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# Berkshire Wireless Learning Initiative Final Evaluation Report

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## Results

### Principal/School Leadership Interview Results: Summary

As earlier described in the methodology section, each school hosted numerous evaluation visits which included classroom observations, teacher interviews, and principal interviews throughout the implementation period. Upon the completion of the third and final scheduled year of the 1:1 laptop implementation, each principal or school building leader also participated in a final formal interview concerning their experiences and critical appraisal of the 1:1 program their school had experienced.

In the text and tables below, we summarize how the leadership across the five BWLI settings viewed the implementation as well as the outcome(s) of the BWLI program. Given that only five schools participated in the program, individual school results are not presented to preserve the anonymity and confidentiality of those school leaders we interviewed. Despite this limitation, the summary of the principal/school leadership interview results provide another valuable perspective on the implementation and outcomes of the BWLI program. In addition, the selected excerpts reproduced below from the school leaders provide both rich and personal examples of how 1:1 computing impacted teaching and learning.

In the final interview, after three years of 1:1 computing, each principal/school leader was presented with a number of statements addressing the potential impacts of the BWLI program and 1:1 computing. School leaders were asked to rate their degree of agreement with each statement using only the following scale: Strongly Agree, Agree, Disagree, Strongly Disagree). Responses were recorded during the interview and are reproduced below across all five BWLI settings in Tables P1 and P2.

**Table P1: Summary of general attitudes and benefits of computers in education across BWLI principal/school leaders (2008 Interview)**

	Strongly Agree	Agree	Disagree	Strongly Disagree
Students are more willing to write second drafts when using a computer.	100%	0%	0%	0%
Students would use technology more at my school if there was less pressure to perform on standardized tests.	67%	33%	0%	0%
Students create better-looking products with computers than with other traditional media.	60%	40%	0%	0%
Students work harder at their assignments when they use computers.	20%	60%	20%	0%
Students interact with each other more while working with computers.	20%	40%	40%	0%
Computers help students grasp difficult curricular concepts.	0%	100%	0%	0%
Students develop a deeper understanding of the subject material when using a computer.	0%	80%	20%	0%

Table P1 shows the summarized responses of BWLI school leaders towards various statements concerning the impacts of computers on students. Overall, the BWLI school leadership was overwhelmingly positive in their views towards most of the commonly ascribed positive student outcomes in the 1:1 literature. For example, all of the interviewed school leadership reported unanimously that their students were “more willing to write second drafts when using a computer”. One hundred percent of all interviewed school leaders also believed that computers helped their students “grasp difficult curricular concepts” and allowed them to “create better looking products”. Moreover, of the school leaders who responded to this question, all were unanimous in their belief that “students would use technology more at my school if there was less pressure to perform on standardized tests.” There was only one school principal/leader who disagreed with the sentiments of other four BWLI school leaders who reported that their “students develop a deeper understanding of the subject material when using a computer” and that “students work harder when using a computer”. School leaders were most divided in their assessment of whether “students interact with each other more while working with computers” where 40% of those interviewed disagreed and 60% agreed. In addition to these general statements concerning the impact of computers on education, the interview also asked principals and school leaders to reflect on more specific items reflecting the implementation and impacts of the BWLI program specifically. These results are shared below in Table P2.

**Table P2: Summary of specific attitudes and benefits of the BWLI program across BWLI principal/school leaders (2008 Interview)**

	Strongly Agree	Agree	Disagree	Strongly Disagree
The BWLI program has positively impacted my students' academic performance.	75%	25%	0%	0%
Increased technical support could have improved the effectiveness of the BWLI program.	60%	40%	0%	0%
The BWLI program has positively impacted my students in non-academic ways.	50%	25%	25%	0%
The impacts of any 1:1 computing program may take many years to be fully understood.	40%	60%	0%	0%
My students have benefited greatly from their participation in the 1:1 laptop program.	40%	40%	20%	0%
My teachers' teaching has improved as a result of the 1:1 laptop program.	40%	40%	20%	0%
I would encourage other Massachusetts middle schools to adopt 1:1 computing programs.	40%	40%	20%	0%
Increased curriculum support could have improved the effectiveness of the BWLI program.	20%	60%	20%	0%
The considerable costs and expenses associated with 1:1 laptop programs are not justified based on my experiences.	0%	40%	40%	20%

Table P2 shows the summarized responses of BWLI school leaders towards specific statements concerning the implementation and impacts of the BWLI program. Overall, the views of the BWLI school leadership were again overwhelmingly positive in their attitudes towards the BWLI program and successful outcomes of 1:1 computing. For example, all of the interviewed school leadership reported unanimously that the “BWLI program has positively impacted my student’s academic achievement”. Again, there was only one school principal/leader who disagreed with the sentiments of other four BWLI school leaders who reported that “The BWLI program had positively impacted my student’s in non academic ways” and “my students have benefited greatly from their participation in the laptop program”. Similarly, in the interview questions weighing the costs and benefits of the BWLI program, again the same school leader disagreed with the other BWLI leaders who expressed universal agreement with the statement “I would encourage other Massachusetts middle schools to adopt 1:1 computing programs”. An additional school leader expressed some trepidation in a second (and more pointed) question concerning the costs and benefits associated with 1:1 computing. In total 60% of BWLI leaders disagreed with the statement the “considerable costs and expenses associated with 1:1 laptop programs are not justified based on my experiences” while 40% expressed agreement.

Table P2 also shows that school leaders were agreed in their assessment that “increased technical support could have improved the effectiveness of the BWLI program” while 80% agreed with the

related statement concerning “increased curricular support”. Eighty percent of BWLI school leaders additionally reported that their “teachers’ teaching has improved as a result of the BWLI program” while 100% reported that the “impacts of any 1:1 computing program may take many years to be fully realized.”

In addition to the summary across the shared interview questions, a post-implementation review of the open-ended interview data contained a number of themes and trends. First, it was widely acknowledged that the majority of students and staff clearly appreciated and made good efforts to use the increased technology resources made available to them through the BWLI program. Nearly all of the school leaders expressed positive accolades for educational technology and expressed sincere concern for sustaining their school’s 1:1 environment without BWLI funding. Second, it was clear that each school faced different implementation challenges and settings in their attempt to “transform teaching and learning”. For example, state and federal compliance to measurably improve student performance on standardized tests was a major school theme in some of the public BWLI settings, whereas in the two parochial schools this was not a consideration. Third, these variations across school settings resulted in the school principal’s role varying widely in how much participation and leadership they directed towards 1:1 computing. Given that much has been hypothesized and written about the importance of school leadership in successful educational technology initiatives, below we provide some additional examples of how the leadership both managed and viewed the BWLI program.

Across the three years of the project implementation, three of the five participating BWLI schools experienced periods when the principal’s role was viewed by the evaluation team as being less than fully focused on the BWLI program. Although our purpose was not to evaluate the leadership styles or capabilities of any staff, we observed a couple trends across the BWLI implementation period when leadership practices and decisions seemed to directly impact the effectiveness of the program. In some cases, changes in school and district leadership created leadership “holes” during some periods of the BWLI planning and implementation. For example, one participating BWLI school experienced a substantially “greater than average” turnover of principals in addition to other school and district changes during the BWLI planning and implementation periods. Although the administrative changes made for some challenges in the implementation, this school did not differ much in terms of program implementation and outcomes given the increased role of supporting administration and staff.

In two other cases, the school principal made a conscious decision to minimize their attention on the BWLI program and instead focus on other school priorities. In the one case where the school principal did not serve a major leadership role respective to the BWLI program, the school notably faltered in the last period of the initiative. In the other school where the principal was not expressly concerned with the BWLI program, a teacher leader was formally appointed to fulfill this leadership role. For this particular school, this model worked very well. However, the success may have had more to do with the extraordinary time and resources this particular school leader devoted to promoting, maintaining, and supporting the program.

School principals and school leadership received little to no financial remuneration for their participation and time managing the program at their respective schools. Also, the program was implemented across nearly all of the participating schools using only existing school personnel.

Echoing the teacher interview results, the principal/school leadership interview reflected a concern for the initial investments in time and resources inherent with the adoption and implementation of a 1:1 program. At each participating school, the job responsibilities for many school leaders swelled in unique and unforeseen ways. For example, one school leader reflected: “I don’t think anyone ever expected how we’d manage the 500+ laptops that kids were taking back and forth to their homes each day”. When the school began encouraging their students to take laptops home for “anywhere-anytime learning” this school was caught somewhat unsure who would take on the added responsibility of ensuring that these hundreds of student laptops did not contain objectionable materials as well as manage the day-to-day maintenance of implementation. Although this school finally enacted a more controlled take-home student laptop policy, all of the school leaders found themselves taking on added responsibility and extra work in addition to having to demarcate new responsibilities to their staff.

At one of the smaller schools, the responsibilities and daily management of the 1:1 laptop program was nearly single handedly carried out by one full-time classroom teacher. After three years of successful implementation at this school, this school leader shared a post-BWLI appraisal of their time as the school’s BWLI leader:

The implementation, repair and integration of the software in to the curriculum would be best described as a second full time job for me. For the first year I would have to say that an average number of hours spent would be between 20-30 hours a week. The Year 1 initial set up was done after school, evenings and many weekends. The time during Year 2 did not decrease by any means, although the areas in which the hours were spent more on service/repair and less on the rollout and administrative tasks. Year 3, the hours are still in the same ballpark, but more time is being spent on integration as I am trying to use the laptops in all grade levels that I teach. It must also be noted that my hours can vary from week to week, but the average I am confident is accurate.

However, like many of the Western Massachusetts educators who invested a great deal of their own time and effort in transitioning their schools from “traditional” learning environments to a 1:1 model, this school leader was equally quick to speak of the reason behind his/her extensive level of personal and professional commitment:

The compensation for the extra time that the laptops required has been minimal but for me the payoff has been how the students have been able to learn to use the technology to better understand the world around them. The BWLI has been a success for several reasons: First, it is through the desire of school and its administration and faculty to offer our students the technology to carry them into the twenty-first century. Second, the freedom to direct the day to day needs of the project. Although it must also be noted

that the laptops themselves did not propel us into the twenty first century and the lack of a budget for additional personnel could have derailed the project if it wasn't for a dedicated few who had a clear understanding of the connection of technology and education.

Overall, based on the principal/school leader interview, 1:1 computing and the BWLI program was a major investment, but in four of the five participating schools, school leadership clearly found that the positive educational impacts and benefits justified the increased workload and investment. Further, nearly all of the leadership interviewed expressed some degree of feeling that their first years adopting 1:1 computing, although successful, had only “scratched the surface” of the full potential afforded by educational technology.