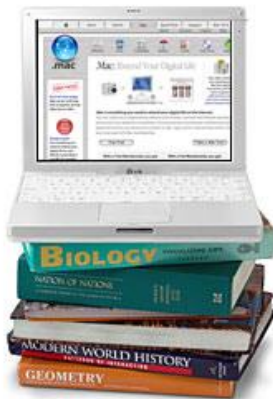


The Impact of the Maine Learning Technology Initiative on Teachers, Students, and Learning

Maine's Middle School 1-to-1 Laptop Program




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April 2007



The Maine Learning Technology Initiative (MLTI) has provided all 7th and 8th grade students and their teachers with laptop computers, and provided schools and teachers technical assistance and professional development for integrating laptop technology into their curriculum and instruction.



Research and Evaluation Strategies: Mixed Methods Approach

1. Longitudinal survey studies with teachers, students, and principals.
2. Interviews with stratified samples of school personnel.
3. Selected site visits and observations.
4. Analysis of documents.
5. Controlled experimental study in a statewide sample of mathematics classrooms.

Primary Data Sources

1. Surveys: Teachers (n = 4,980)
Students (n = 42,575)
Principals (n = 500)
Superintendents (n = 117)
2. Interviews: (n = 635)
3. Site Visits: (n = 54)
4. Classroom Observations: (n = 60)
5. Document Analysis



Core Research and Evaluation Questions

How are the laptops being used by teachers and students?

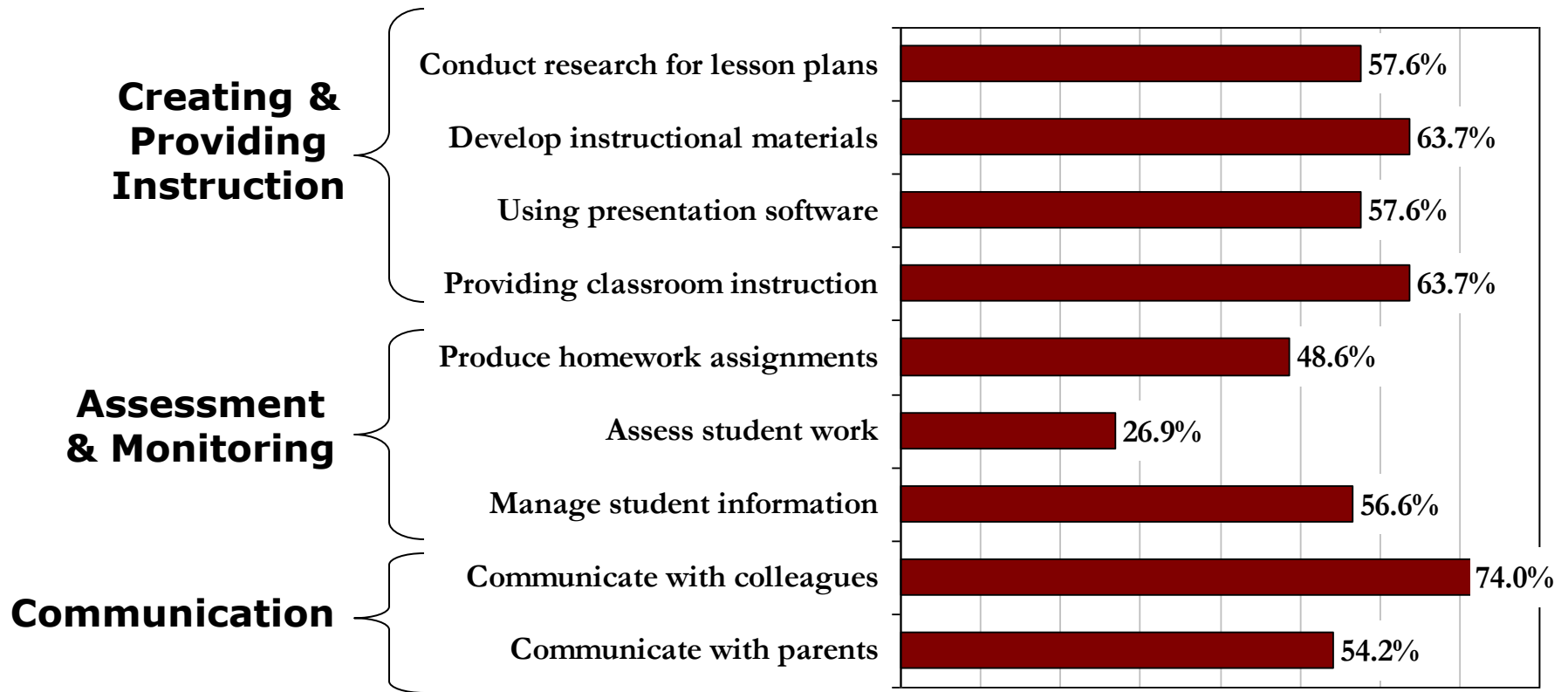
What are the impacts of the laptops on instruction and learning?



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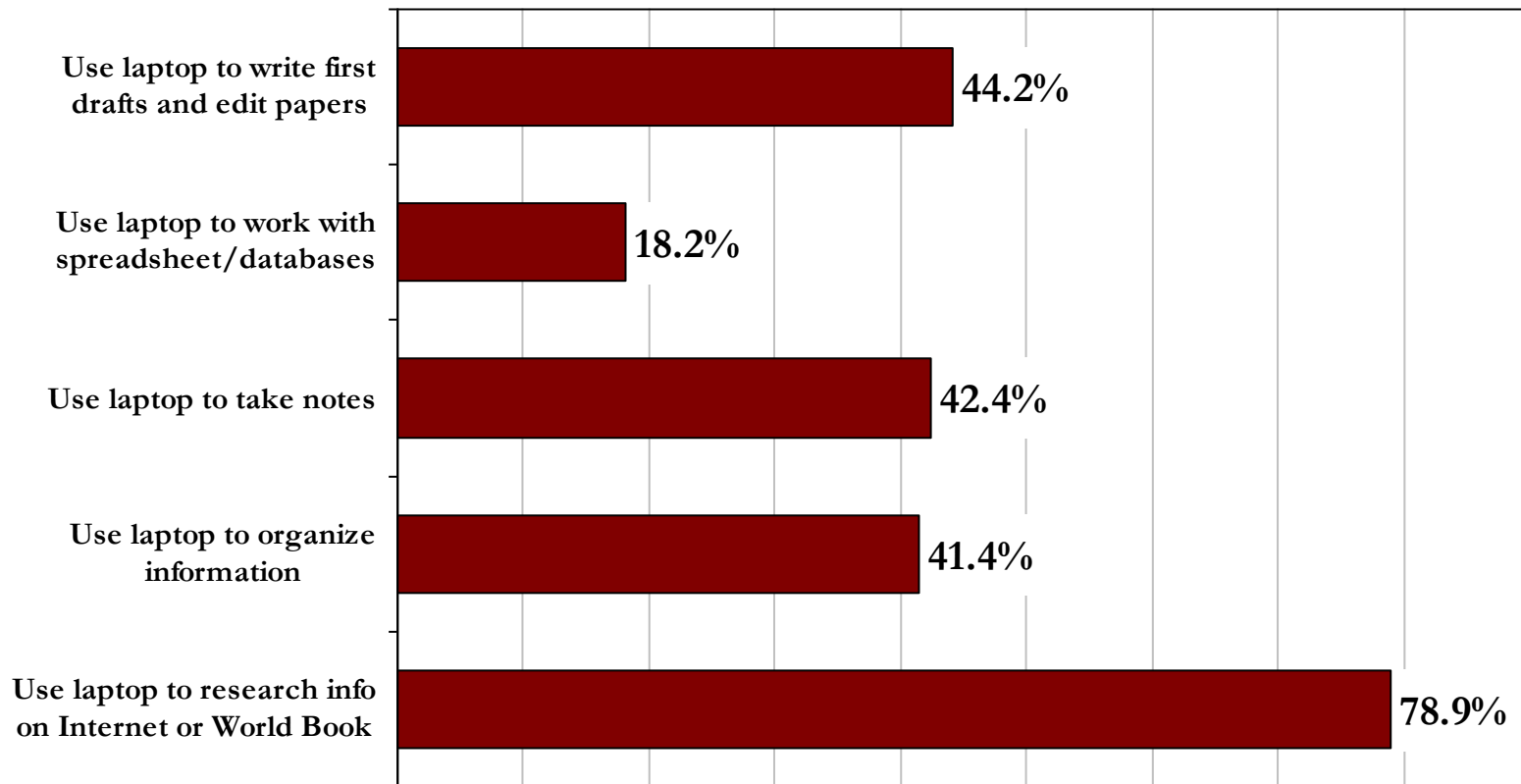
How are the laptops being used by teachers and students?

Teachers are using the laptops to:



Students use the laptops to:

Use in Learning Context*

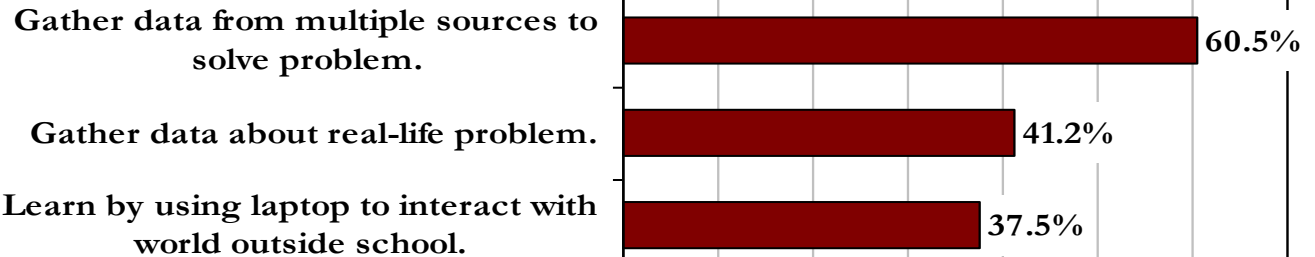


* Frequency: Range = at least once a week to several times daily.

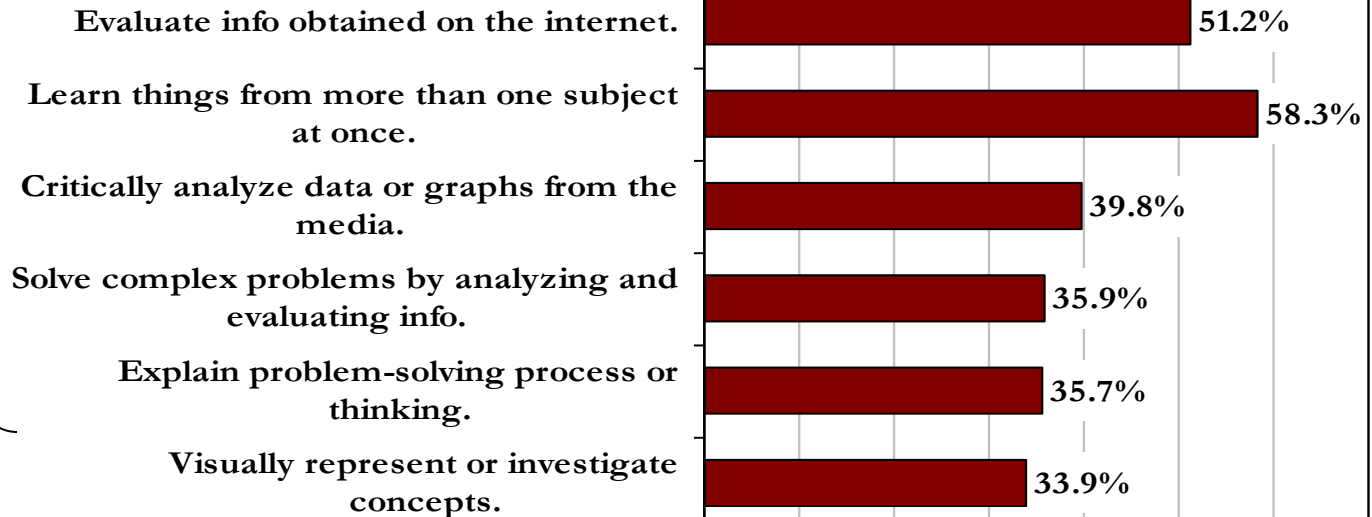
Students use the laptops to:

Use in Learning 21st Century Skills*


Gathering Information



Analyzing Information



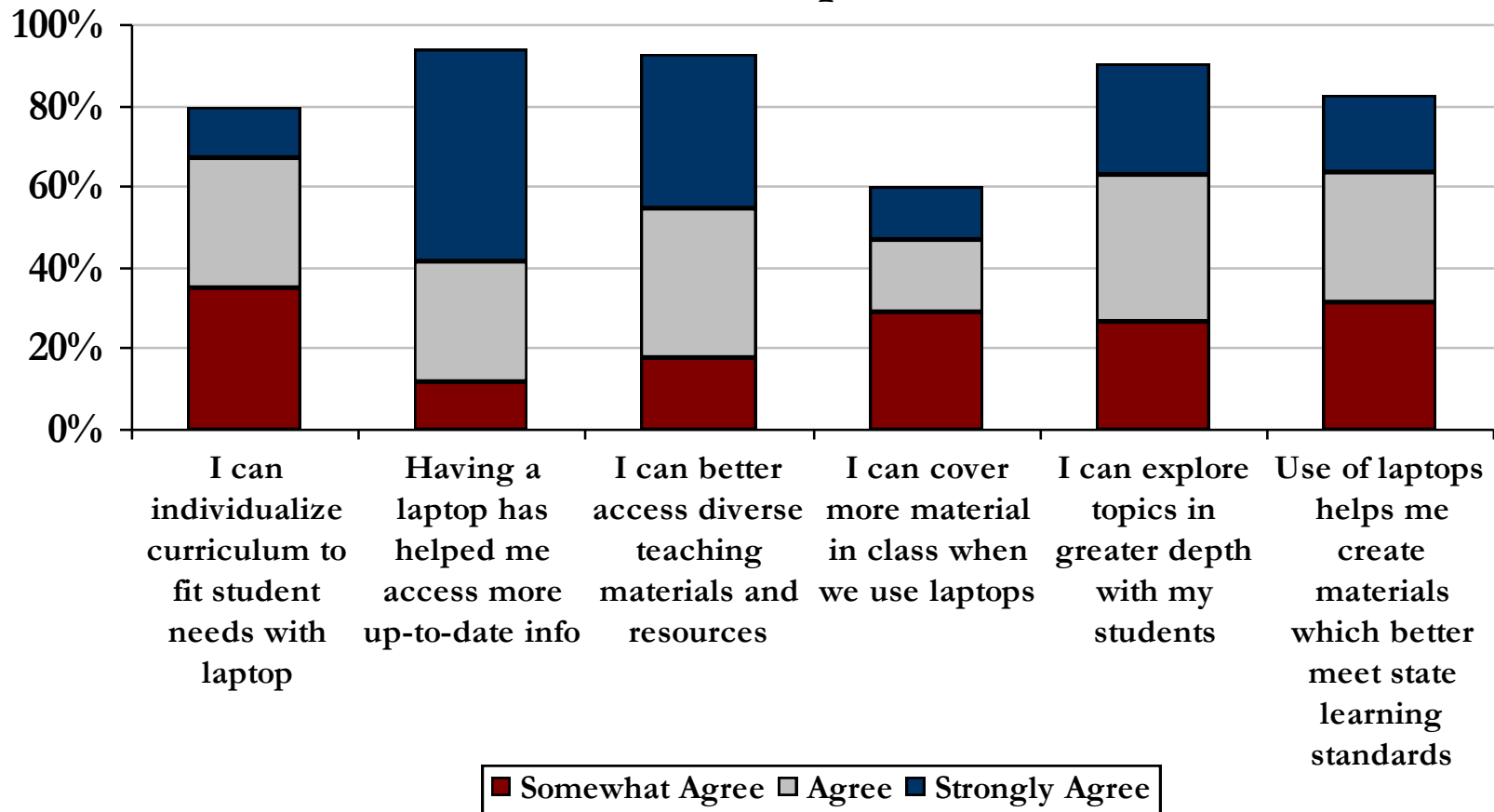
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What are the impacts of the laptops on instruction and learning?

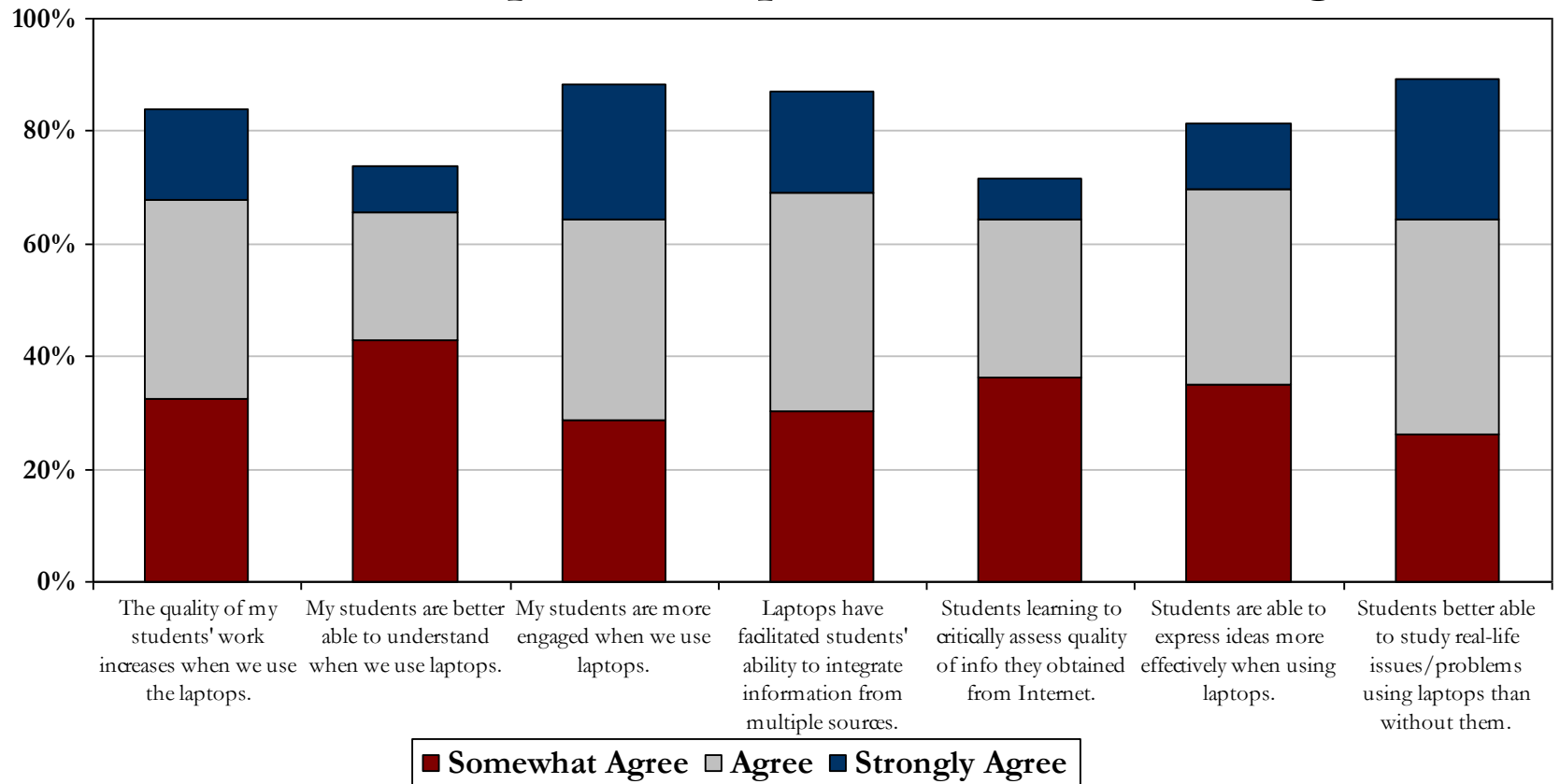
What are the impacts of the laptops on instruction & learning?

Teacher Responses



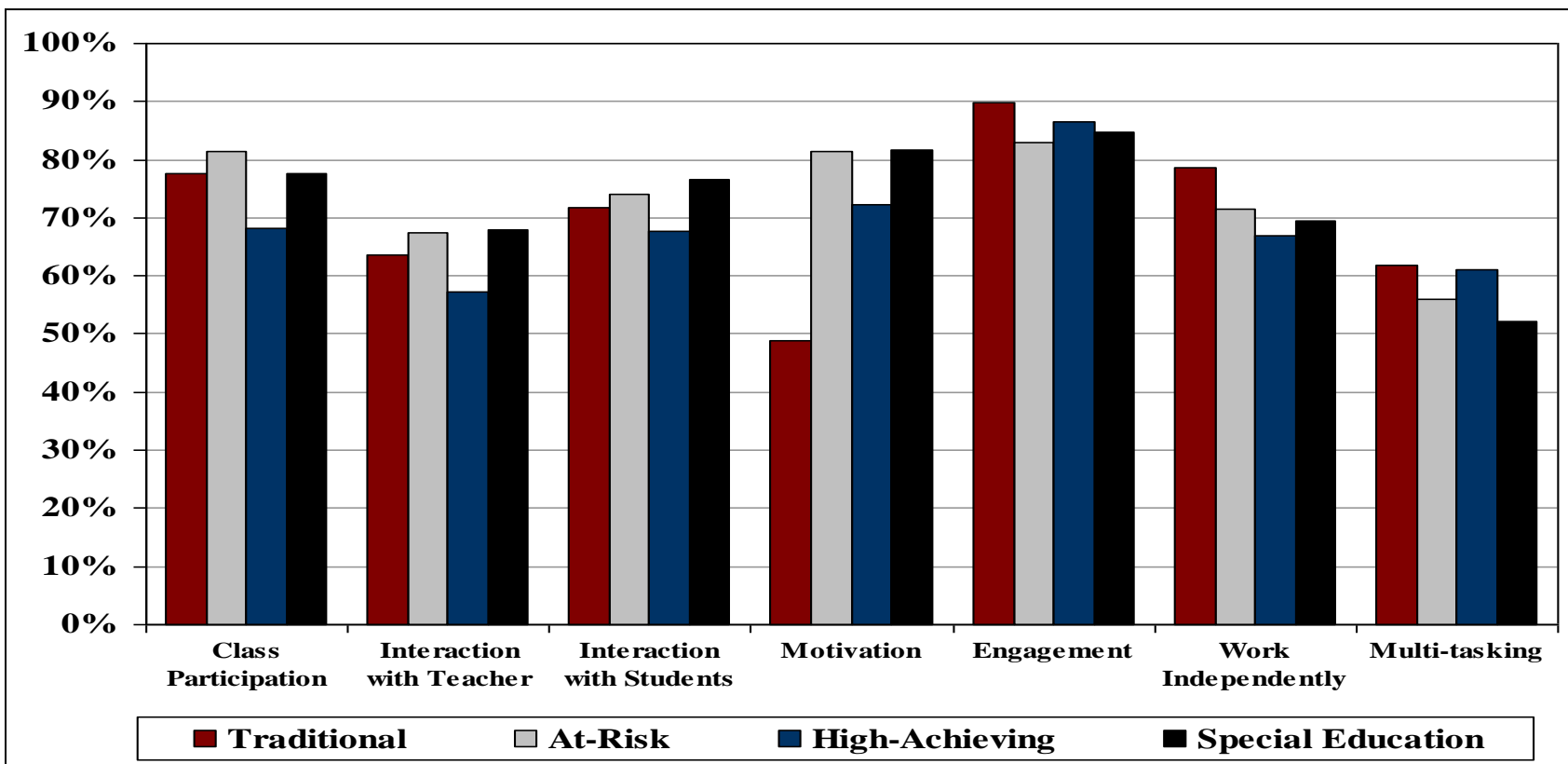
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Teacher Responses: Impact on Student Learning



What are the impacts of the laptops on instruction & learning?

Teachers: Improvements in students' engagement and learning in the following areas:



Has the laptop program improved student learning on standardized achievement tests?

- Generally still unknown at this time.
- Reasons:
 - Local autonomy in laptop implementation.
 - Limitation of state standardized tests.

Example of Writing Achievement Results

Use laptops in writing.	MEA Writing Scale Score		t=	p=	Effect Size
	For Drafts and Final Copy	Not At All	17.13	<.001	0.656
	538.2 (n=11593)	531.9 (n=642)			
How often use laptops in writing.	MEA Writing Scale Score		t=	p=	Effect Size
	Almost Every Day	Rarely or Never	14.27	<.001	0.421
	537.9 (n=5861)	533.9 (n=1464)			

Example of Mathematics Achievement Results

Maine Impact Study of Technology Mathematics (MISTM)

- Randomized field trial using experimental research design.
- Approximately 240 Experimental and Comparative (control) classrooms in 45 Maine middle schools.
- A two-year technology-infused professional development intervention.


Final results:

	Experimental (n=281)	Control (n=692)	t=	p=	Effect Size
A1	0.560 (n=1969)	0.515 (n=2581)	3.110	< .002	0.22
G1	0.534 (n=1722)	0.448 (n=2054)	6.837	< .001	0.49

Summary:


There is a growing body of evidence that Maine's Learning Technology Initiative (middle school laptop program) is impacting teachers, students, and learning in many positive ways:

- Teachers are more effectively helping children achieve Maine's state learning standards.
- Students are more motivated to learn, are learning more, and learning it more deeply.
- Students are acquiring 21st Century skills.
- The one-to-one laptop program is bringing about positive change in the acquisition of knowledge.



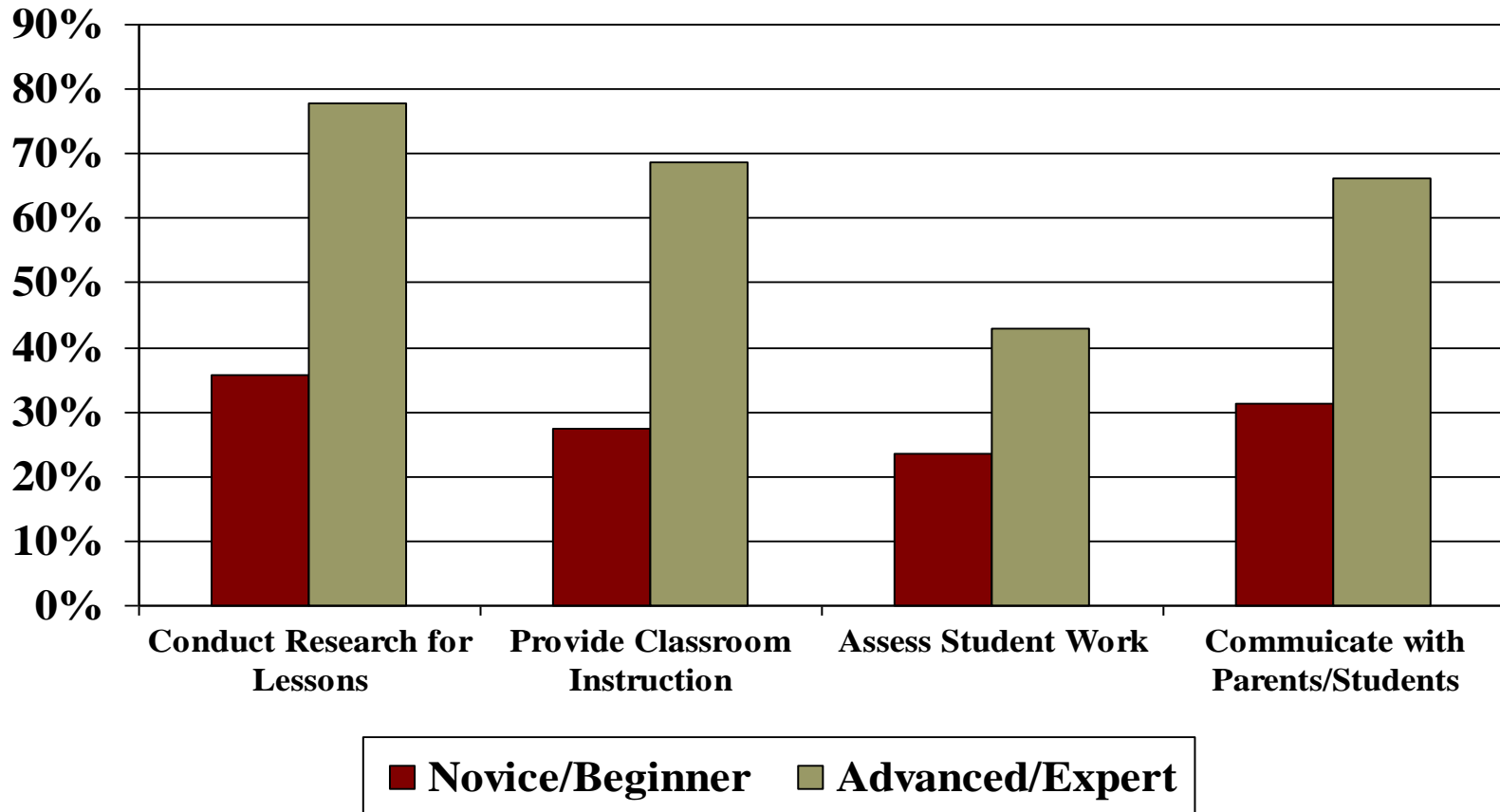
It is changing the acquisition of knowledge because it:

1. Increases access to up-to-date information.
2. Increases speed and type of learning.
3. Increases customizing and individualizing student learning.
4. Optimizes teachable moments.
5. Levels the learning playing field.
6. Transforms role of teacher from gatekeeper to provider of gateways to learning and knowledge.

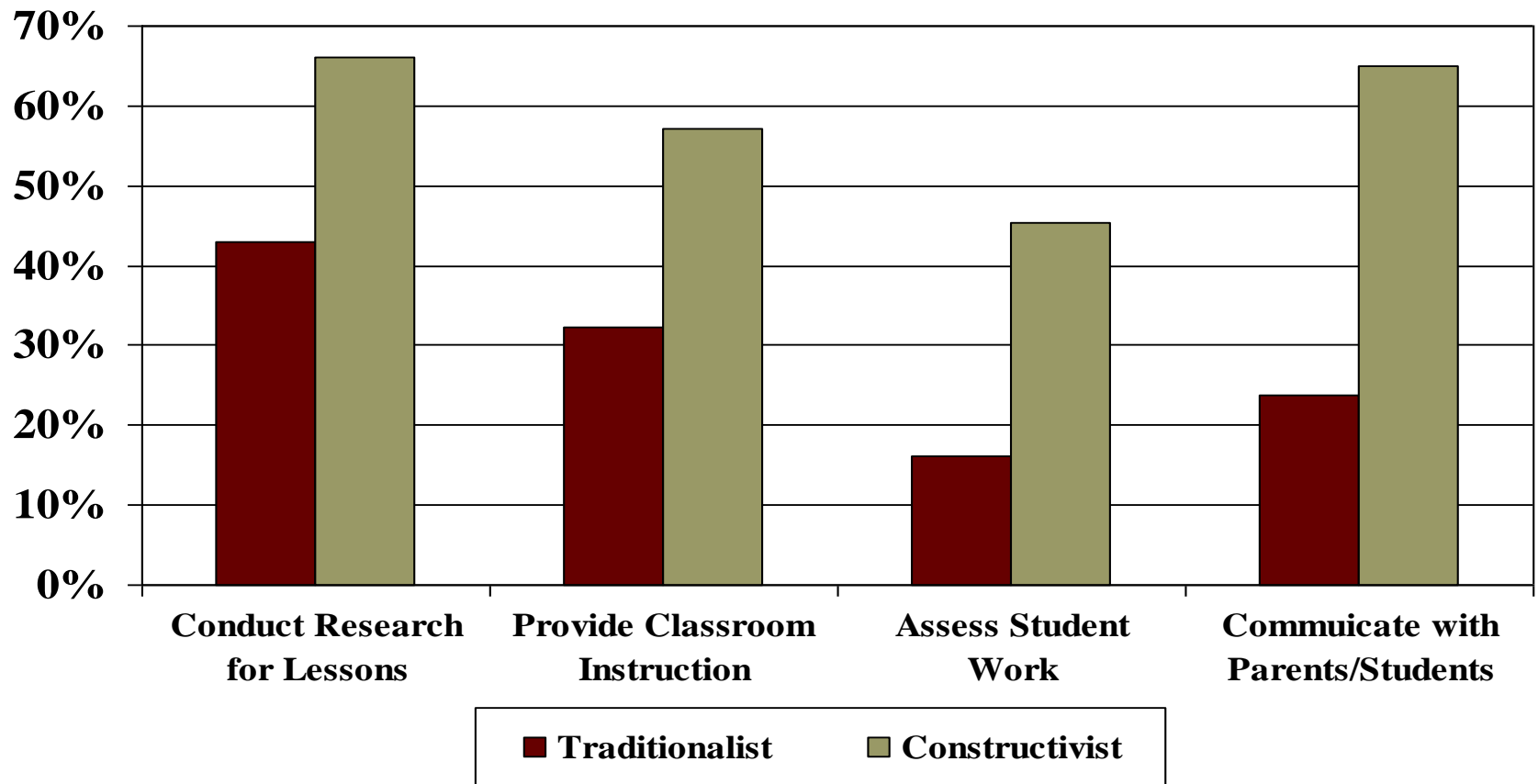


1. What are some of the characteristics of teachers who are early adopters?

Teacher Technology Skill Level and Use of Laptops



Teachers' Philosophy and Use of Laptops

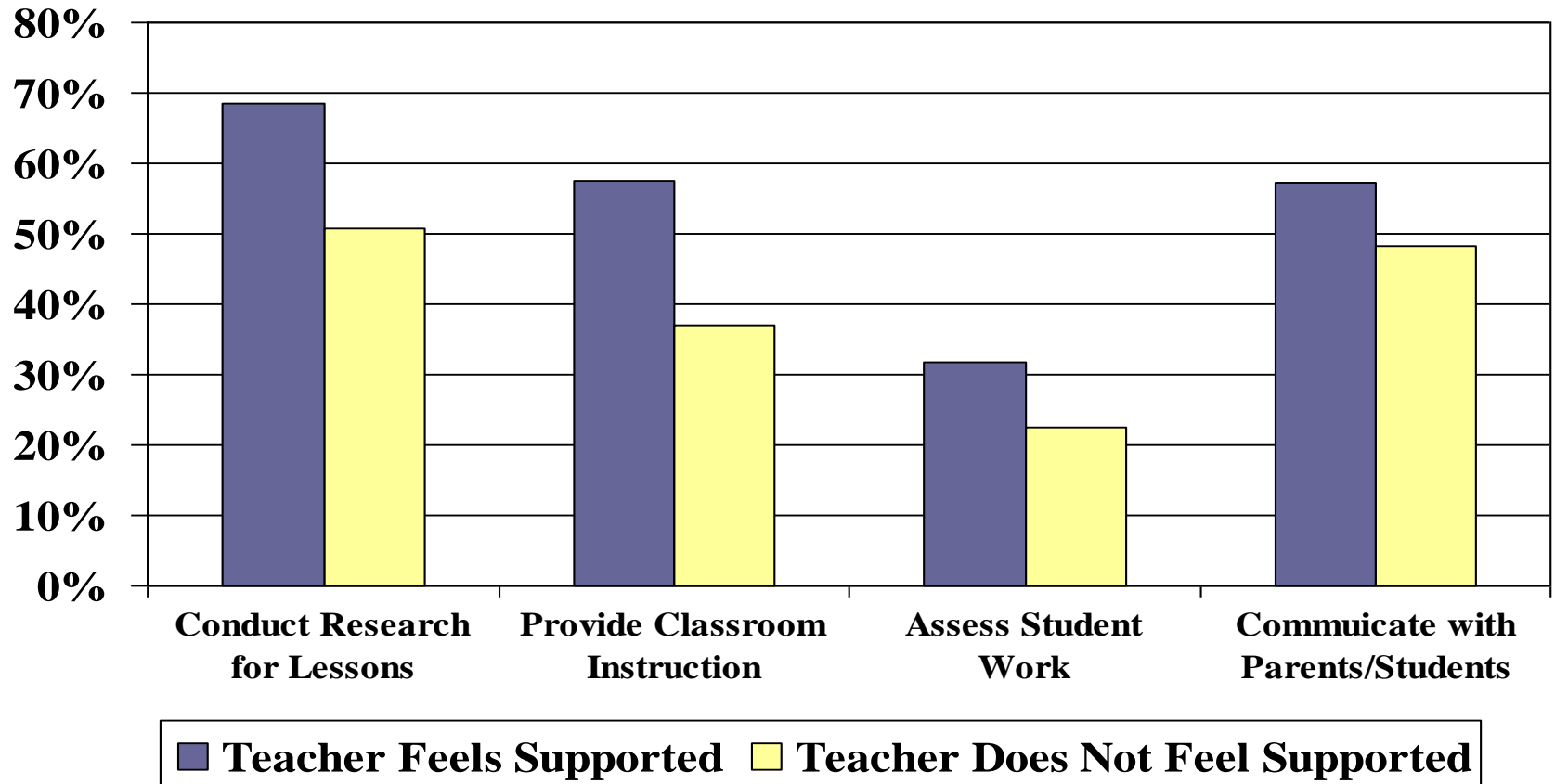




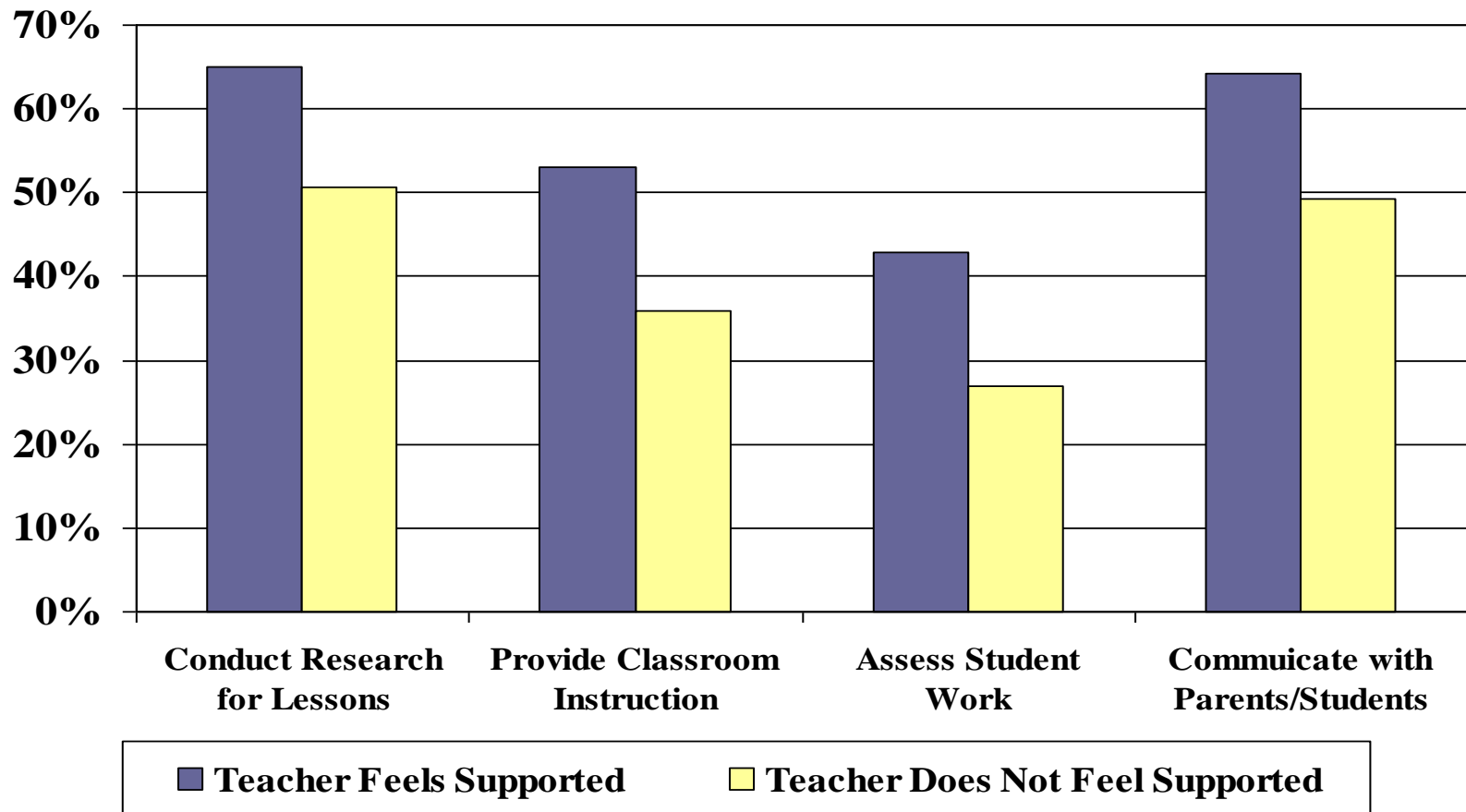
2. What increases sustainability of implementation?

- a. Encouragement and Support for Integrating Laptops.

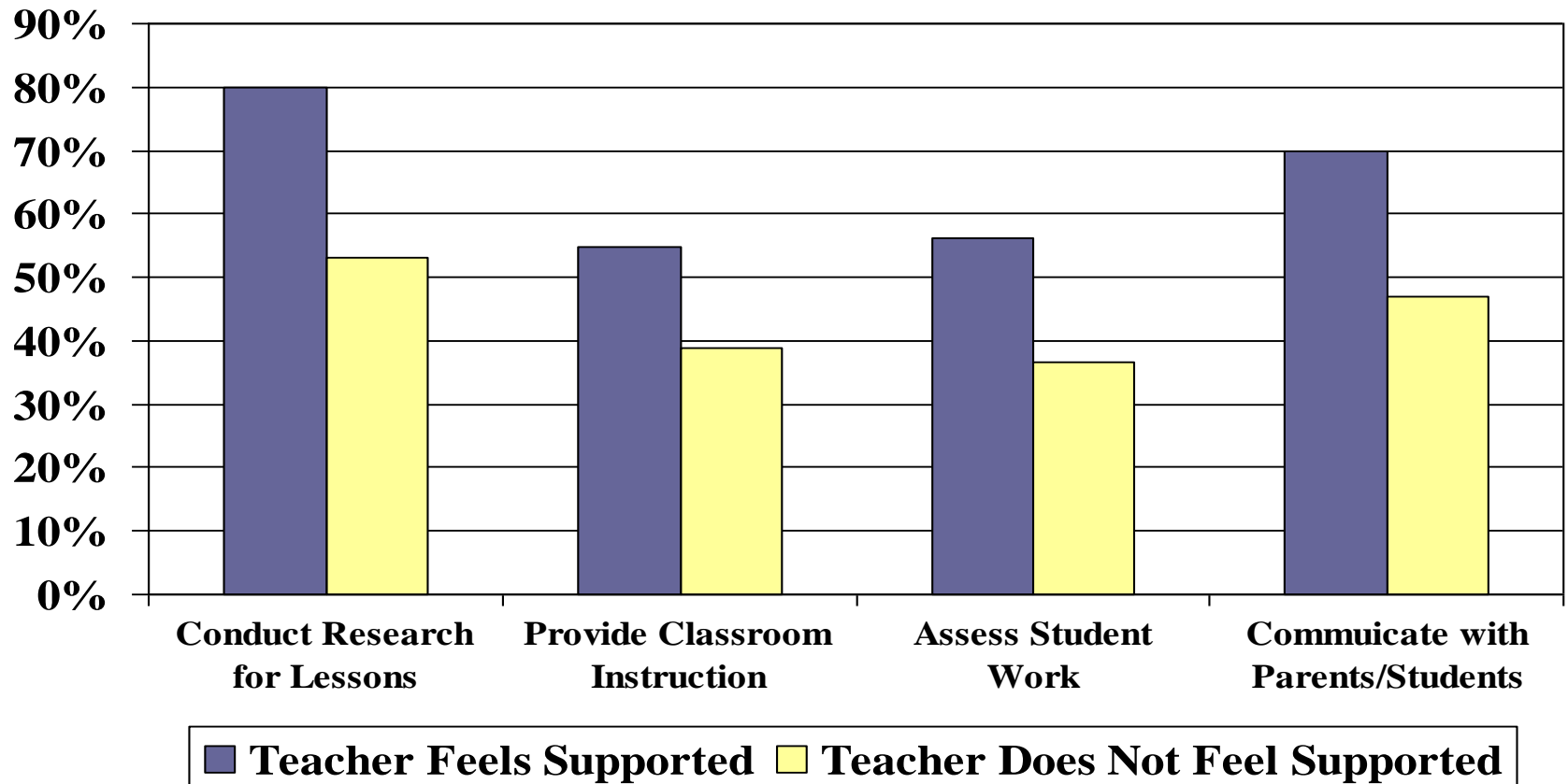
Technology Coordinator Support and Teacher Laptop Use



Teacher Leader Support and Teacher Laptop Use



Administrative Support and Teacher Laptop Use



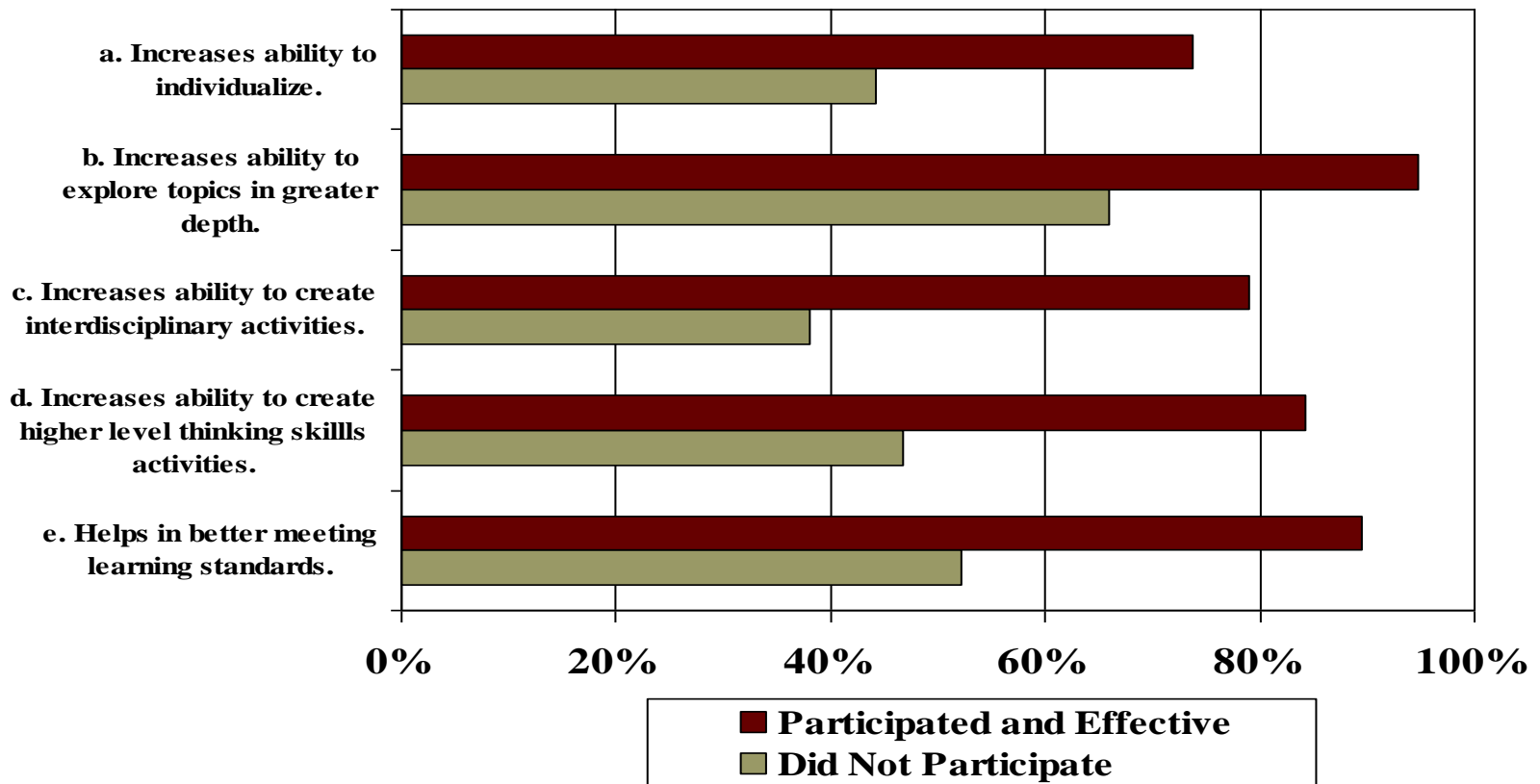


2. What increases sustainability of implementation?

- a.** Encouragement and support for integrating laptops.
- b.** Participation in ongoing professional development activities.

MLTI Professional Development and Teacher Laptop Use

Using the laptops:





Copies of MLTI research and evaluation reports
available on the following website:

<http://www.usm.maine.edu/cepare>

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