development with district offerings or working with the district to expand offerings, was also common. In most schools where changes were made, improvement was reflected on corresponding TELL Mass items in 2014. For example:

- As a result of a review of TELL Mass results, one school incorporated a goal related to collaboration and planning time into its improvement plan. After discussing the issue with faculty at a school-wide faculty meeting, the principal modified the school's schedule and changed the way in which a student support program was delivered to create two new weekly common planning blocks. In 2014 the change resulted in substantial increases in the proportion of staff agreeing that teachers have time to collaborate and that non-instructional time is sufficient compared to 2012. Increases were also apparent for all indicators related to professional development, a district-wide focus resulting from review of TELL Mass results.
- In another school, enhancing teacher input into school decision making and increasing common planning time were identified as focus areas by a committee of teachers and administrators convened to use TELL Mass results. Based on that committee's recommendations, a new teacher leadership team was established and a separate committee of teachers began to meet to discuss schedule changes, work that was viewed as a longer-term focus. The school saw significant improvement in staff response to teacher leadership items on the 2014 survey, including large gains in several items. Additionally, a much larger proportion of staff agreed that teachers have time to collaborate with one another, an indicator that while substantially improved, also shows further room for improvement, consistent with ongoing conversations in that area.

Although it was acknowledged that some of those changes may have taken place eventually, being able to rely on data as opposed to a “gut-feeling” was described as leading to a greater degree of focus on identified issues that could then be addressed more quickly than they might have otherwise. Schools in the interview sample that did not see increases in TELL Mass indicators tended to be those where leaders described use of the data in more general ways rather than informing specific changes or where only small changes were made.

Overall, analysis of TELL Mass results shows that schools with greater educator involvement in or awareness of use of 2012 TELL Mass results were more likely to see improvement in six RTTT teaching and learning condition scales.⁴ For each of six scales developed and used for RTTT reporting—including measures of teacher leadership, teacher role, school leadership, leadership effort, professional development, and instructional practices and support—higher levels of staff awareness of TELL Mass use was associated with an increased likelihood of improvement from 2012 to 2014 (Table 3). In fact, schools where educators

⁴ Changes in scores from 2012 to 2014 for six teaching and learning condition scales developed for RTTT reporting were compared for schools with limited (less than 25% of responding educators), some (25% or more, but less than 50%), moderate (50% or more, but less than 75%), and widespread awareness of TELL Mass use for school improvement (75% of educators or more), as reflected in responses to the item regarding schools' use of 2012 survey results as part of the 2014 TELL Mass survey. This analysis included all schools that met required response thresholds on both the 2012 and 2014 TELL Mass surveys that also had more than five educators responding to the item regarding TELL Mass use, or 695 schools in total.

reported at least some awareness of use of TELL Mass results tended to see improvement, on average, in each of the six measures, while schools where educators reported limited awareness of use typically saw no improvement or small decreases (Table 4).

Table 3: Proportion of Schools Showing Gains, 2012 to 2014, by Educator Awareness of TELL Mass Use

	Educators' Reported Level of Awareness of TELL Mass Use			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Teacher Leadership**	47%	54%	70%	74%
Teacher Role**	40%	51%	68%	64%
School Leadership**	44%	59%	66%	74%
Leadership Effort **	48%	56%	70%	83%
Professional Development**	44%	56%	69%	68%
Instructional Practices and Support**	49%	55%	67%	72%

**Statistically significant differences identified at the 0.01 level for one or more groupings using Z-tests and the Bonferroni correction for multiple groupings.

Table 4: Average Change in Scale Scores, 2012 to 2014, by Educator Awareness of TELL Mass Use

	Educators' Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Teacher Leadership**	-.03	.05	.14	.16
Teacher Role**	-.08	.02	.10	.13
School Leadership**	-.04	.06	.15	.22
Leadership Effort **	-.01	.07	.15	.18
Professional Development **	-.03	.05	.11	.11
Instructional Practices and Support**	-.01	.04	.10	.11

**Statistically significant differences identified in scale scores for one or more level of awareness groupings at the .01 level using independent means t-tests with Bonferroni correction for multiple comparisons.

There are several potential explanations for the relationship between improvement in teaching and learning conditions and educator involvement in or awareness of use of TELL Mass results evident in these relational analyses. For example, it is possible that use of the results contributed to a greater degree of improvement in teaching and learning conditions, as was reported by many of the schools in the interview sample. However, it is also possible that, given the relationship between TELL Mass use and leadership style described in the previous section, the collaborative leadership styles that led principals to use TELL Mass with staff also contributed to their being more successful in improving teaching and learning conditions as a whole, such that the relationship to TELL Mass itself is less direct.

There is less evidence that use of TELL Mass results by administrators on their own was sufficient to improve teaching and learning conditions. Schools whose administrators used TELL Mass results were somewhat more likely to see improvement in the six teaching and learning condition scales (Table 5) and on average, had slightly higher increases overall (Table 6). However, the differences were only significant for one condition—instructional practices and support, and the smaller differences overall suggest that administrator use of the results was potentially less effective than use of the results as part of collaborative process involving at least some educators.

Table 5: Proportion of Schools Showing Gains from 2012 to 2014, by Administrator TELL Mass Use

	Administrator-Reported	
	No	Yes
Teacher Leadership	51%	62%
Teacher Role	52%	60%
School Leadership	52%	63%
Leadership Effort	54%	65%
Professional Development	55%	64%
Instructional Practices and Support**	50%	64%

**Statistically significant differences identified using Z-tests at the .01 level.

Table 6: Average Change in Scale Scores from 2012 to 2014 by Administrator TELL Mass Use

	Administrator Reported Use of TELL Mass	
	No	Yes
Teacher Leadership	.04	.07
Teacher Role	.02	.05
School Leadership	.04	.08
Leadership Effort	.04	.09
Professional Development	.05	.08
Instructional Practices and Support**	.02	.07

**Statistically significant differences identified in scale scores using independent means t-tests for one or more level of awareness groupings at the .01 level.

Finally, no significant relationship was observed between use of TELL Mass results and staff turnover. While there were some small differences in turnover for schools using the results compared to those not using the results, the sizes of the differences are not sufficiently large to be statistically meaningful and not necessarily the result of something other than random variation in turnover from year-to-year and across schools.

Conclusion

The statewide *Teaching, Empowering, Leading, and Learning in Massachusetts Survey*, or TELL Mass Survey, invited school-based educators to share their perspectives about teaching and learning conditions within their buildings and promote improvement in those conditions across the Commonwealth. Despite what were described as intense time pressures, and in some cases skepticism about a survey about climate and culture and how its results might potentially be used, approximately half of the state's educators participated, and a majority of schools had sufficiently high response to receive a school-level TELL Mass report. Overall, administrator buy-in was viewed as critical to successful survey administration, as it was noted that obtaining high response in schools and districts often required an active role on the part of administration to communicate the relative priority of the survey, allay concerns, and, where possible, provide time to complete the comprehensive survey. Reflecting this, rates of response tended to be higher in schools and districts participating in RTTT, as use of TELL Mass results was a required project under RTTT.

In many schools and districts, TELL Mass results were reviewed and used to inform improvement efforts, although the ways in which the data were used varied. Although some schools did engage in a review of the results as part of a discrete project with formal goals and action plans focused specifically on TELL Mass, evidence suggests that more often the results were used in ways that informed or took advantage of schools' existing decision-making processes or cycles of inquiry. In this context, the way in which the results were used appeared to be substantively influenced by leaders' existing styles, approaches, and assessments of their building's culture. To some extent, the experience of TELL Mass underscores the importance of leadership more broadly, as evidence suggests that leaders who took advantage of TELL Mass as an opportunity to inform or bolster school improvement in positive and productive ways were those more inclined to make use of these strategies more generally.

Reflecting schools' unique needs, opportunities, and challenges, changes pursued as a result of TELL Mass differed but often focused on improvement in a small subset of indicators, such as those related to time for staff collaboration and planning, teachers' input into schools' decision-making processes, professional development, and, to a lesser extent, approaches to student management. In interviews, schools whose leaders could attribute specific and tangible changes to their use of TELL Mass results often saw increases in the corresponding survey items. Further, evidence suggests that the use of results from a survey such as TELL Mass in ways that engage faculty may be more effective in improving teaching and learning conditions than the use of those data by administrators alone. Again, this finding appears to underscore the importance of leadership, as it is possible that leaders' inclination to engage staff in improvement, take their feedback seriously, and address their concerns may be driving observed change, not the specific vehicle used, TELL Mass or otherwise.

Finally, a potentially complex and multifaceted relationship between positive culture and conditions (as reflected in survey results) and use of those results suggests that schools in the greatest need for improvement may be those least well-positioned to make effective use of results. That is, in general, results were leveraged within the context of schools' existing cultures to make focused and specific changes. In schools facing more pervasive challenges related to climate and culture, such as might be reflected in low levels of trust and mutual respect, transformational change that fundamentally alters relationships in positive and productive ways may be unlikely to occur absent external support from districts or ESE. On the other hand, schools with basic foundational conditions in place and leaders who emphasize collaboration and data are likely to be well-positioned to use the results to address specific areas that may emerge and build more favorable conditions for teaching and learning conditions, and ultimately, student success.

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Technical Appendix: Data Analyses Tables and Discussion

As part of its TELL Mass evaluation study, UMDI analyzed data from the state’s TELL Mass survey, including a new item added in 2014 that asked educators to indicate the extent to which they agree that their schools used 2012 TELL Mass results as a tool for improvement. Analyses of these data contributed insight into the nature and extent of TELL Mass use across the state more broadly and allowed the study to incorporate educator perspectives about whether or not TELL Mass results were used in their buildings. Results from the study’s data analysis phase were presented to ESE and used in the development of the overarching findings described in the preceding report. This technical appendix offers more detailed tables, results, and discussions of data analysis findings, organized by the study’s three primary research questions.

I. Use of TELL Mass Results for School Improvement

Descriptive analysis of 2014 TELL Mass survey results shows that about one in three responding educators indicated that their school used 2012 TELL Mass results as a tool for improvement (Table 7). More often, however, educators indicated that they do not know the extent to which the results were used (49%). While this may not be surprising given that not all staff are directly involved in school improvement planning, it does appear to suggest that use of TELL Mass results for school improvement in ways that involved and made an impression on most or all staff was not a particularly widespread practice.

It should be noted that while in many contexts, respondents indicating “don’t know” are excluded from the calculation of frequency distributions, in this case, because TELL Mass results were intended to promote collective discussion and collaboration in buildings, a response of “don’t know” conveys important information about how the survey results were used or not used. That is, if staff do not know whether 2012 TELL Mass results were used, it means that if the data were used, it was not done in such a way that staff were involved in or aware of that use. In this context, excluding the nearly half of respondents who said they were not aware of use would have the effect of substantially over-representing use for the purposes of this study. To make accommodation for the fact that some respondents may not have known about TELL Mass use because they were new to their building in the 2013-2014 school year, only educators who said they had been at their current school in 2012-2013 were included in analyses related to TELL Mass use.

Table 7: Educators’ Responses Regarding Schools’ Use of TELL Mass as a Tool for Improvement

	Number of educators	Percentage
Strongly agree	1,928	6%
Agree	8,869	26%
Disagree	3,857	11%
Strongly disagree	2,669	8%
Do not know	16,454	49%
Total	33,777	100%

UMDI analysis of 2014 TELL Mass results. Only includes educators who indicated on the survey that they had been at their current school for two years or more.

Use of TELL Mass results may have been more common at the administrative level (Table 8). About 64% of administrators responding to the survey said that TELL Mass results were used for improvement in their buildings, compared to 31% of teachers and other education professionals. However, relatively few administrators participated in the 2014 survey; only 791 administrators from 544 schools were included in this analysis, or 27% of schools overall. By contrast, the 32,986 responding non-first-year educators included in the analyses presented in Table 8 represent 1,603 schools, or about 80% of schools overall.⁵ As such, given relatively low participation

⁵ These figures only include administrators and educators who responded to the 2014 item regarding TELL Mass use and had also been at their school during the 2012-2013 school year. Overall, 922 administrators from 609 schools (30% of schools overall) and 37,294 educators from 1,616 school (80% of schools overall) participated in the 2014 TELL Mass survey.

rates for administrators, it is possible that administrator responses may not be representative of all schools and their administrators more broadly.

Table 8: Educators' Responses Regarding Schools' Use of TELL Mass as a Tool for Improvement, by Role

	Respondents	Percentage indicating...		
		Agree	Disagree	Don't know
Administrator	791	64%	20%	16%
Teachers and other education professionals	32,986	31%	19%	50%

UMDI analysis of 2014 TELL Mass results. Only includes educators who indicated on the survey that they had been at their current school for two years or more.

It may also be also worth noting that a somewhat surprising proportion of respondents (20%) from schools that had not met the response thresholds required to have received their 2012 results indicated use of results. Because having received results is a precondition of use, the reason behind this is not immediately clear. It could represent educators' intentions or expectations that use the results, their recollection of use of other teacher survey or school climate data collected in their schools and districts, or socially desirable response bias. At a minimum, however, it suggests a need for focusing only on schools that received their 2012 results when identifying potential TELL Mass user and non-user schools.

School-Level Analysis of Educator Responses regarding 2012 TELL Mass Use for School Improvement

While analyses of overall responses can offer insight into TELL Mass use, another area of interest is the distribution of educator response patterns by schools and what those distributions can tell us about the nature of TELL Mass use in the Commonwealth. For example, the 31% of educators indicating use of TELL Mass data statewide could represent all educators from a small number of schools, relatively similar proportions of educators in most or all schools, or, more likely, varied proportions in different schools. Of the nearly 1,100 schools eligible to have received their 2012 TELL Mass results, 695 schools (63%) also had sufficiently high response rates on the 2014 TELL Mass survey and its item relating to use to be included in school-level analyses.

Overall, in relatively few schools did staff report widespread awareness of their school's use of 2012 TELL Mass results, or 75% or more of their educators indicating use of results (47 schools; Table 9). More commonly, use of the results was reported by smaller proportions of educators, or fewer than 50% of a school's staff. These results seem to indicate that where TELL Mass results were used in ways that involved faculty, this was more likely to have occurred through the engagement of subgroups of staff—possibly those serving in leadership roles or on school governance or decision-making teams—as opposed to by all staff as part of an ongoing school-wide project.

Table 9: Levels of Awareness of TELL Mass Use in Schools that Received their 2012 TELL Mass Results

	Number of Schools	Percentage of Schools
Limited awareness of TELL Mass use among staff (Less than 25% of responding educators reporting use)	192	28%
Some awareness of TELL Mass use among staff (25% or more, but less than 50% of responding educators reporting use)	294	42%
Moderate awareness of TELL Mass use among staff (50% or more, but less than 75% of responding educators reporting use)	162	23%
Widespread awareness of TELL Mass use among staff (75% or more of responding educators reporting use)	47	7%
Total	695	100%

UMDI analysis of 2014 TELL Mass results. School-level frequencies were calculated only for staff indicating that they had been at the same school in the 2012-2013 school year. Only includes schools that were eligible to have received their 2012 results and for which more than 50% of eligible educators responded to the 2014 TELL Mass survey and for which five or more staff responded to the item regarding their impressions of TELL Mass use.

School-level survey results also seem to lend further evidence to the notion that use of 2012 TELL Mass results may have been more common at the administrative level (Table 10). Administrators at 271 schools eligible to have received TELL Mass results said those results were used for improvement—approximately 68% of those for which one or more administrators responded to the item on the 2014 survey (400 schools). However, for nearly two-thirds of the schools eligible to receive their 2012 results, no administrators responded to the 2014 TELL Mass survey and its item regarding use of those 2012 results. Because data regarding administrative use of the results in

these schools are unavailable, it is impossible to know with certainty whether schools whose administrators did not respond differed in regards to leadership use of TELL Mass data. As a result, the overall proportion of eligible schools whose administrators used the results could range from 25% to 68%.

Table 10: Schools at which Educators Reported Use of 2012 TELL Mass Results

	Number of Schools	Percent of Schools
Administrator-reported use of TELL Mass results	271	68%
Moderate to widespread awareness of TELL Mass use among educators	209	30%

UMDI analysis of 2014 TELL Mass results. Only includes schools eligible to have received their 2012 results. For administrator reports of use, where multiple administrators responded for a single school, more than two of three had to have reported use for the school to be classified as using TELL Mass results. For overall reports of use, schools also had to have more than 50% of eligible educators respond to the 2014 TELL Mass survey and five or more staff respond to the TELL Mass item on that survey to be included in the analysis. In total, 400 schools were able to be included in the analysis of administrator reports of use, and 695 schools were able to be included in the analysis for overall reports).

II. Characteristics and Conditions Related to Educator-Reported Use of TELL Mass

Building on the basic descriptive analysis described above, UMDI also investigated whether certain school characteristics and conditions appear to be related to schools’ use of the results using cross-tabulation and correlation analysis. These analyses include all schools eligible to have received their 2012 TELL Mass results who also had sufficiently high response on the 2014 TELL Mass survey and its item regarding use of the data (by educator awareness of TELL Mass use, 695 schools) and those eligible to receive their 2012 data for whom one or more administrator responded to the 2012 TELL Mass survey item regarding use (by administrator-reported use, 400 schools). For more information on sample sizes, see Tables 9 and 10 and related discussion above.

For these analyses, school characteristics data were obtained from school-level data spreadsheets that are publically available through ESE’s Information Services School Profiles page, while school conditions data were obtained directly from ESE in the form of school-level composite scale scores used for RTTT reporting. These scores were calculated for six teaching and learning conditions by the New Teacher Center using 2012 TELL Mass results.

Relationship between School Characteristics and Use of 2012 TELL Mass Results

Overall, schools from districts participating in RTTT most often had at least some staff involved in or aware of use of their schools’ 2012 TELL Mass results for as a tool for improvement (Table 11). By contrast, in schools whose districts were not participating in RTTT, limited awareness of use of the results was most common (42% of schools). The difference in the distribution of educator awareness levels by RTTT participation is statistically significant, indicating that is unlikely to be the result of random variation. This suggests that the requirement that schools use the results as part of a school-wide project to improve teaching and learning likely contributed to more schools using the results in ways that involved at least some educators.

Table 11: School-Level Educator Awareness of TELL Mass Use, by RTTT Participation

	Educators’ Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Districts’ Race to the Top Participation**				
Participating in RTTT	25%	44%	24%	7%
Not participating in RTTT	42%	32%	19%	6%

** Chi-square tests indicate that the distribution of responses by subgroup is statistically significant at the 0.01 level (2-tailed).

Administrators report using the results at 69% of schools in RTTT districts compared to 60% for those not participating in RTTT (Table 12). Differences in response patterns by administrator-reported use were not sufficiently large to be statistically significant, and could be the result of random variation between the two groups. As such, while the requirement that TELL Mass data be used appears to have helped contribute to greater use of the results in ways that involved staff, we cannot say that it necessarily helped to increase the numbers of administrators using the results.

Table 12: Administrator Use of TELL Mass, by RTTT Participation

	Administrator-Reported Use of 2012 TELL Mass Results	
	No	Yes
Districts' Race to the Top Participation		
Participating in RTTT	31%	69%
Not participating in RTTT	40%	60%

Chi-square tests indicate no statistically significant differences for the cross-tabulations presented in this table.

Schools in Level 4 status at the time of the survey were more likely to have at least half of their staff reporting awareness of TELL Mass use (57%) when compared to those at other levels (ranging from 28% to 31%; Table 13). Administrative use of these data was less commonly reported in Level 4 schools, or 57% compared to 67% to 72% for other levels (Table 14). However, differences in response patterns were not statistically significant for either classification of TELL Mass use and could be the result of random variation as opposed to meaningful differences.

Table 13: School-Level Educator Awareness of TELL Mass Use, by 2012 Accountability/Assistance Level

	Educators' Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
District Accountability and Assistance Level				
Level 1	34%	37%	21%	8%
Level 2	28%	40%	25%	7%
Level 3	27%	50%	17%	6%
Level 4	22%	42%	31%	6%
School Accountability and Assistance Level				
Level 1	29%	41%	22%	8%
Level 2	27%	44%	24%	4%
Level 3	22%	46%	24%	7%
Level 4	14%	29%	57%	0%

Chi-square tests show no statistically significant differences for the cross-tabulations presented in this table.

Table 14: Administrator Use of TELL Mass, by 2012 Accountability/Assistance Level

	Administrator-Reported Use of 2012 TELL Mass Results	
	No	Yes
District Accountability and Assistance Level		
Level 1	38%	62%
Level 2	30%	70%
Level 3	30%	70%
Level 4	33%	67%
School Accountability and Assistance Level		
Level 1	33%	67%
Level 2	29%	71%
Level 3	28%	72%
Level 4	43%	57%

Chi-square tests show no statistically significant differences for the cross-tabulations presented in this table.

Analyses of reported use by primary grade level served, school enrollment size, and number of FTE teachers also shows some significant differences in relation to the likelihood of educator-reported use (Table 15). For example, the difference in response patterns by primary grade level served was found to be statistically significant. While schools, regardless of level, most commonly had some awareness among educators of TELL Mass use, elementary

schools, followed by middle schools, were those most likely to have moderate to widespread awareness reported. Significant differences were also found in the use of the data by number of FTE staff, although this finding does not hold up in a more sophisticated correlation analysis, and as such, may be driven primarily by the fact that very small schools (i.e., those with fewer than 15 FTE educators), were more likely to have widespread awareness of use than others. No significant differences were found in administrator use by grade-level, student enrollment sizes, and number of FTE staff (Table 16).

Table 15: School-Level Educator Awareness of TELL Mass Use, by School Grade Level and Size

	Educators' Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Primary Grade Levels Served**				
Elementary	26%	40%	26%	9%
Middle	33%	41%	21%	5%
Secondary	30%	54%	17%	0%
School Enrollment in SY12				
Less than 275	31%	29%	30%	11%
275 to 399	29%	44%	21%	7%
400 to 524	24%	44%	24%	8%
525 to 699	28%	41%	25%	5%
700 or more	29%	51%	18%	2%
Number of FTE Teachers in SY12**				
Less than 15	33%	22%	29%	16%
15 to 24.9	28%	39%	26%	7%
25 to 34.9	25%	44%	22%	9%
35 to 54.9	28%	41%	25%	6%
55 or more	28%	55%	16%	1%

** Chi-square tests indicate that the distribution of responses by subgroup is statistically significant at the 0.01 level (2-tailed).

Table 16: Administrator Use of TELL Mass, by School Grade Level and Size

	Administrator-Reported Use of 2012 TELL Mass Results	
	No	Yes
Primary Grade Levels Served		
Elementary	30%	70%
Middle	35%	65%
Secondary	35%	65%
School Enrollment in SY12		
Less than 275	27%	73%
275 to 399	43%	57%
400 to 524	28%	72%
525 to 699	32%	68%
700 or more	33%	67%
Number of FTE Teachers in SY12		
Less than 15	24%	76%
15 to 24.9	31%	69%
25 to 34.9	30%	70%
35 to 54.9	33%	67%
55 or more	36%	64%

Chi-square tests indicate no statistically significant differences for the cross-tabulations presented in this table.

Relationship between School Conditions and Use of 2012 TELL Mass Results

In addition, interviews suggest that having favorable climate and conditions also contributed to schools' use of TELL Mass results. Using available 2012 TELL Mass composite scale scores for six teaching and learning conditions—teacher leadership, teacher role, school leadership, leadership effort, professional development, and instructional practices and support for schools—UMDI compared staff-reported measures of these conditions by both administrator and educator-reported use of TELL Mass to determine the extent to which the relationship between use and results suggested in interviews appears to be supported empirically in schools beyond the interview sample. Table 17 lists the specific items included in each of the six scales. As with all of the relational analyses conducted for this study, these analyses are intended to identify whether relationships exist, not the specific nature of the relationships or cause-and-effect.

Table 17: TELL Mass Items included in RTTT Composite Scales

Teacher leadership
<ul style="list-style-type: none"> • Teachers are relied upon to make decisions about educational issues. • Teachers are effective leaders in this school. • Teachers are recognized as educational experts. • The faculty has an effective process for making group decisions to solve problems. • In this school we take steps to solve problems. • Teachers are encouraged to participate in school leadership roles. • Teachers are trusted to make sound professional decisions about instruction.
Teacher role
<ul style="list-style-type: none"> • Teachers have an appropriate level of influence on decision making in this school. • Please indicate the role teachers have at your school in each of the following areas: (Response options: no role, small role, moderate role, large role) <ul style="list-style-type: none"> ▪ Selecting instructional materials and resources ▪ Devising teaching techniques ▪ Setting grading and student assessment practices ▪ Determining the content of in-service professional development programs ▪ Establishing student discipline procedures ▪ Providing input on how the school budget will be spent ▪ The selection of teachers new to this school ▪ School improvement planning
School leadership
<ul style="list-style-type: none"> • There is an atmosphere of trust and mutual respect in this school. • The procedures for teacher evaluation are consistent. • Teachers receive feedback that can help them improve teaching. • Teachers are held to high professional standards for delivering instruction. • Teachers feel comfortable raising issues and concerns that are important to them. • The faculty are recognized for accomplishments. • The faculty and leadership have a shared vision. • The school improvement team provides effective leadership at this school. • Teacher performance is assessed objectively. • The school leadership consistently supports teachers. • The school leadership facilitates using data to improve student learning.
Leadership effort
<ul style="list-style-type: none"> • The school leadership makes a sustained effort to address teacher concerns about: <ul style="list-style-type: none"> ▪ Community support and involvement ▪ Facilities and resources ▪ Instructional practices and support ▪ Leadership issues ▪ New teacher support ▪ Professional development ▪ Managing student conduct ▪ Teacher leadership ▪ The use of time in my school

Table 17 (Continued): TELL Mass Items included in RTTT Composite Scales

Professional development
<ul style="list-style-type: none"> • PD opportunities are aligned with the school's improvement plan. • PD provides ongoing opportunities for teachers to work with colleagues to refine teaching practices. • PD offerings are data driven. • PD deepens teachers' content knowledge. • PD is differentiated to meet the needs of individual teachers. • PD is evaluated and results are communicated to teachers. • In this school, follow up is provided from professional development. • PD enhances teachers' ability to implement instructional strategies that meet diverse student learning needs. • Teachers are encouraged to reflect on their own practice. • Sufficient resources are available for professional development in my school. • An appropriate amount of time is provided for professional development. • Professional development enhances teachers' abilities to improve student learning.
Instructional practices and support
<ul style="list-style-type: none"> • Teachers are encouraged to try new things to improve instruction. • Teachers are assigned classes that maximize their likelihood of success with students. • Teachers have autonomy to make decisions about instructional delivery (i.e. pacing, materials and pedagogy). • The faculty are committed to helping every student learn. • The curriculum taught in this school is aligned with Common Core Standards. • The curriculum taught meets the needs of students. • Social services are available to ensure that all students are ready to learn.

Items included in each scale were taken from RTTT TELL Mass reporting spreadsheets made available by ESE. Unless otherwise noted, the response options for each item included in the scales were strongly agree, agree, disagree, and strongly disagree.

Cross-tabulation analysis shows that use of TELL Mass results in ways that manifest in higher levels of educator awareness of use was generally associated with more favorable scores for all six teaching and learning condition scales (Table 18). There were no significant differences observed in scale scores for schools by administrator use or non-use of the results (Table 19). Interviews suggest a number of possible reasons for these results. For example, it was noted that having positive conditions, relationships, and culture in place helped schools more effectively use of the results in ways that substantively involved or otherwise made use of the results apparent to staff. Another possible explanation is the results themselves may have also had an effect on whether educators were engaged or informed of their use, as administrators may have been more likely to engage staff and spend more time on data they viewed as favorable and confirmatory of their school's direction.

Table 18: 2012 Teaching and Learning Condition Scores, by Educator Awareness of TELL Mass Use

Teaching and learning condition score in 2012 (1 to 4, with 4 being most favorable and 1 being least)	Educators' Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Teacher Leadership**	2.85	2.93	2.98	3.06
Teacher Role*	2.54	2.57	2.60	2.67
School Leadership**	2.84	2.95	3.02	3.11
Leadership Effort **	2.69	2.80	2.87	2.96
Professional Development**	2.53	2.61	2.70	2.76
Instructional Practices and Support**	2.95	2.98	3.02	3.07

Statistically significant differences in scale scores identified for one or more level of awareness groupings at the .01 level (**) or .05 level (*), using independent means t-tests with Bonferroni correction for multiple comparisons.

Table 19: 2012 Teaching and Learning Condition Scores, by Administrator Use of TELL Mass

Teaching and learning condition score in 2012 (1 to 4, with 4 being most favorable and 1 being least)	Administrator Reported Use	
	No	Yes
Teacher Leadership	2.95	2.93
Teacher Role	2.62	2.57
School Leadership	2.95	2.95
Leadership Effort	2.82	2.82
Professional Development	2.62	2.64
Instructional Practices and Support	3.02	3.00

Independent means t-tests show no statistically significant differences in scale scores by groupings.

The relationship between school-level TELL Mass scale scores and use of the results is further evident in the results of a basic correlation analysis (Table 20). Whereas the analyses presented above looked for differences in the average scores by a schools' level of educator awareness in the form of four groupings of awareness (limited, some, moderate, and widespread), correlation analysis looks at schools' scale scores in relation to the actual proportion of staff aware of TELL Mass use at the school. This analysis shows a weak, yet statistically significant positive relationship. This means that schools with higher scores on each of the six teaching and learning condition scales tended to use the results in ways that resulted in a larger proportion of educators aware of use of the results.

Table 20: Correlation between 2012 Condition Score and Educator Awareness of TELL Mass Use

2012 School Condition (as measured by TELL Mass subscale score)	Coefficient of correlation with proportion of a school's educators indicating use
Teacher Leadership	.207**
Teacher Role	.114**
School Leadership	.253**
Leadership Effort	.274**
Professional Development	.245**
Instructional Practices and Support	.188**

***Correlation is statistically significant at the .01 level. The number of observations included was 695.*

It should be noted, however, that the six school condition scale scores were strongly correlated with one another, with correlations ranging from 0.485 for teacher role and professional development to 0.935 for school leadership and leadership effort. That is, schools with higher scores (more favorable conditions) in one area tended to also have higher scores (more favorable conditions) in each of the other areas. Because each correlation analysis looks only at the relationship between a single pair of variables, when variables of interest are strongly correlated with other variables of interest, correlation analysis cannot parse apart the unique relationships between the different variables. Instead, observed relationships between a pair of variables could be driven by the relationship of both variables to a third correlated variable, in this particular case, one of the other conditions.

Multivariate analysis such as regression can be used to investigate relationships between one variable and another while also taking into account relationships between and among other variables included in the model. Although sophisticated multivariate modeling was not planned for the study, use of basic ordinary least squares regression can offer insight into which teaching and learning condition scores appear to be most directly related to and predictive of school's use of TELL Mass results.

When the relationship between 2012 condition and the proportion of a school's educators reporting use of TELL Mass results is analyzed through a multivariate lens, it becomes apparent that a school's leadership effort score is most closely related to use of results in ways that engaged staff. This relationship is shown by the large, positive, and highly significant regression coefficient for this variable (Table 21). Leadership effort is a measure of staff perception of leadership responsiveness to their concerns, and as such, this finding appears to corroborate interview findings that suggest that leaders' approach to decision-making was a critical driver and influencer of their approach to using TELL Mass results. That is, higher scores for leadership effort at a school were related to a greater proportion of its educators saying that the results were used for school improvement (up to a 31 percentage

point increase for an increase in scale score by one point, i.e. the difference between staff generally agreeing versus generally disagreeing with items related to the condition).

Table 21: Results of Basic Multivariate Regression Analysis

	Regression Coefficient
Teacher Leadership Score in 2012	-0.092
Teacher Role Score in 2012	-0.110*
School Leadership Score in 2012	-0.013
Leadership Effort Score in 2012	0.314**
Professional Development Score in 2012	0.063
Instructional Practices and Support Score in 2012	0.030
Intercept	-0.158

Identified coefficients are significant at the .05 () or (0.01) level. The model has an adjusted R-squared is 0.090, with a standard error of the estimate of 0.198 and a model p-value of 0.000. The number of observations included was 695.*

Interestingly the relationship between teacher role and educator awareness of use of TELL Mass results, which was shown to be positive and statistically significant through correlation analysis, was revealed to be a negative relationship when controlling for other teaching and learning condition scores. That is, all other conditions being equal, higher scores for teacher role were associated with lower levels of awareness of use the results. While this may at first appear to be a somewhat surprising result, one possible explanation for this it that all things being equal, schools were more likely to use TELL Mass results in ways that involved large numbers of educators when they did not already have structures in place through which to engage teachers in school-wide decision-making. To some degree this explanation would correspond with interview findings that indicated that many schools sought to use existing decision-making structures to engage teachers in conversations about TELL Mass.

Relationship between TELL Mass Response Rate and Use of 2012 TELL Mass Results

Finally, the data also indicate a relationship between level of awareness among educators of 2012 TELL Mass use and that school’s survey response rate (Table 22). Schools with high response rates to the 2012 TELL Mass survey, or more than 75% of eligible educators responding, were significantly more likely have at least some awareness among staff of use of the results of that survey than those with moderate response (that is, a response rate between 50% and 74.5%). This may reflect the fact that when more educators were involved in the survey, the results were viewed as more reflective of staff sentiment as a whole and more valuable overall. However, another potential explanation is that school leaders who themselves placed a high emphasis staff feedback or whose districts emphasized the survey may have been more likely to pursue high response and also to use the results.

Although a response rate of at least 50% was required for administrators to receive and be able to review results for their school, once this threshold was met, there appeared to be no discernable relationship between response rate and administrator use of 2012 TELL Mass results (Table 23).

Table 22: School-Level Educator Awareness of TELL Mass Use, by 2012 TELL Mass Response Rates

	Educators’ Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
2012 Survey Response Rates**				
Moderate Response: 50% to 74.5%	32%	39%	22%	7%
High Response: 75% or more	21%	47%	26%	6%

** Chi-square tests indicate that the distribution of responses by subgroup is statistically significant at the 0.01 level (2-tailed).

Table 23: Administrator Use of TELL Mass, by 2012 TELL Mass Response Rates

2012 Survey Response Rates	Administrator-Reported Use of 2012 TELL Mass Results	
	No	Yes
Moderate Response: 50% to 74.5%	33%	67%
High Response: 75% or more	31%	69%

Chi-square tests indicate no statistically significant differences for the cross-tabulations presented in this table.

III. Relationship between Use of TELL Mass Results and Improvement in Conditions

Finally, the study looked at whether schools' use of their TELL Mass results appeared to be related to either increases in measures of teaching and learning conditions or decreases in staff turnover by comparing the trajectory of schools that used their results with those that did not using cross-tabulation and correlation analysis. Again, these analyses can identify relationships that may exist between use of TELL Mass results and improvement in teaching and learning conditions, but not the exact nature of the relationships, such as cause and effect.

These analyses include all schools that were eligible to have received their 2012 TELL Mass results for which data were available regarding both use and outcomes, namely change in school-level scaled scores between 2012 and 2014 and change in turnover rates from 2012 to 2013, the most recent year for which turnover data were available. For the analyses of the relationship between educator-reported use of results and outcomes, 695 schools had sufficient response on both the 2012 and 2014 surveys to be included in the analysis of change in scaled scores, 687 of which also had turnover data available for both years. For analyses of administrator-reported use of the results and outcomes, a total of 348 schools were included in analysis of the relationship of that use with school condition scores—all those for which an eligible administrator replied to the item regarding use that also had sufficient overall response on the 2014 survey to have been assigned a scale score—and 400 schools included were able to be included in the analyses of the relationship between administrator results and turnover.⁶

Relationship between Use of TELL Mass Results and Improvement in Conditions from 2012 to 2014

Generally, schools with higher levels of overall awareness of use of 2012 TELL Mass results were more likely to experience gains in each of the measured teaching and learning conditions (Table 24). For example, among schools with limited educator awareness of TELL Mass use, 47% showed improvement in teacher leadership scores, whereas in schools with widespread awareness of use, 74% showed improvement. This general trend was evident for all six scaled scores, and overall differences were statistically significant, although the specific levels across which the differences were significant differed. In this case, statistically significant differences tended to be observed as schools moved from some to moderate awareness, except in the case of school leadership where the increase in the likelihood that schools experienced gains was significant for schools with at least some awareness.

Table 24: Proportion of Schools Showing Gains on Scores, by Educator Awareness of TELL Mass Use

	Educators' Reported Level of Awareness of TELL Mass Use			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Teacher Leadership**	47%	54%	70%	74%
Teacher Role**	40%	51%	68%	64%
School Leadership**	44%	59%	66%	74%
Leadership Effort **	48%	56%	70%	83%
Professional Development**	44%	56%	69%	68%
Instructional Practices and Support**	49%	55%	67%	72%

***Statistically significant differences identified at the 0.01 level for one or more groupings using Z-tests and the Bonferroni correction for multiple groupings.*

⁶ Only the school's administrator had to respond to the 2014 survey in order of the school to be included in the analysis of turnover outcomes by administrator use. In contrast, to be included the analysis of turnover outcomes by educator-reported use, schools had to have sufficiently high response on the 2014 survey and its item regarding use to be assigned to a level of educator awareness.

It should be noted that there are several potential explanations for the observed relationship between improvement in teaching and learning conditions and educator involvement in or awareness of use of TELL Mass results. For example, it is possible that use of the results contributed to a greater degree of improvement in teaching and learning conditions, but it is also possible that, given the relationship between TELL Mass use and climate and culture, particularly leadership style, the factors that led principals to use TELL Mass with staff may also contributed to their being more successful in improving teaching and learning conditions as a whole.

While using TELL Mass results in ways evident to a larger proportion of educators was related to significant increases in all six teaching and learning conditions, use by administrators was related to significant gains for only one condition—instructional practices and support (Table 25). Overall, 64% of schools where administrators said they used TELL Mass results saw gains in instructional practices and support scores from 2012 to 2014, compared with 55% of those where administrators said they did not use the results. That being said, increases were also observed in each of the other five areas, although these differences were not statistically significant, meaning they were not sufficiently large that we can say with confidence that they are not the result of random variation. This may be due to the relatively smaller sample size for administrator-reported results, so this is not to say that administrator use of the results did not matter. However, the smaller differences overall suggest that administrator use of the results may have been less likely to correspond with gains than use of the results in ways that involved both administrators and educators.

Table 25: Proportion of Schools Showing Gains from 2012 to 2014, by Administrator TELL Mass Use

	Administrator-Reported	
	No	Yes
Teacher Leadership	51%	62%
Teacher Role	52%	60%
School Leadership	52%	63%
Leadership Effort	54%	65%
Professional Development	55%	64%
Instructional Practices and Support**	50%	64%

**Statistically significant differences identified using Z-tests at the .01 level.

Similar patterns can be seen when looking at differences in the overall change in the condition scale scores themselves. Notably, schools with limited educator awareness of TELL Mass results typically saw small decreases in each of the six conditions, while those with higher levels awareness saw gains, which overall tended to be larger in schools with higher levels of awareness (Table 26). In all cases, improvement in scaled scores was significantly higher in schools with at least some awareness of TELL Mass use compared to schools with limited awareness. With regard to administrator-reported use, differences were only significant in the case of improvement in instructional practices and support (Table 27).

Table 26: Average Change in Scale Scores from 2012 to 2014, by Educator Awareness of TELL Mass Use

	Educators' Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Teacher Leadership**	-.03	.05	.14	.16
Teacher Role**	-.08	.02	.10	.13
School Leadership**	-.04	.06	.15	.22
Leadership Effort **	-.01	.07	.15	.18
Professional Development **	-.03	.05	.11	.11
Instructional Practices and Support**	-.01	.04	.10	.11

**Statistically significant differences identified in scale scores for one or more level of awareness groupings at the .01 level using independent means t-tests with Bonferroni correction for multiple comparisons.

Table 27: Average Change in Scale Scores from 2012 to 2014, by Administrator TELL Mass Use

	Administrator Reported Use of TELL Mass	
	No	Yes
Teacher Leadership	.04	.07
Teacher Role	.02	.05
School Leadership	.04	.08
Leadership Effort	.04	.09
Professional Development	.05	.08
Instructional Practices and Support**	.02	.07

**Statistically significant differences identified in scale scores using independent means t-tests for one or more level of awareness groupings at the .01 level.

The relationship between improvement in school-level TELL Mass scale scores and use of the results in ways that involved or were apparent to more educators is further evident in the results of a basic correlation analysis (Table 28). Overall, correlation analyses shows that schools with higher proportions of educators reporting use of TELL Mass results also tended to see larger gains in school teaching and learning condition scores from 2012 to 2014. Correlations were generally weak (i.e. those ranging from 0.20 to 0.29) to moderate (i.e. 0.30 to 0.39).

Table 28: Correlation between Proportion of Educators Indicating TELL Mass Use and Change in Scores

Change in School Scale Score (2012 to 2014)	Coefficient of correlation with proportion of a school's educators indicating use
Teacher Leadership**	0.262
Teacher Role**	0.318
School Leadership**	0.277
Leadership Effort**	0.262
Professional Development**	0.210
Instructional Practices and Support**	0.248

* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Relationship between Use of 2012 TELL Mass Results and Turnover

A final set of analyses deals with investigating the relationship between school-level use of TELL Mass results and teacher turnover. These analyses reveal no statistically meaningful differences in turnover related to whether or not TELL Mass results were used either by administrators or in ways apparent to educators. Turnover did appear to decrease overall in a larger proportion of schools with widespread awareness (Table 29) and in schools where administrators said they used the results (Table 30). However, the sizes of the differences are not sufficiently large to be statistically meaningful and not necessarily the result of something other than random variation in turnover from year-to-year and across schools. As such, it is possible that a small relationship may exist between use of TELL Mass results and turnover, but this cannot be statistically corroborated in the present sample.

Table 29: Proportion of Schools for which Turnover Decreased, by Educator Awareness of TELL Mass Use

	Educators' Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Proportion of schools where turnover decreased from 2012 to 2013	50%	48%	50%	57%

Z-tests for differences in column proportions using the Bonferroni correction for multiple groupings show no statistically significant differences across groupings.

Table 30: Proportion of Schools for which Turnover Decreased, by Administrator Use of TELL Mass

	Administrator-Reported Use	
	No	Yes
Proportion of schools where turnover decreased from 2012 to 2013	44%	52%

Z-tests for differences in column show no statistically significant differences in change in turnover across groupings.

There were also no discernable patterns observed with regard to change in school-level turnover rates by either level of educator awareness of TELL Mass results (Table 31) or whether or not administrators said they used the results (Table 32). It is notable that, overall, turnover decreased in the state from 2011 to 2012 and stayed relatively consistent between 2012 and 2013. This overall pattern was observed in the sample of schools included in the analysis of turnover by educators’ level of awareness of use, but not included in the analysis of administrator use (i.e. those for which one or more administrators responded to the survey, a relatively small proportion overall). This reinforces the need for some caution when interpreting analyses of administrator-reported use, as schools whose administrators responded to the 2014 survey—and its item regarding use—may differ from those whose administrators did not given the small number who responded to the survey.

Table 31: Average Change in School-Level Turnover, by Educator Awareness of TELL Mass Use

	Educators’ Reported Level of Awareness of TELL Mass Use at School			
	Limited (0 to 25%)	Some (25.1 to 50%)	Moderate (50.1 to 75%)	Widespread (75.1 to 100%)
Change in turnover, 2012 to 2013 (Percentage points)	-.26	.86	.38	-.19

Independent means t-tests using the Bonferroni correction for multiple groupings show no statistically significant differences in change in turnover across groupings.

Table 32: Average Change in School-Level Turnover, by Administrator Use of TELL Mass

	Administrator-reported use	
	No	Yes
Change in turnover, 2012 to 2013 (Percentage points)	1.25	-.12

Independent means t-tests show no statistically significant differences in change in turnover across groupings.

Finally, correlation analysis of the proportion of educators involved in or aware of use of TELL Mass results and changes in schools’ turnover again reveals no obvious relationship between use of results and turnover. Coefficients of correlation were near 0, which indicates that changes in turnover occurred independently of educator awareness of TELL Mass results (Table 33).

Table 33: Correlation between Changes in Turnover and Level of Educator Awareness of TELL Mass

Change in School Scale Score	Coefficient of correlation with proportion of a school’s educators indicating use
Change in turnover, 2012 to 2013 (Percentage points)	-.024

Correlation was not statistically significant.