

**BRIEF: Spring 2013 Teacher Survey  
MEPRI/MLTI Middle and High School Technology Report**

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**Context**

In the spring of 2013, the Maine Education Policy Research Institute (MEPRI) at the University of Southern Maine administered the annual Statewide Maine Learning Technology Initiative (MLTI) teacher survey. In addition to gathering data on continuing trends of Maine teachers' technology implementation, new goals were identified to respond to the Maine Department of Education (MDOE) preferred solution initiative in the spring of 2013. The MDOE opted to select a preferred solution which allowed schools the autonomy to choose from among four other approved bids. In anticipation that a number of schools would choose to provide an alternative technology solution to students and teachers, MEPRI tailored the annual teacher survey to collect data for two purposes. The first purpose was to collect baseline data for schools and to inform them on their technology use to date in an individualized school profile. These individual school profiles were provided only to eligible schools for their internal use and were not published or provided to the MLTI staff. The second was a summary report that continued collecting information regarding teacher implementation of technology statewide and for State of Maine reporting purposes. Following is the Summary Report and information on how survey responses were analyzed.

To serve an immediate need, MEPRI collected, analyzed, and summarized reports to be provided to certain schools to inform them on their technology use. The summary provided a unique opportunity for schools to have data to inform their technology and professional development needs. Minimum participation criteria were established to provide validity to results. Following is information on how results were compiled for reporting purposes:

Summary Report Criteria: Schools that had 50% of their teachers participate in the survey and used 1:1 technology but did not meet a 10 teacher threshold received this report. In addition a report was forwarded to the Maine Department of Education,

MLTI. This report provided teachers' responses statewide, disaggregated by middle and high schools.

To encourage schools and their respective teachers to participate, MEPRI offered a free registration for one person from their school to next year's 2014 MLTI Student Conference if their school met the 50% participation criteria.

### **Survey Background**

Participation - At the time of the survey, schools that participated in the MLTI included all middle schools and approximately 55% of the high schools. A total of 1679 teachers responded to the survey. Of these teachers, 821 were from 74 schools that attained a 50% survey participation rate; these responses were used for data analysis.

Survey Context- The survey focused on capturing information from teachers on how they use technology in their instruction and their perceptions on the challenges and benefits of the devices. Six areas were assessed. Following is the category and the corresponding Likert scale:

- Professional development support for teachers to access and learn technology  
**Scale:** No access; Not Helpful at all; Not very Helpful; Somewhat Helpful; Helpful; Very Helpful
- Teacher benefits that technology fosters in their practice  
**Scale:** Strongly Agree, Disagree, Neither Agree nor Disagree; Agree; Strongly Agree
- Administrative support that has facilitated technology use by teachers  
**Scale:** Strongly Agree, Disagree, Neither Agree nor Disagree; Agree; Strongly Agree
- Support for teachers that focuses on building skills in technology  
**Scale:** Strongly Agree, Disagree, Neither Agree nor Disagree; Agree; Strongly Agree
- How often teachers are using technology  
**Scale:** Never; Less than once a week; Once a week; A few times a week; Once a day

The composite of *“How teachers rate their own skill and integration in using technology with students”* was derived from Everett M. Rogers sociological model of technology adoption. On the survey, teachers could select from five different choices to assess their technology use and integration with students in their classroom. Following are the choices presented on the survey:

1. I use technology very little or not at all in my classroom. I do not believe technology provides an added benefit for student learning.
2. I am not a big technology user in my classroom, although I use it occasionally. Once I am shown how, I will try things that have worked well for other teachers. I believe technology can be useful for some types of learning but it usually does not make much difference.
3. I regularly use technology in my classroom with students, although not as much as some of the other teachers at my school. I believe technology is often helpful for student learning. I am willing to try new practices, but it is best to let others figure out all the kinks before I invest much time.
4. I use technology frequently as an integral part of my curriculum and daily classroom activities. I am not on the cutting edge, but I am eager to try things that sound interesting or might be an improvement. I'm willing to figure some things out on my own, and other teachers often ask me for help or advice about technology.
5. I actively experiment with the newest ways to incorporate technology into my teaching. I am usually the first person in my school to try something out, and I am in touch with technology innovations that are happening in other schools and states.

### **Survey Analysis**

Composite categories were compiled out of the survey questions using factor analysis. Data from teachers at schools that meet the 50% participation criteria were used for the analysis, to ensure that the categories are based on the most representative sample of Maine teachers. Following are the five composite groupings, the mean of all items in each category and nearest corresponding Likert scale label, standard deviation, number of survey questions combined in each composite/category, and their Cronbach's  $\alpha$  (Alpha) score (a measure of the cohesiveness of the items that comprise the category):

Composite/ Category	Mean	Nearest Corresponding Response	Std. Dev.	# of items	$\alpha$ Score
Prof. Development (PD) Support	4.5	Somewhat helpful to Helpful	1.1	8	.99
Teacher Benefits	4.2	Agree	.7	9	.94
Admin Support	3.5	Neutral to Agree	.8	4	.81
Skill Support	3.3	Neutral	.9	4	.67
Frequency of Use	3.7*	N/A*	.7	10	.83

*\*Because the frequency scale is not based on interval data, the mean score is only useful for comparison purposes; the mean value itself does not have intrinsic meaning.*

- Reliability measures indicate a high rate of internal consistency across all teachers' responses within their category (Cronbach  $\alpha$   $>.80$ ) with the exception of Skill Support which obtained a more modest, yet usable,  $\alpha$  of .67.

For the question "How do teachers rate their technology skill and integration," teachers obtained a mean of 3.6 and a standard deviation of .9. Overall, teachers indicated that they rate themselves between "Regularly use technology in their classroom with students" to "Using technology frequently as an integral part of their curriculum and daily classroom activities."

#### Middle and High School Differences

Teachers' responses were grouped by middle and high schools. Differences between the two groups' factor scores were analyzed by independent t-tests (2-tailed). Following are the means, standard deviations, and t-test for those groups:

Composites/Category	Groups	Mean	SDev	p-value
PD Support	high school teachers	4.7	1.1	p < 0.002
	middle school teachers	4.4	1	(Significant difference)
Teacher Benefits	high school teachers	4	0.8	p < 0.002
	middle school teachers	4.2	0.7	(Significant difference)
Admin Support	high school teachers	3.5	0.9	p > 0.821
	middle school teachers	3.5	0.8	(NO Significant difference)
Skill Support	high school teachers	3.1	1	p > 0.536
	middle school teachers	3.3	0.8	(NO Significant difference)
Frequency	high school teachers	3.8	0.7	p > 0.099
	middle school teachers	3.7	0.8	(NO Significant difference)
Teacher skill and level of integration	high school teachers	3.5	0.9	p < 0.002
	middle school teachers	3.7	0.9	(Significant difference)

- Results indicate a significant difference between groups in several categories. Middle school teachers agreed more with the positive impacts of technology on teacher benefits, and indicated a higher level of teacher skill and integration than high school teachers. High school teachers indicated that they agreed more with the positive impacts of the PD support they receive in technology than middle school teachers. No significant difference was found in Skill Support or Administrative Support between the groups.

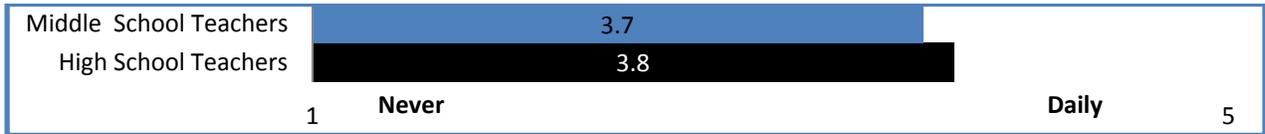
These results were presented in a summary brief provided to those schools that met the criteria and to the State of Maine. Following is the report that was disseminated:

### **MEPRI - MLTI School Technology Report: Middle and High School**

The MEPRI-MLTI School Technology Profile is designed to provide a quick overview and comparison of technology use in Maine High Schools and Maine Middle schools. The information presented here was collected from the MLTI 2012-2013 Spring Teacher Surveys. Teacher information was compiled from those schools who have 1:1 technology, and who had a

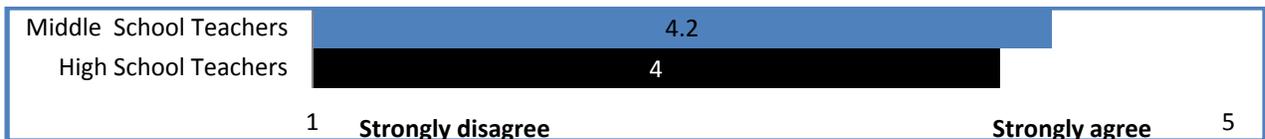
survey response rate of 50% or more by their teachers. Numbers presented are composite scores reflective of survey items for each category.

### How often are teachers using technology?



Teachers reported that they are using technology on average *A few times a week* to manage student information, develop instructional materials, conduct research for lessons or curriculum, share information, assess students, and communicate. There is *no significant difference* between the middle school and high school teachers.

### 2. How do teachers perceive technology benefits?



Teachers reported that they *Agree* that the 1:1 device has many benefits. The 1:1 device helps in differentiation of instruction, enables them to cover more material and explore topics in greater depth, has shifted their teaching to being more student-centered, and increased their confidence in technology knowledge and skills. This average is *significantly higher* than the average for the high school teachers.

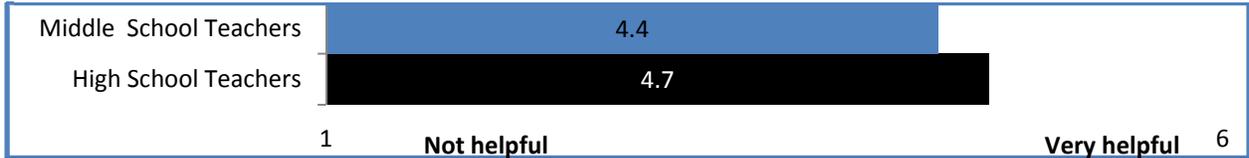
### 3. How do teachers rate their technology skill and level of integration?



1. Use technology very little or not at all in my classroom
2. Not a big technology user in my classroom, although I use it occasionally
3. Regularly use technology in my classroom with students, although not as much as some of the other teachers at my school

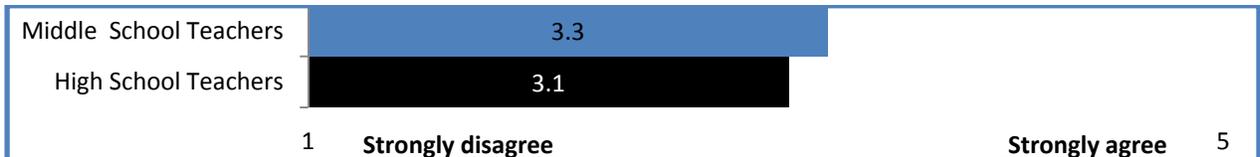
- 4. Use technology frequently as an integral part of my curriculum and daily classroom activities
- 5. Actively experiment with new ways to incorporate technology into my teaching

**4. Do teachers find professional development opportunities to be adequately helpful?**



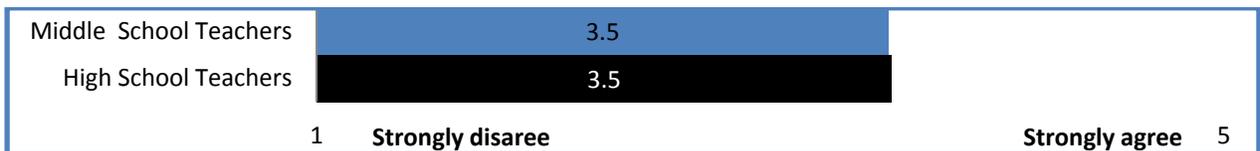
Teachers reported that they found the professional development in their schools as ***Somewhat Helpful to Helpful*** in the areas of informal help from colleagues, assistance from someone whose job is to help incorporate technology into their instruction and/or support the technology hardware and software infrastructure, and support from school administrators and office staff. This average is ***significantly higher*** than the average for the middle school teachers.

**5. What professional development do teachers agree have benefited them?**



Teachers are ***Neutral to Agree*** in how Professional Development has impacted their ability to use technology in instruction. There is ***no significant difference*** between the middle school and high school teachers.

**6. What are the administrative support needs of teachers?**



Teachers ***Agree*** that the Administration supports technology in their school by actively encouraging teachers to pursue professional development activities geared toward integrating technology into the classroom; models the level of technology use and knows which teachers

use technology, and that technology integration into teaching and learning is a priority in their school. There is ***no significant difference*** between the middle school and high school teachers.

***For more information regarding Maine school technology profiles please contact MEPRI at [cepare@usm.maine.edu](mailto:cepare@usm.maine.edu)***