

Accompanying Figures for
Computer Use and Pedagogy in Co-NECT Schools,
A Comparative Study

Henry J. Becker
YanTien Wong
Jason L. Ravitz

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FIGURE 1: PERCENT OF TEACHERS WITH AT LEAST ONE COMPUTER PER FOUR STUDENTS IN CLASSROOM

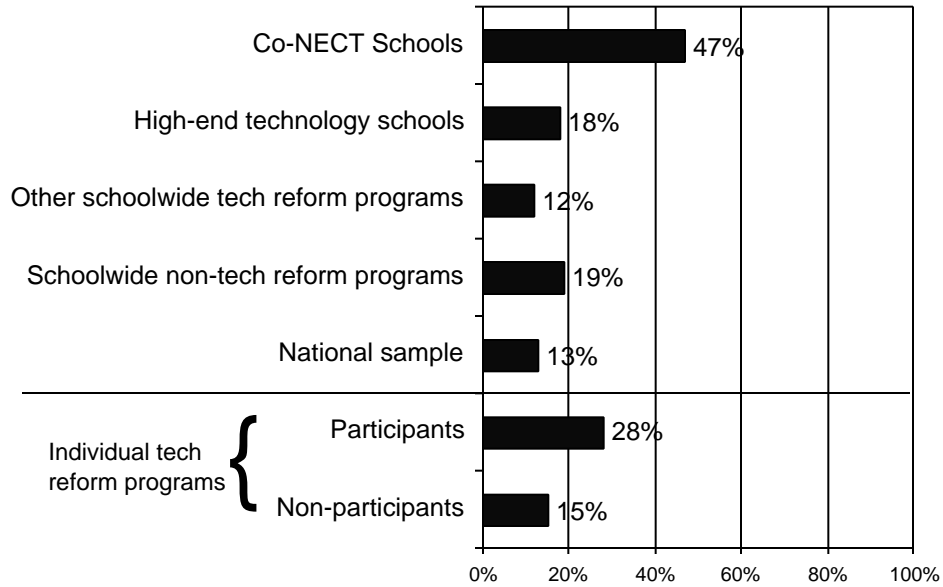


FIGURE 2: LEVELS OF CLASSROOM INTERNET CONNECTIVITY

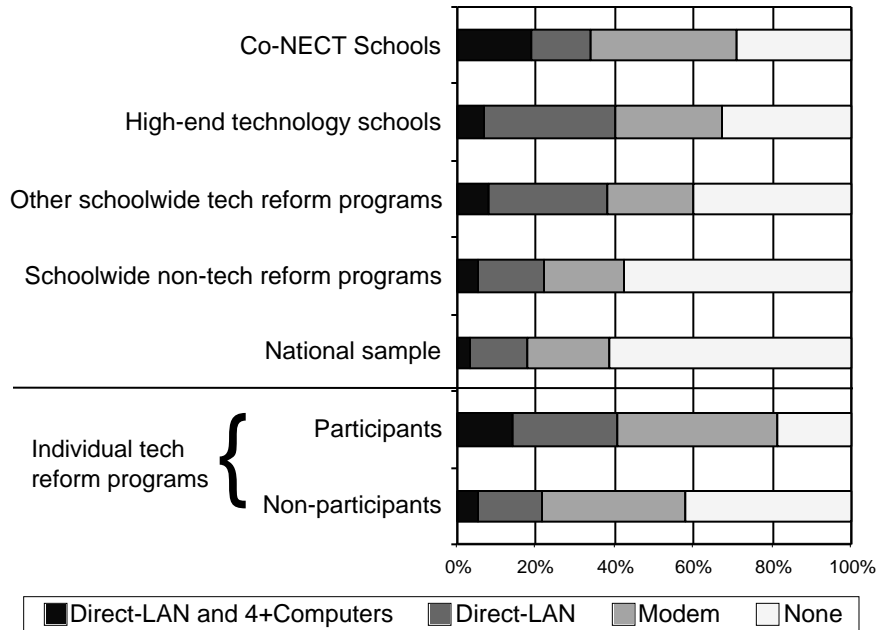


FIGURE 3: USE OF COMPUTERS WITH STUDENTS AT LEAST TWICE PER WEEK

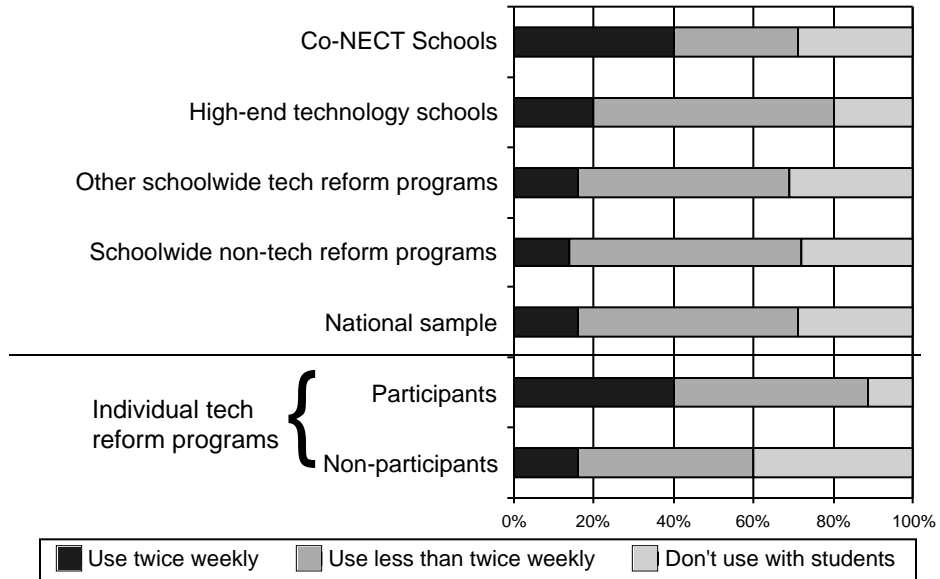


FIGURE 4: FREQUENCY OF STUDENT USE OF DIFFERENT TYPES OF SOFTWARE

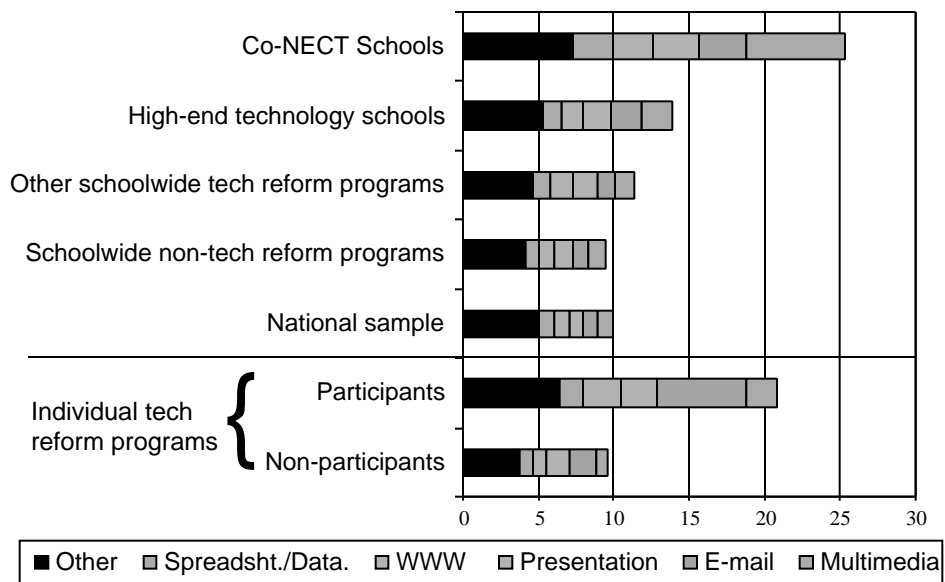


FIGURE 5: PERCENT OF C-A-TEACHERS HAVING AMONG TOP THREE OBJECTIVES: “PRESENT INFORMATION TO AN AUDIENCE”

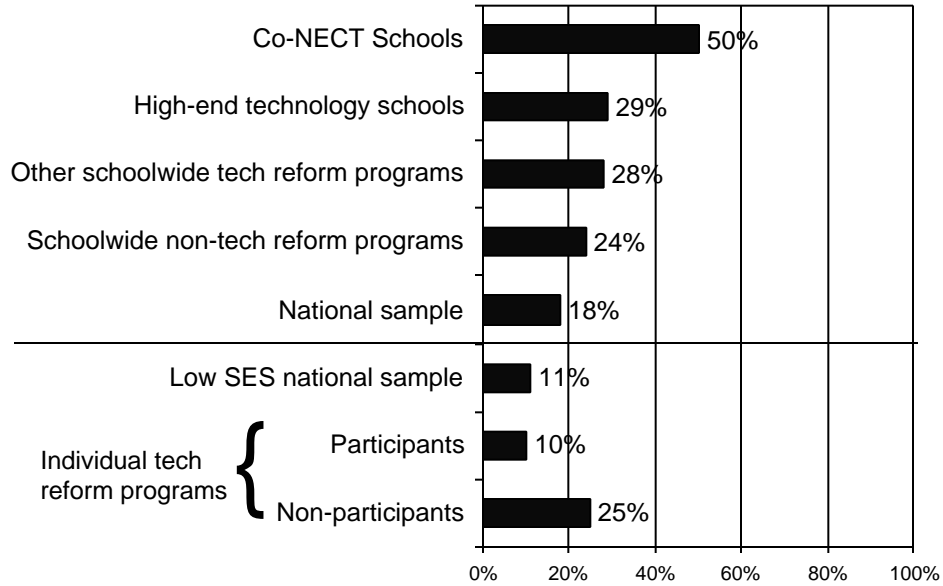


FIGURE 6: MAIN OBJECTIVES: COMPARISON BETWEEN CO-NECT TEACHERS AND NATIONAL SAMPLE IN LOW-SES SCHOOLS

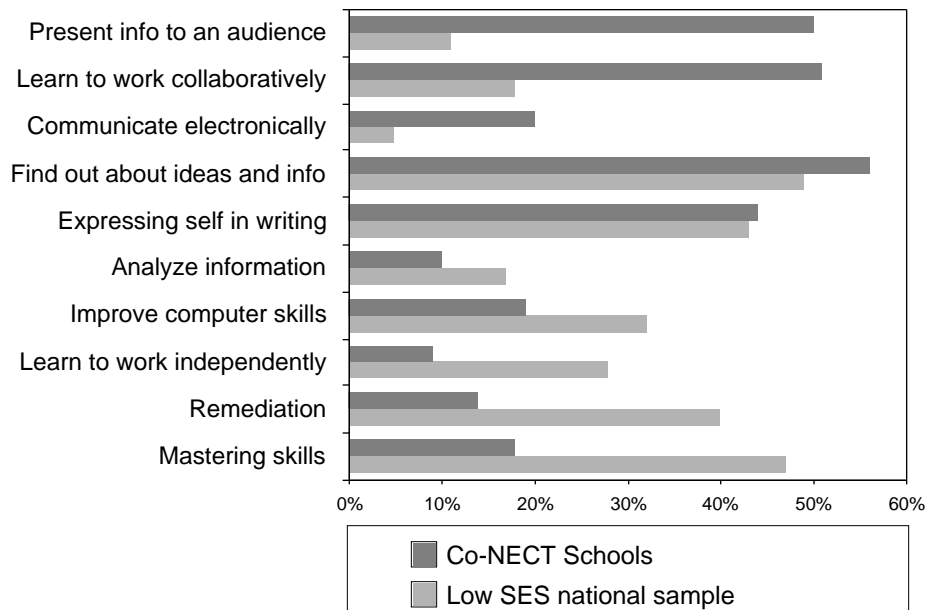


FIGURE 7: PERCENT OF C-A-TEACHERS HAVING AMONG TOP THREE OBJECTIVES: "ANALYZING INFORMATION"

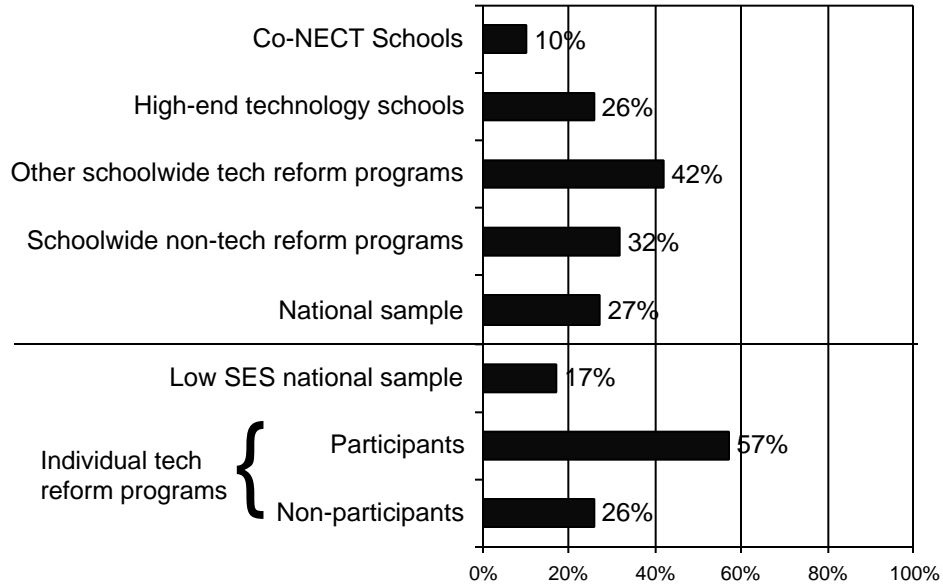


FIGURE 8: STUDENT PARTICIPATION IN USING COMPUTERS OUTSIDE OF CLASS FOR DOING CLASS WORK

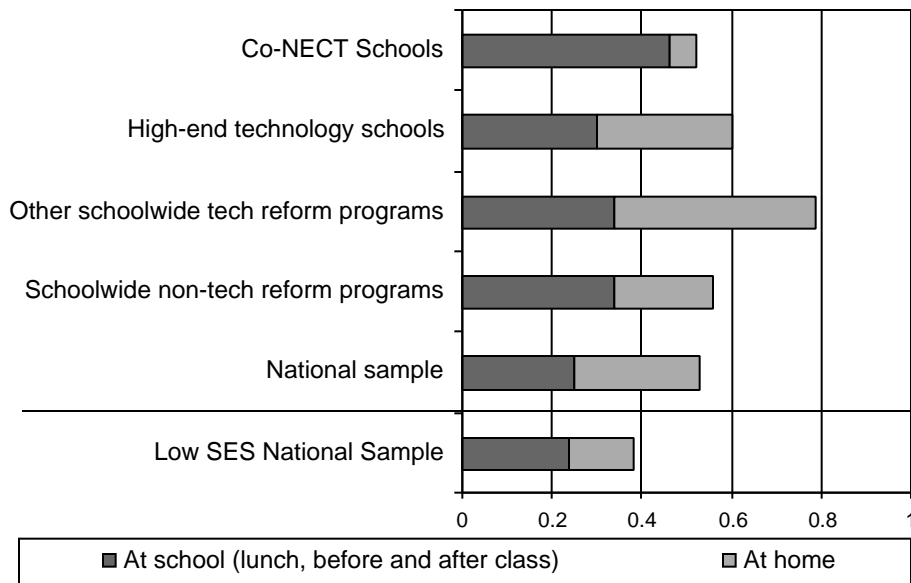


FIGURE 9: TEACHERS' PROFESSIONAL USE OF COMPUTERS COMPARED TO NATIONAL SAMPLE

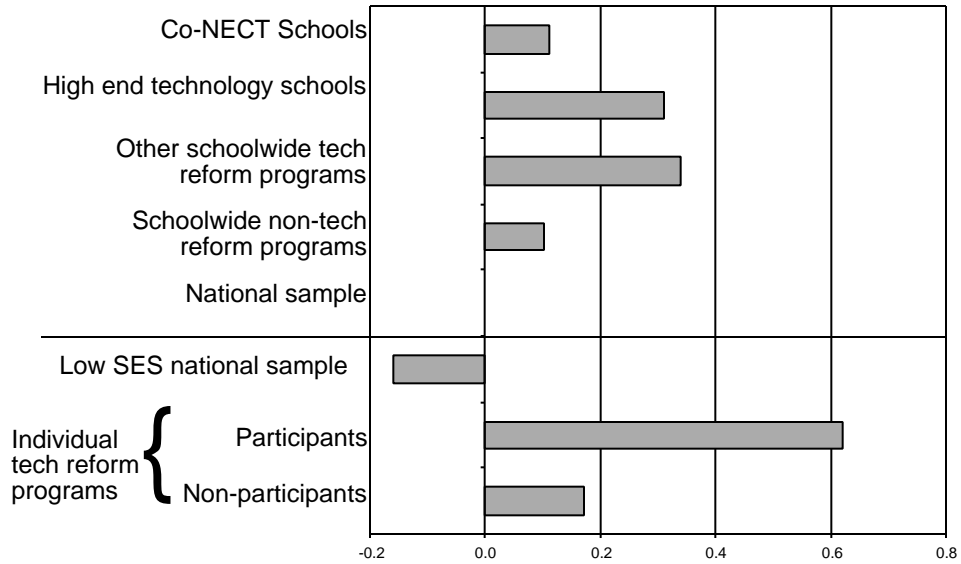


FIGURE 10: NUMBER OF COMPUTER SKILLS TEACHERS REPORT THEY HAVE

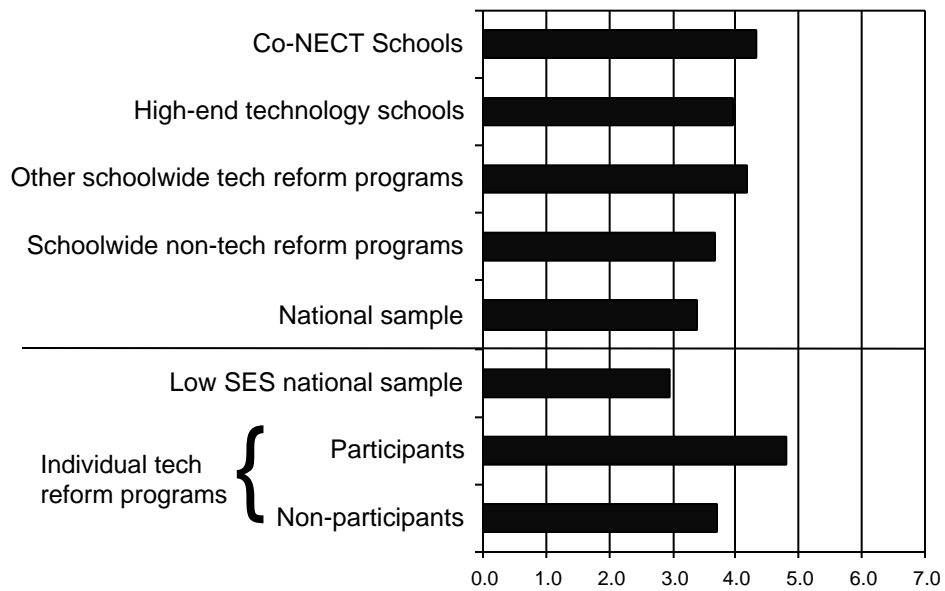


FIGURE 11: TEACHERS' SPECIFIC COMPUTER SKILLS

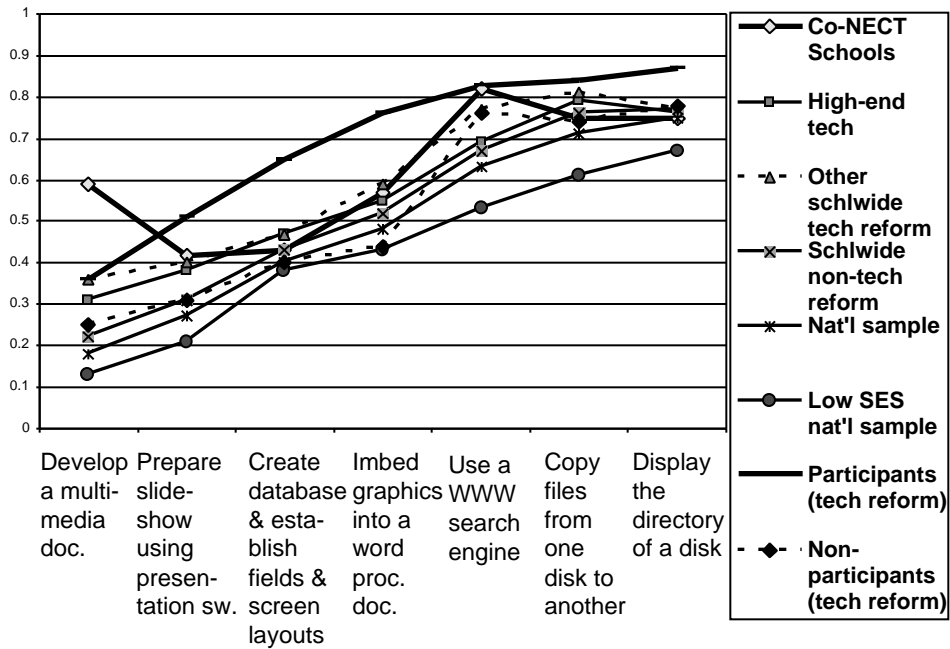


FIGURE 12: TEACHER SELF-ASSESSED EXPERTISE BY PLATFORM

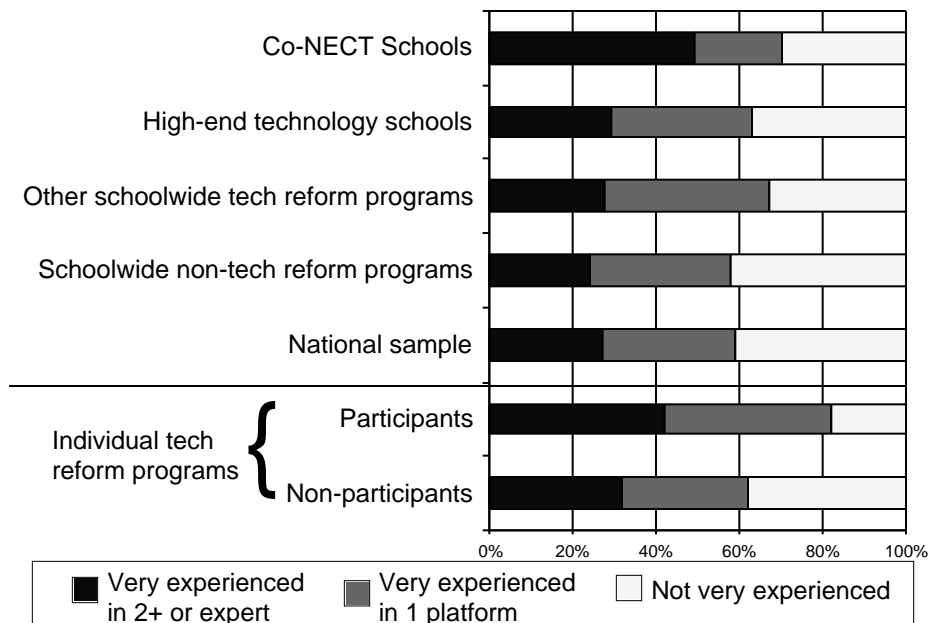


FIGURE 13: PERCENT OF TEACHERS WHO HAVE HAD A COMPUTER AT HOME FOR 11+ OR 1+ YEARS

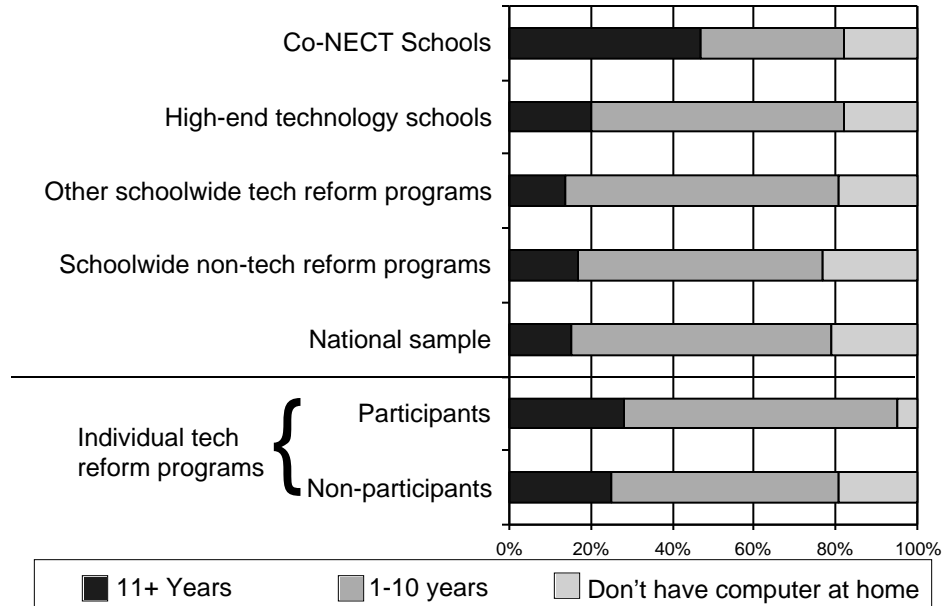


FIGURE 14: MODEL OF INSTRUCTIONAL REFORM PART I
MAKE MEANINGFULNESS THE PRIMARY ATTRIBUTE OF TASKS

- Contextually rich learning tasks
 - Projects
 - Real world applications
 - Authenticity
 - Depth
 - Skill learning embedded
- Take students' thinking and feeling into account
 - Students' prior beliefs
 - Student interest -> tasks
 - Student choice in tasks and methods
- Reorganize classroom structures and roles
 - Cooperative work groups
 - Students given leadership roles
 - Student initiative facilitated

FIGURE 15: MODEL OF INSTRUCTIONAL REFORM PART II
EMPHASIZE TEACHING FOR UNDERSTANDING

- Focus on challenging objectives...
- And equally challenging tasks...
 - Students articulate reasoning (e.g., writing)
 - Revise their work
 - Peer discourse and group decision-making
 - Meta-cognition
- Made feasible by...
 - Resources: information, “thinking tools,” communication
 - Reorganizing classroom structures and roles
 - Model the learning process
 - Student responsibility and freedom
 - Meaningful tasks
- Assessment consistent with learning goals¹

FIGURE 16: CONSTRUCTIVIST KNOWLEDGE FACILITATION

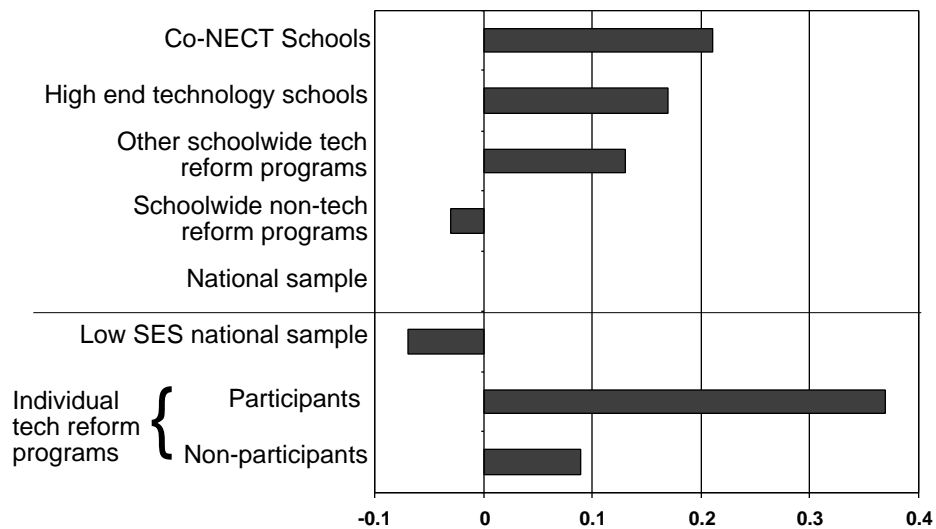


FIGURE 17: CO-NECT TEACHERS' INFREQUENT "TRADITIONAL" BELIEFS

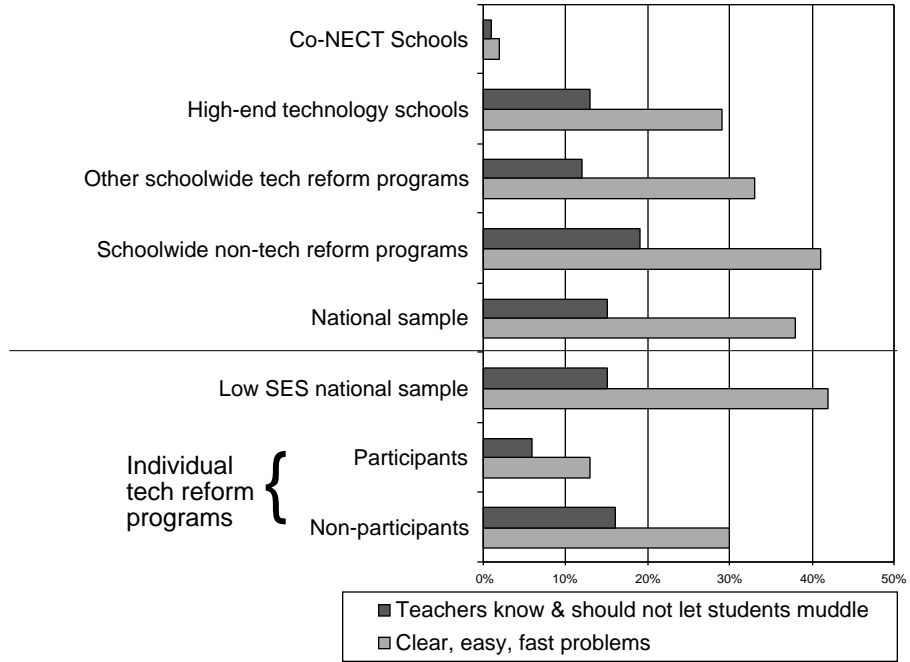


FIGURE 18: STUDENTS GAIN MORE KNOWLEDGE IF TEACHER TAKES THE APPROACH OF....

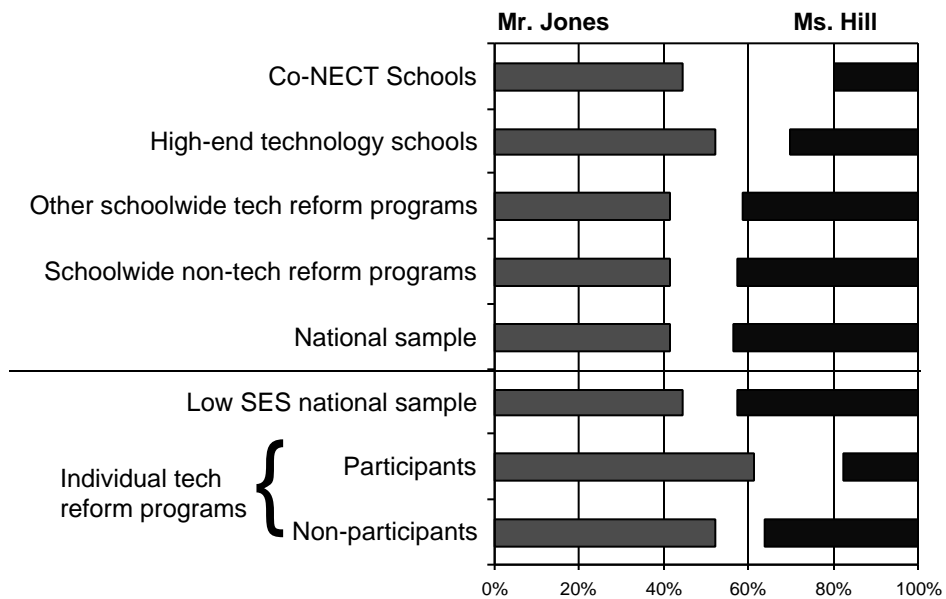


FIGURE 19: TYPE OF CLASS DISCUSSION TEACHER IS MOST COMFORTABLE WITH.. THAT OF...

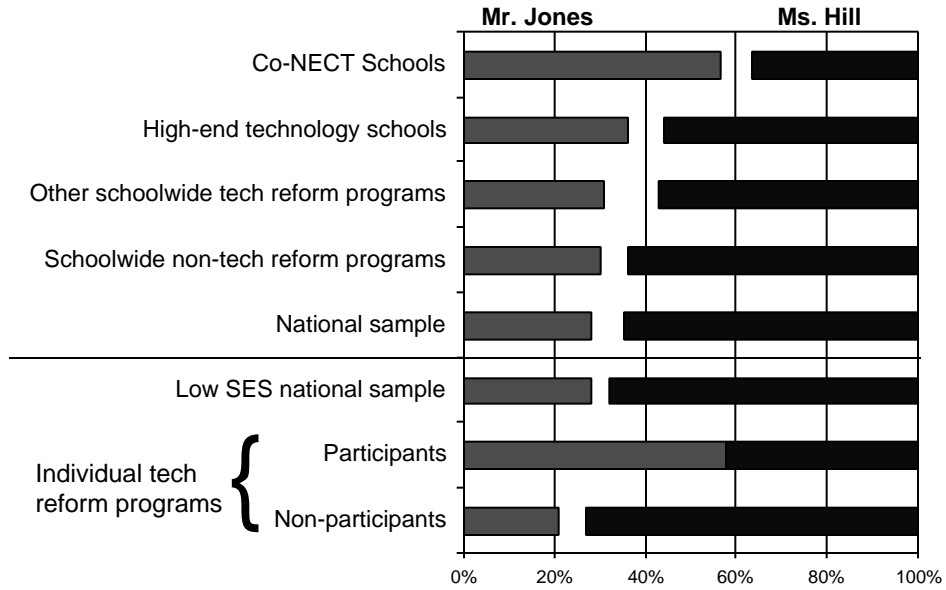


FIGURE 20: USEFULNESS OF MULTIPLE-CHOICE/SHORT-ANSWER

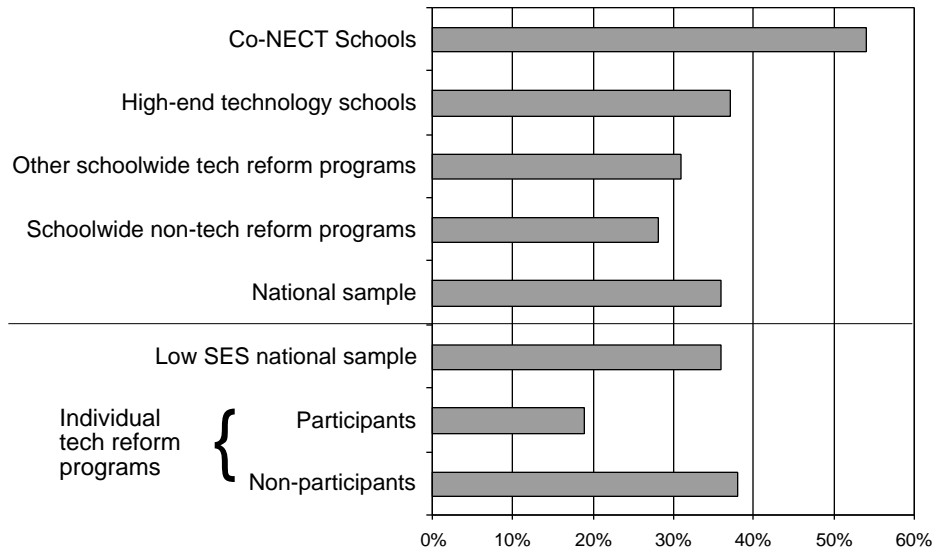


FIGURE 21: CO-NECT TEACHERS' FREQUENT "TRADITIONAL" BELIEFS

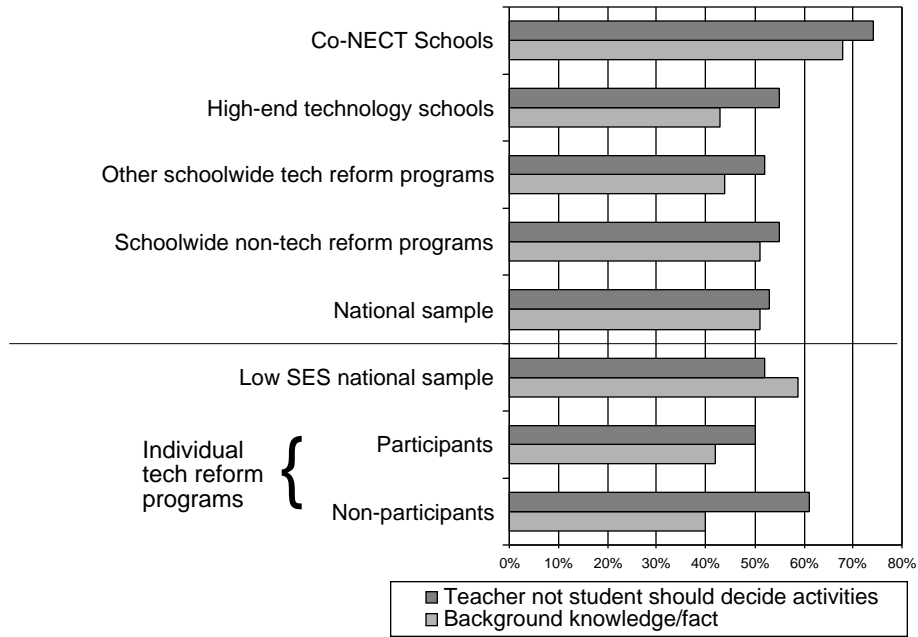


FIGURE 22: BELIEFS ABOUT SCHOOLING & SOCIETY

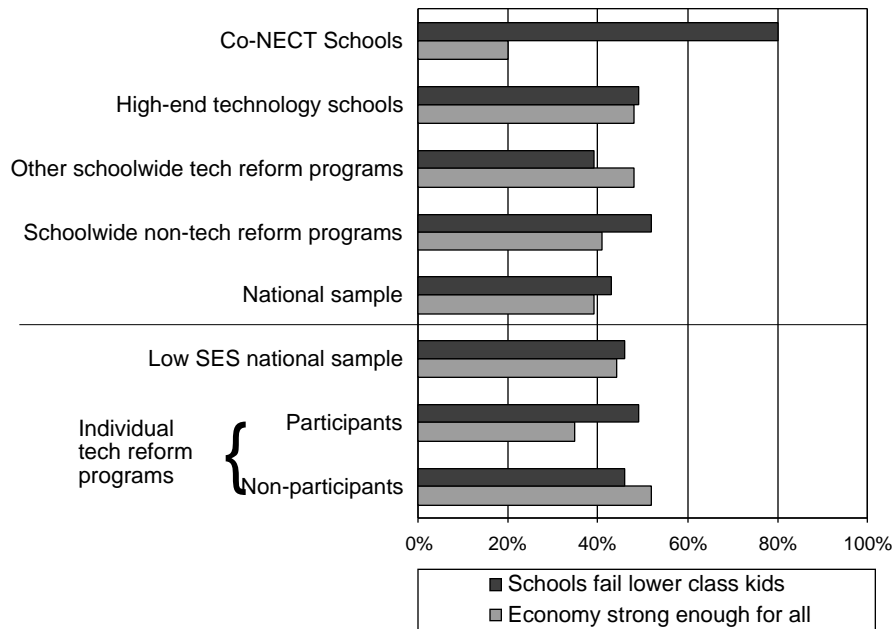


FIGURE 23: SMALL GROUP ASSIGNMENTS > 1 HOUR IN LAST 5

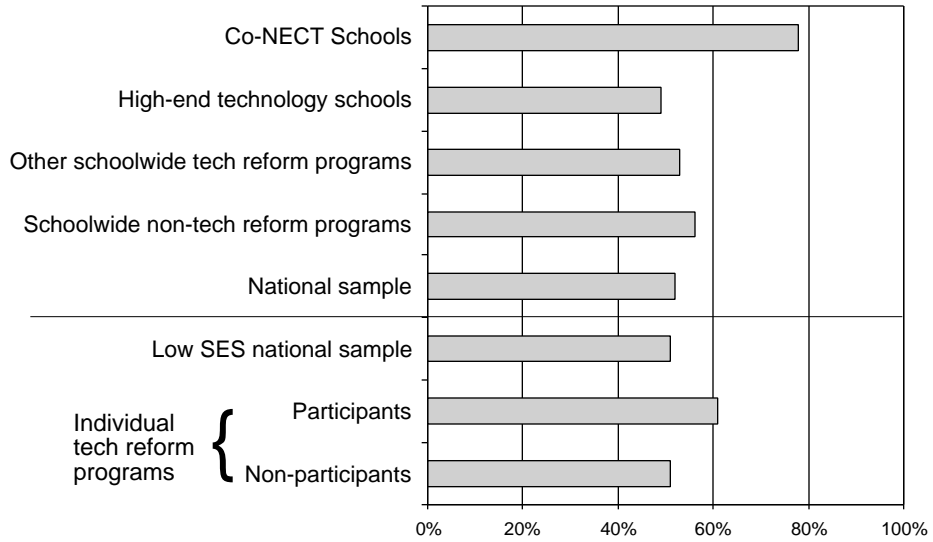


FIGURE 24: STUDENT-LED DISCUSSION > 1 HOUR

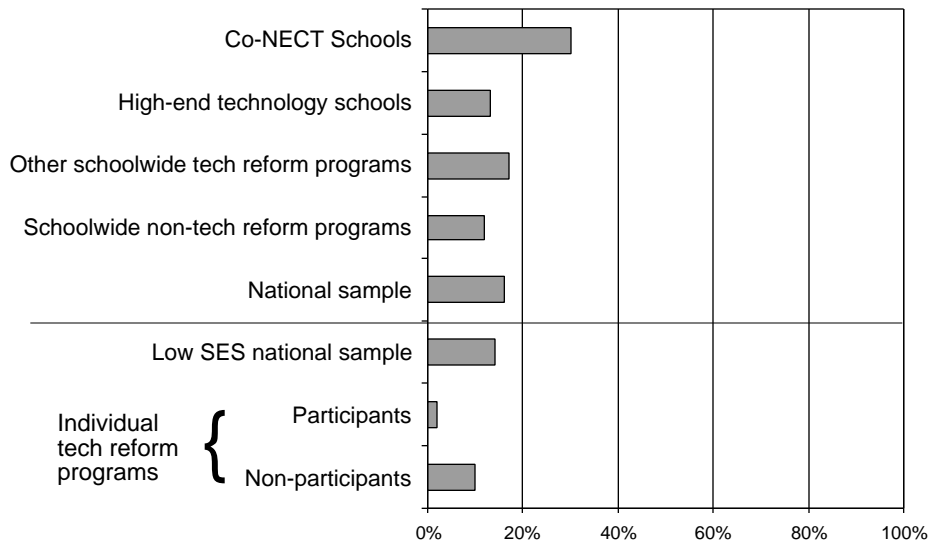


FIGURE 25: "SEAT WORK" USING TEXTBOOK OR WORKSHEETS WEEKLY

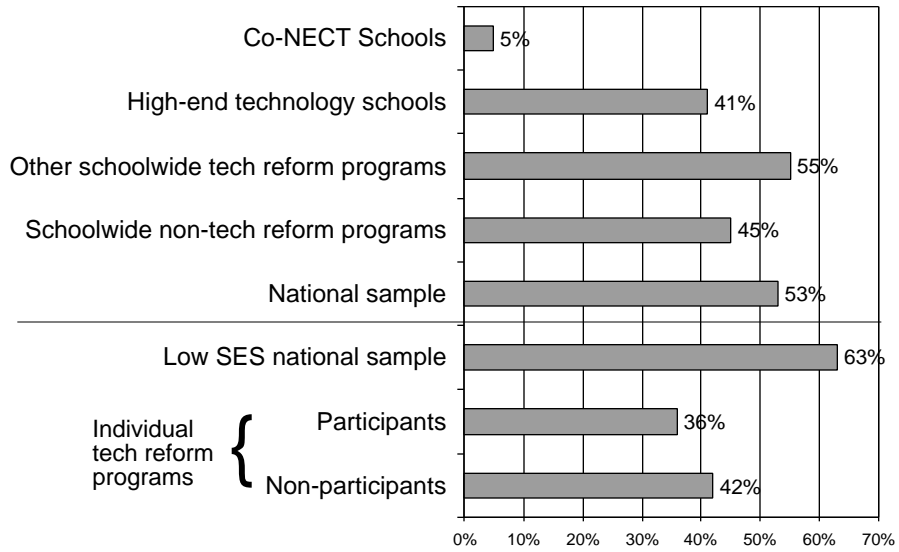


FIGURE 26: ASKING STUDENTS FOR "CORRECT" ANSWER

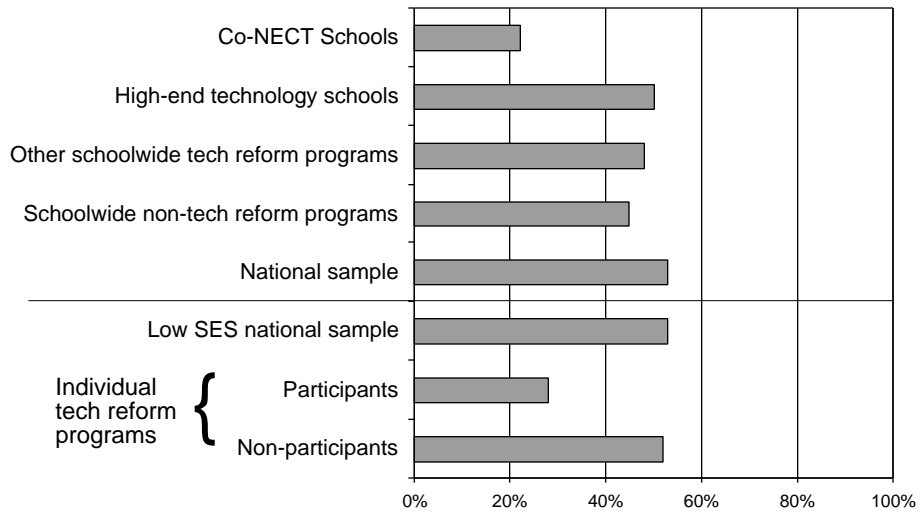


FIGURE 27: DEPTH OF COVERAGE VS. BREADTH

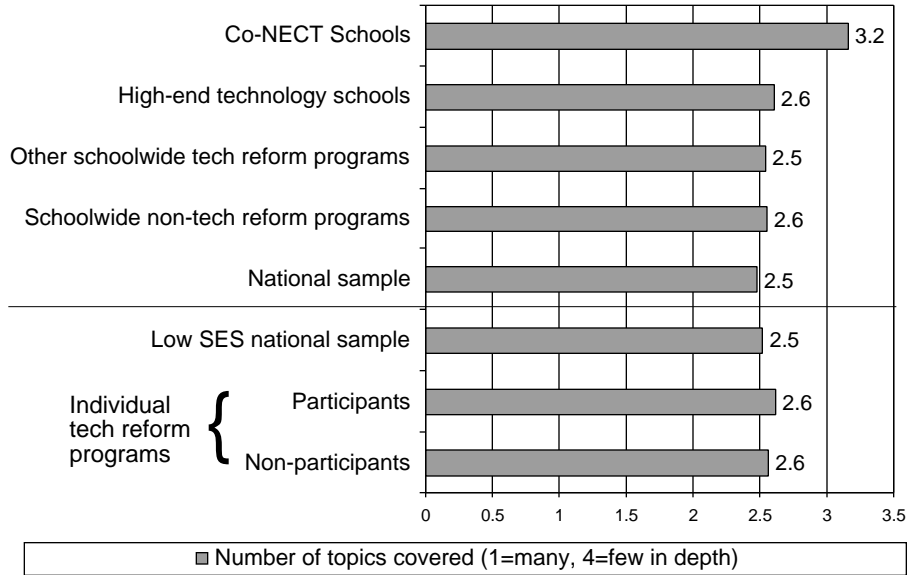


FIGURE 28: BROAD CATEGORIES OF PRACTICE EXAMINED

Overall Cognitive Challenges			Projects-Based Activities
Reflective Writing	Divergent Thinking	Problem-Solving Activities	
Write about or seriously assess their own work	Debate other point of view	Decide own procedures then discuss results	Projects that take a week or more
Essay explaining thinking or reasoning at length	Tasks with no "correct" answer-- truth is complex	Small groups to come up with a joint solution	Product that will be used by someone else
Students write in a journal	Discuss topic in small groups when unit is introduced	Problems with no obvious method of solution	Hands-on/laboratory activities
	Represent idea more than one way (e.g., table/ graph, poem/essay)	Students have to design their own problems to solve	Demonstrate work to audience other than school or family

FIGURE 29: "REFLECTIVE WRITING"

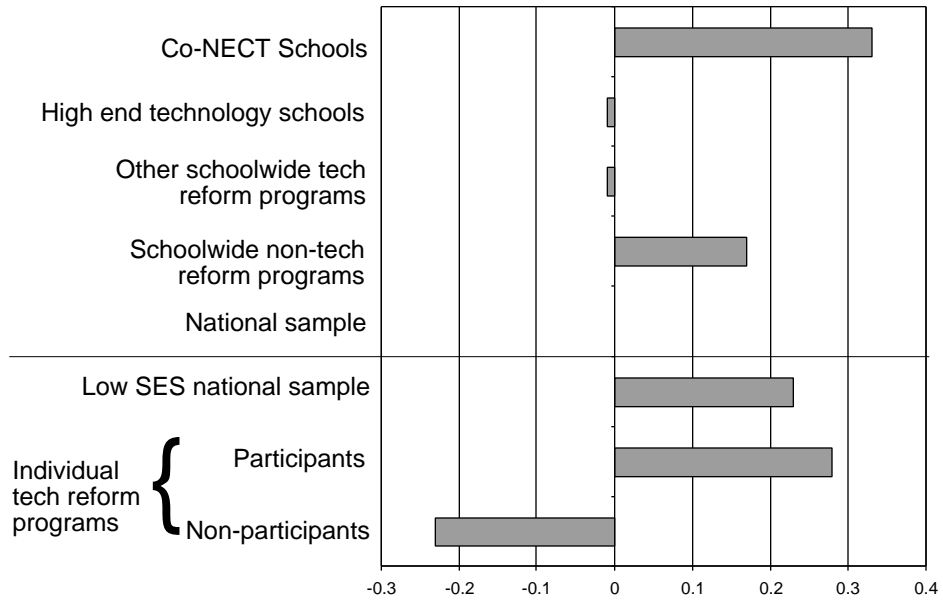


FIGURE 30: "DIVERGENT THINKING"

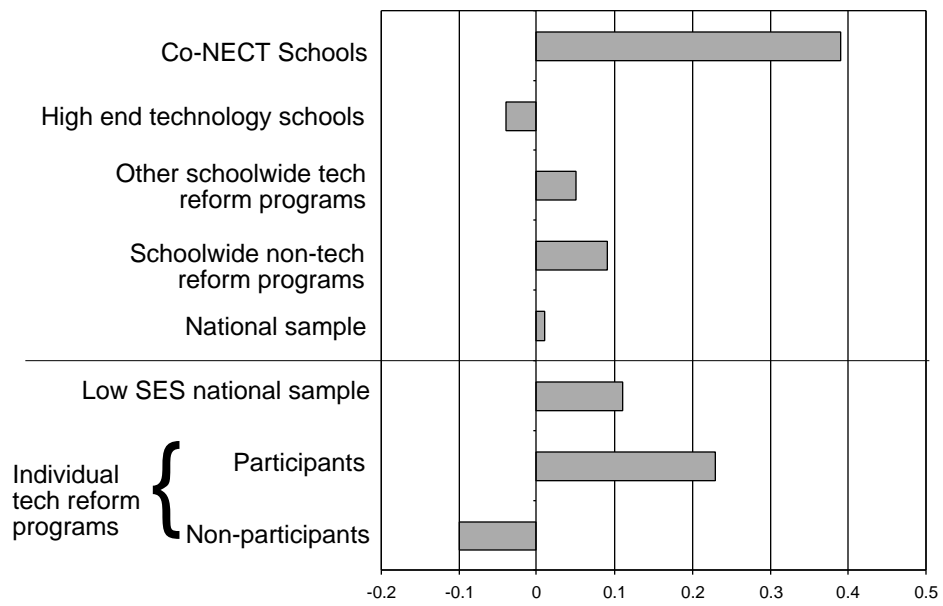


FIGURE 31: DIVERGENT THINKING ITEMS

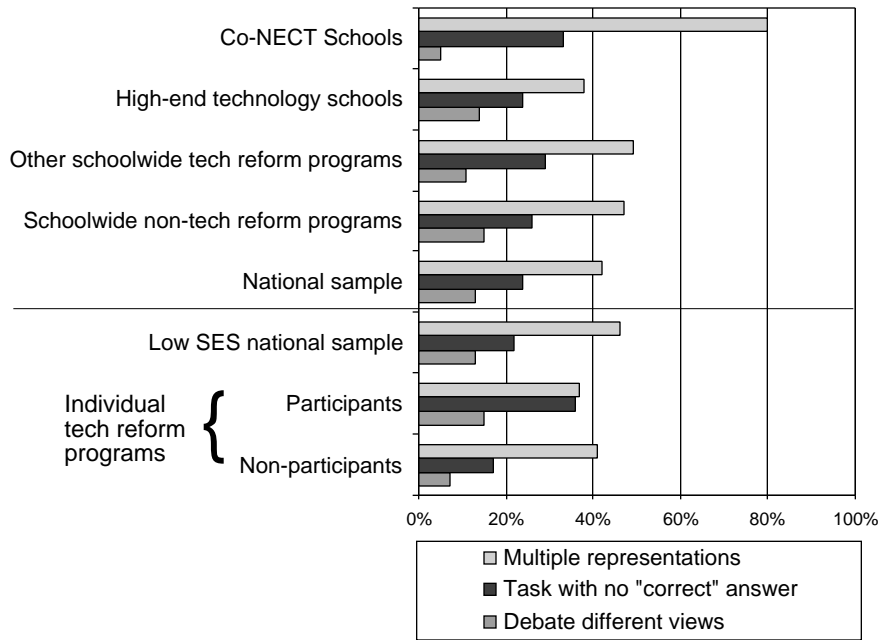


FIGURE 32: "PROJECTS"

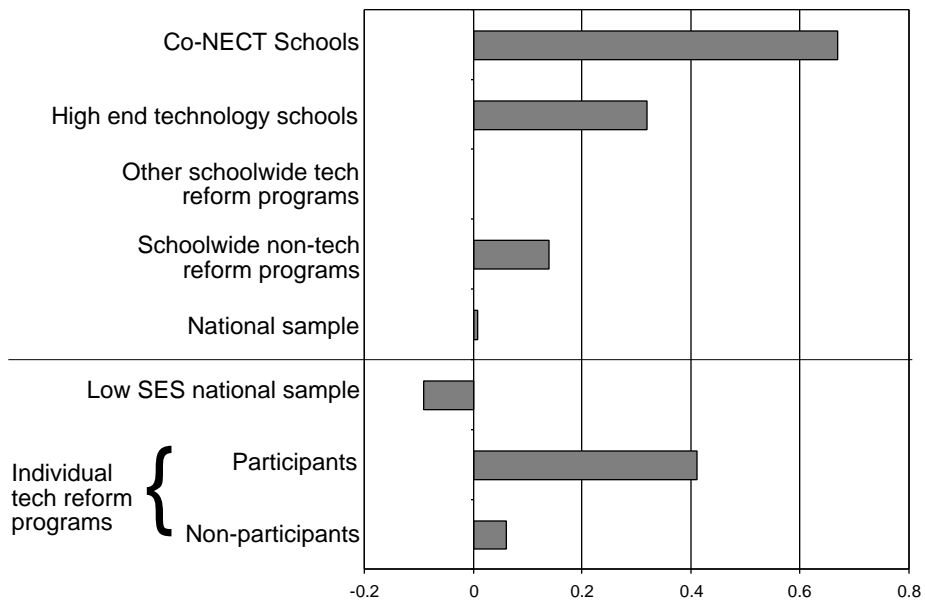


FIGURE 33: "PROBLEM SOLVING"

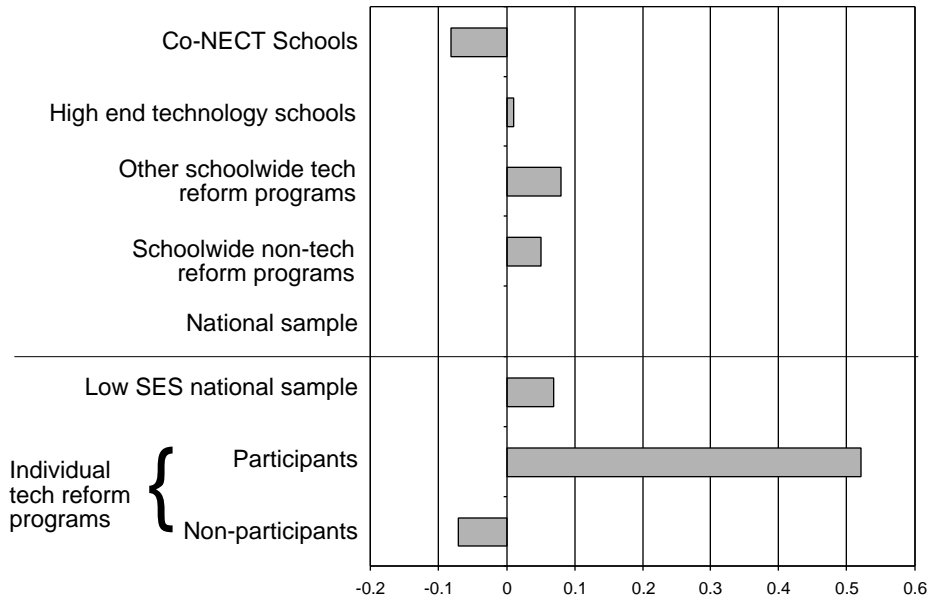


FIGURE 34: SMALL GROUP PROBLEM-SOLVING

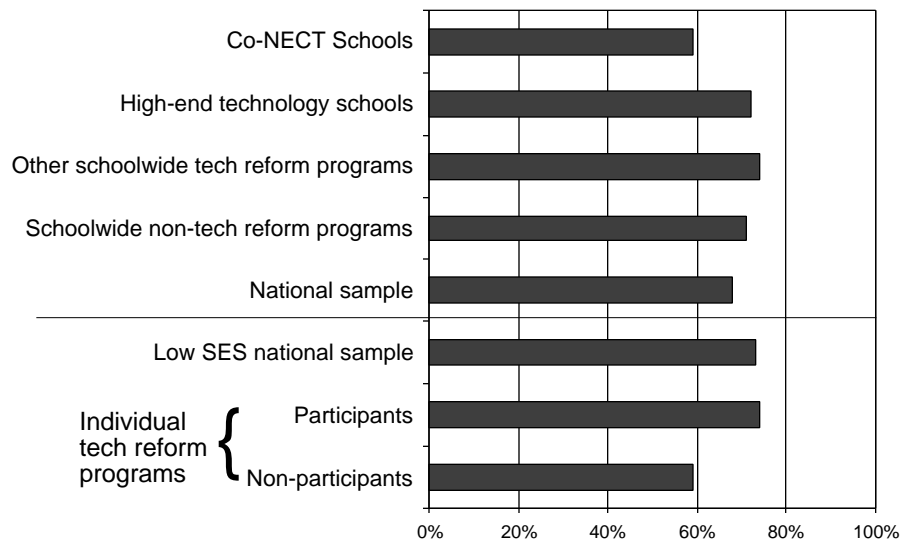


FIGURE 35: MONTHLY - PROBLEMS WITH NO OBVIOUS SOLUTION

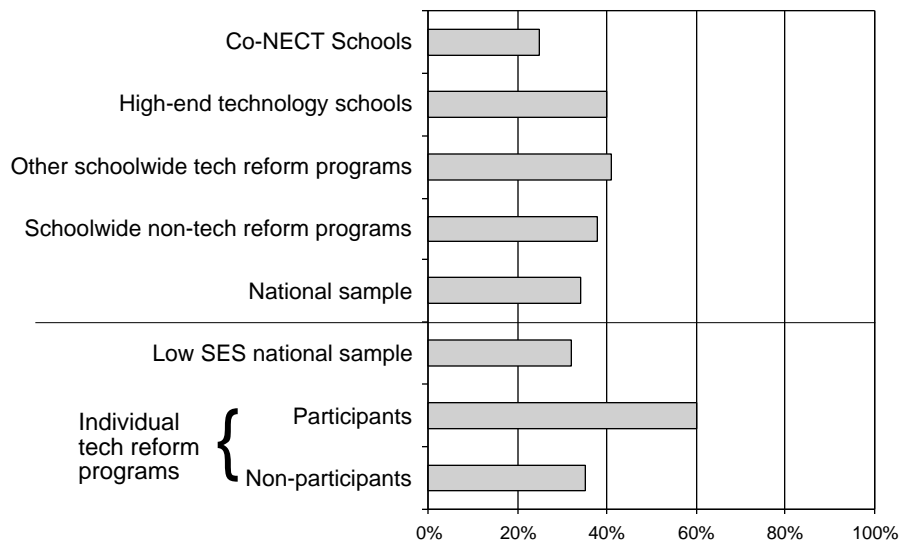


FIGURE 36: PERCENT OF TEACHERS WHO HAVE STUDENTS WORK ON LONG PROJECTS: MORE OFTEN NOW THAN 3 YEARS AGO

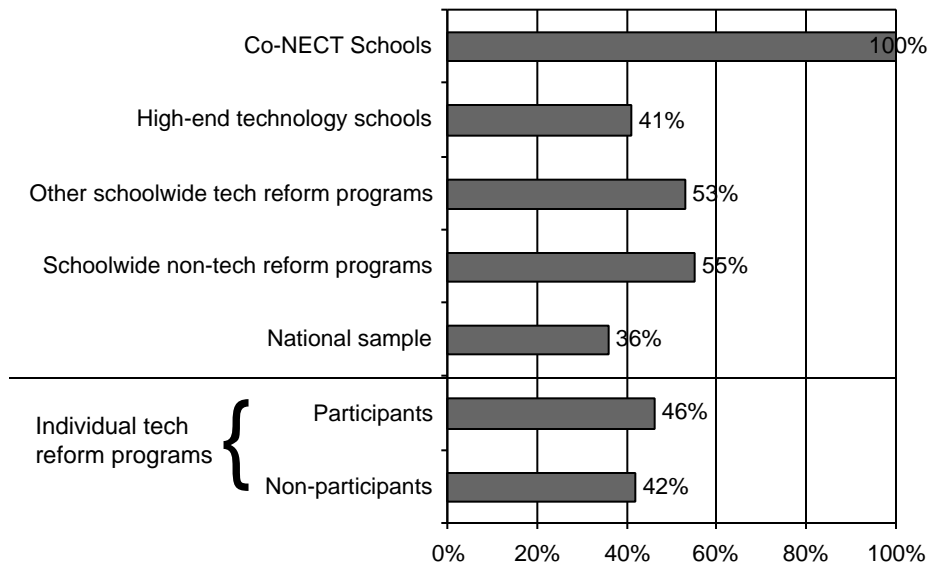


FIGURE 37: PERCENT OF TEACHERS WHO HAVE STUDENTS ANSWER QUESTIONS IN THEIR TEXTBOOK: LESS OFTEN NOW THAN 3 YEARS AGO

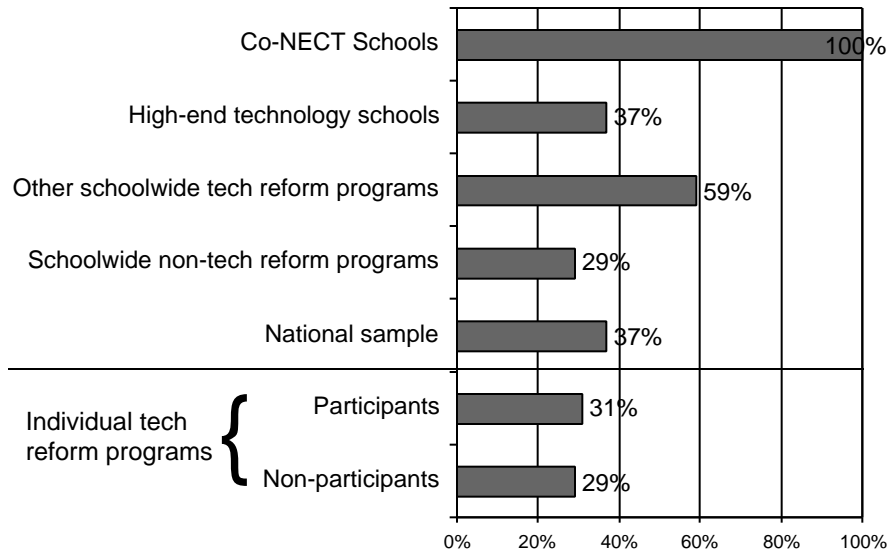


FIGURE 38: PERCENT OF TEACHERS WHO HAVE STUDENTS EXPLORE A TOPIC ON THEIR OWN: MORE OFTEN NOW THAN 3 YEARS AGO

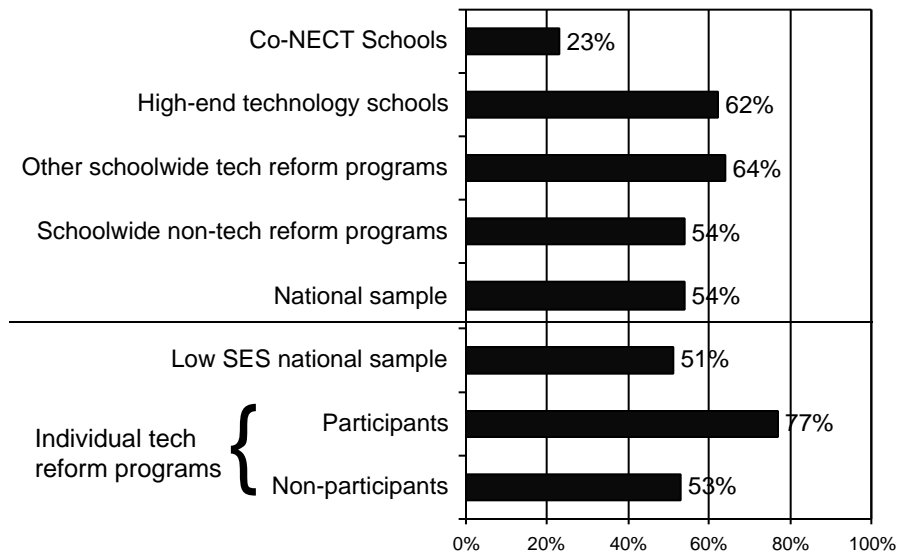


FIGURE 39: PERCENT OF TEACHERS WHO HAVE STUDENTS MAKE PREDICTIONS AND INVESTIGATE THEM: MORE OFTEN NOW THAN 3 YEARS AGO

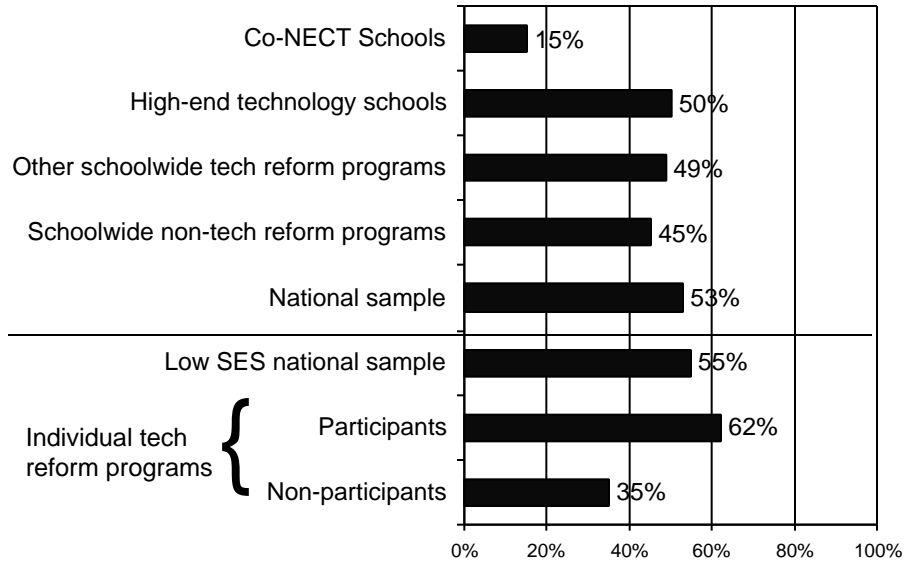


FIGURE 40: CONSTRUCTIVIST CHANGE IN TEACHING COMPARED TO THE NATIONAL SAMPLE

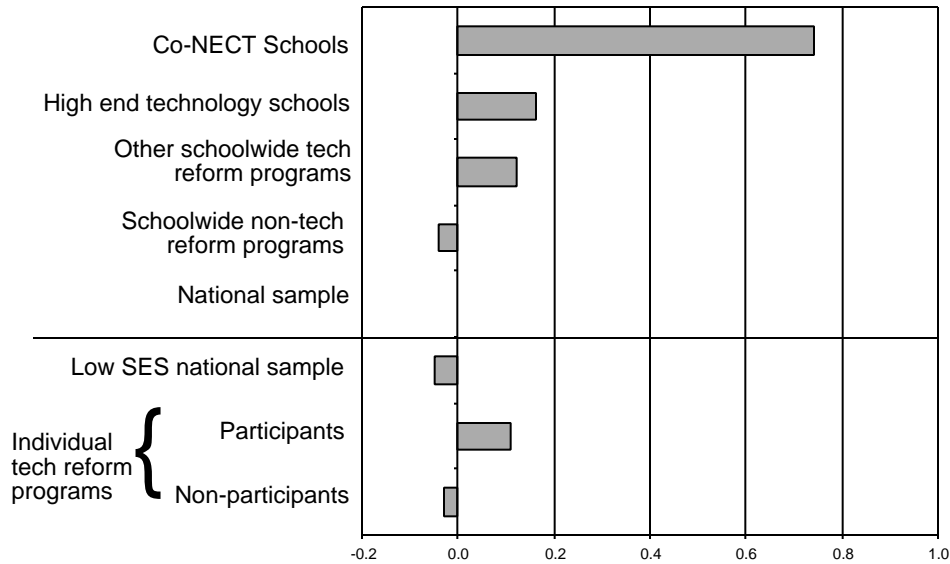


FIGURE 41: DID COMPUTERS PLAY A SUBSTANTIAL OR MAJOR ROLE IN THE CHANGES IN INSTRUCTION THAT YOU MADE?

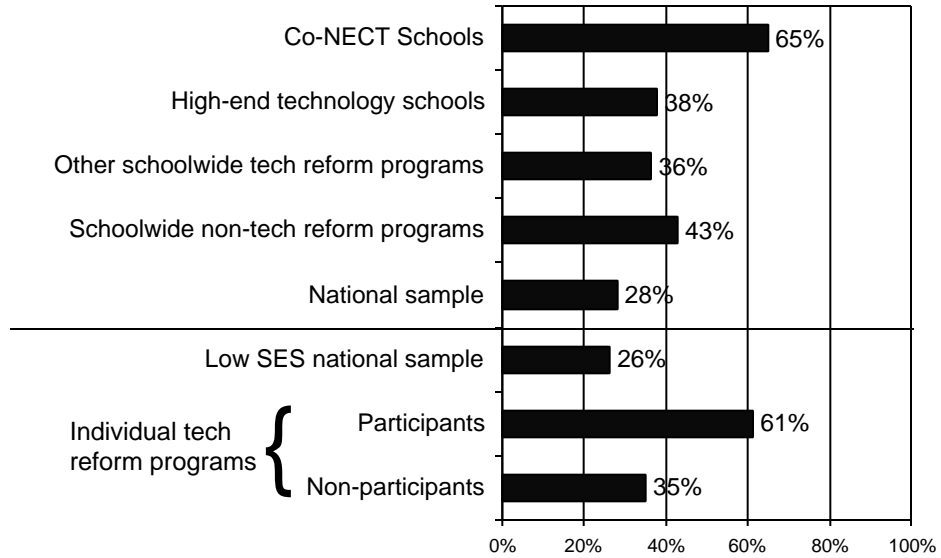


FIGURE 42: INCREASED COLLABORATION WITH OTHER TEACHERS COMPARED TO THE NATIONAL SAMPLE

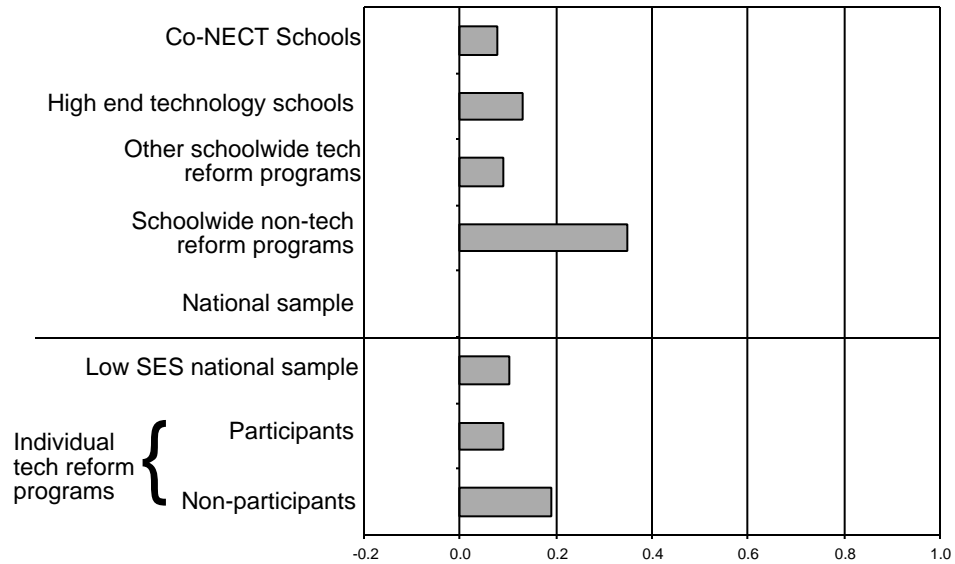


FIGURE 43: DID COMPUTERS PLAY A SUBSTANTIAL OR MAJOR ROLE IN THE CHANGES YOU MADE TOWARD COLLABORATION?

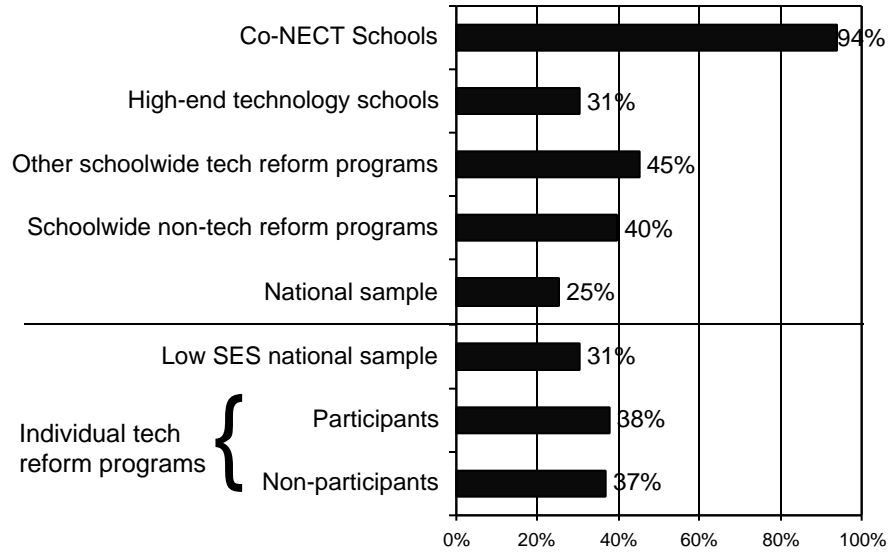


FIGURE 44: MUTUAL CLASSROOM OBSERVATION COMPARED TO THE NATIONAL SAMPLE

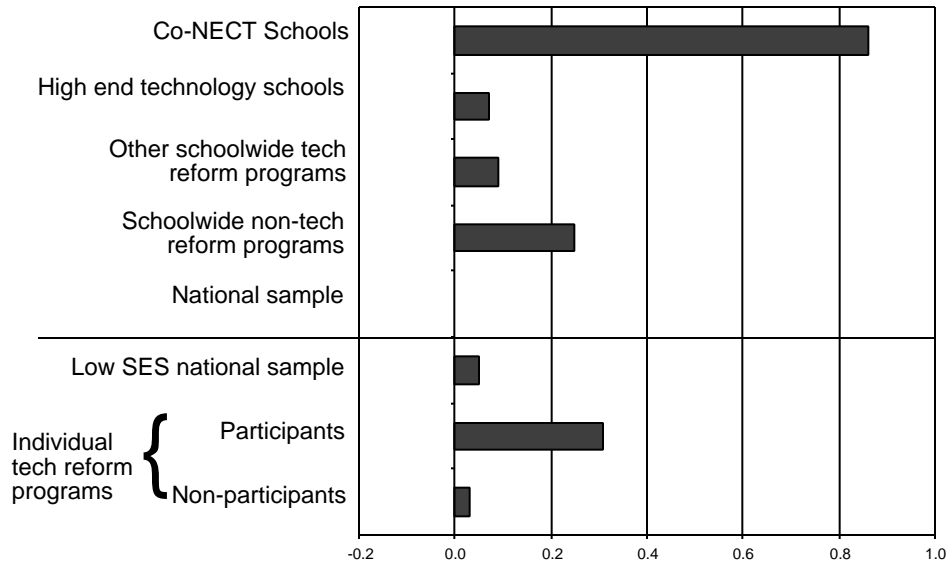


FIGURE 45: PROFESSIONAL DISCUSSION WITH OTHER TEACHERS AT SAME SCHOOL, COMPARED TO THE NATIONAL SAMPLE

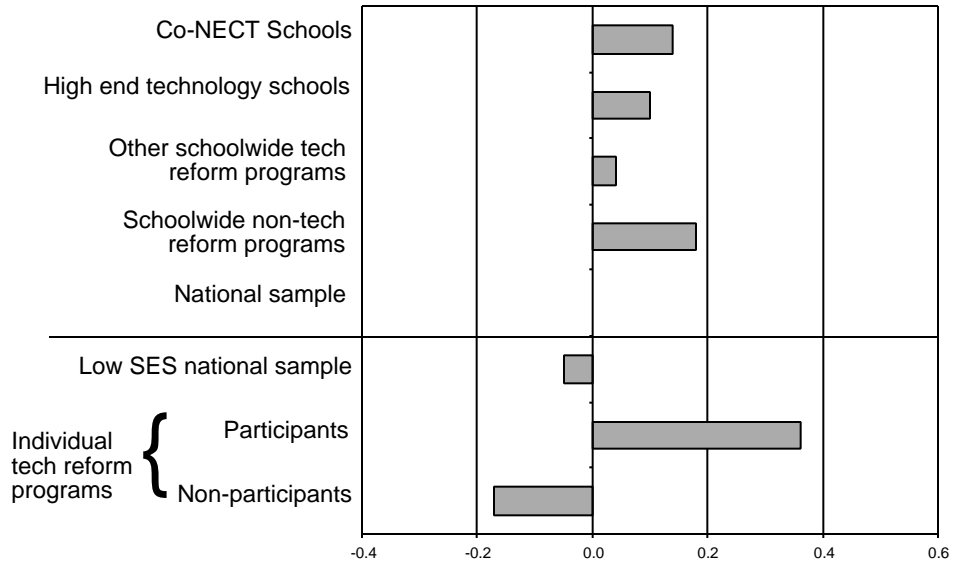


FIGURE 46: CONTACT WITH TEACHERS FROM OTHER SCHOOLS: A WORKSHOP, CLASS, OR CONFERENCE 3 OR MORE TIMES DURING SCHOOL YEAR

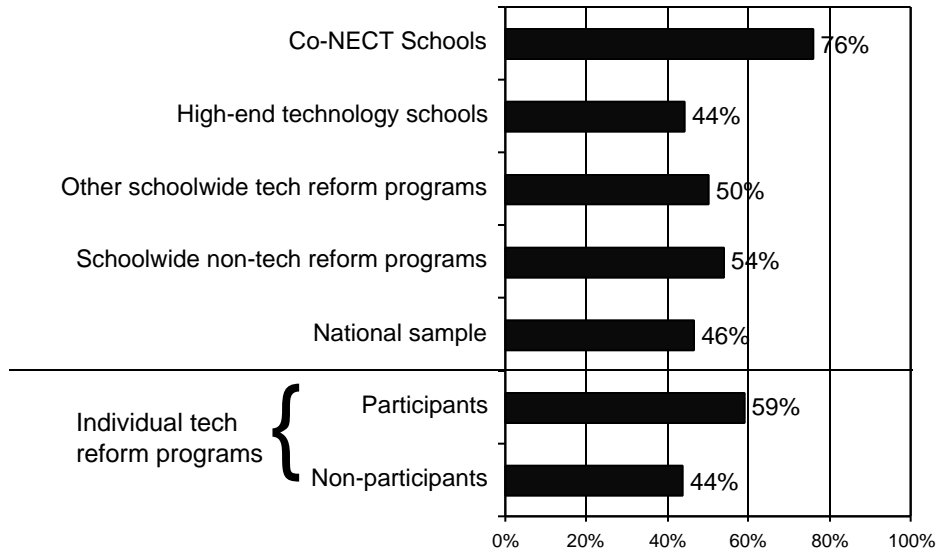


FIGURE 47: CONTACT WITH TEACHERS AT OTHER SCHOOLS:
E-MAIL: 6 OR MORE TIMES DURING YEAR

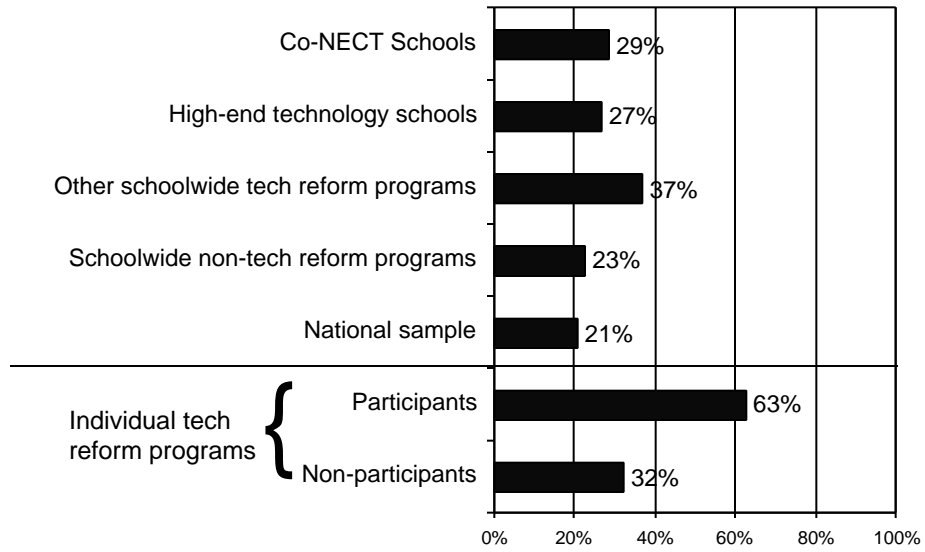


FIGURE 48: LEADERSHIP ACTIVITIES COMPARED TO
THE NATIONAL SAMPLE

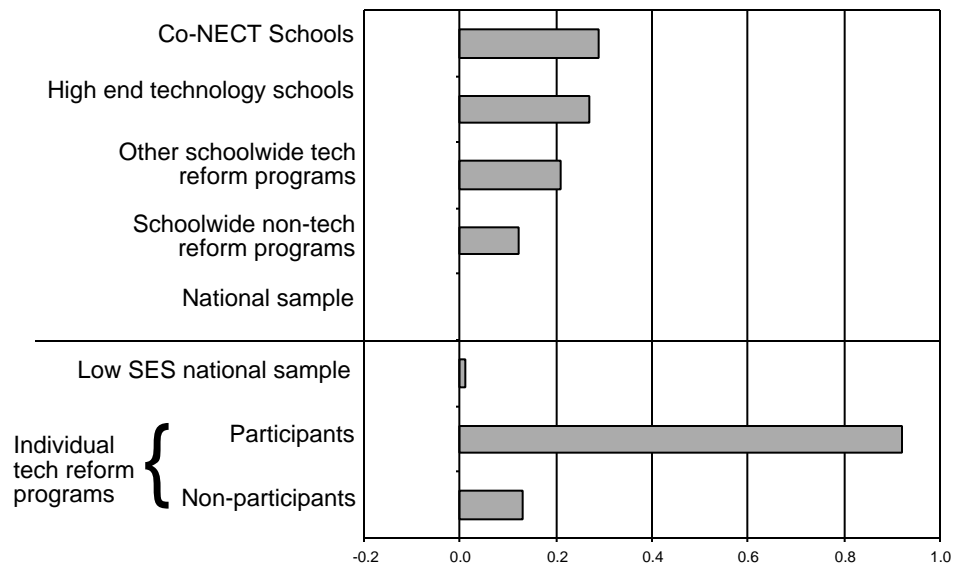


FIGURE 49: TEACHERS' OWN EDUCATIONAL INVESTMENTS COMPARED TO THE NATIONAL SAMPLE

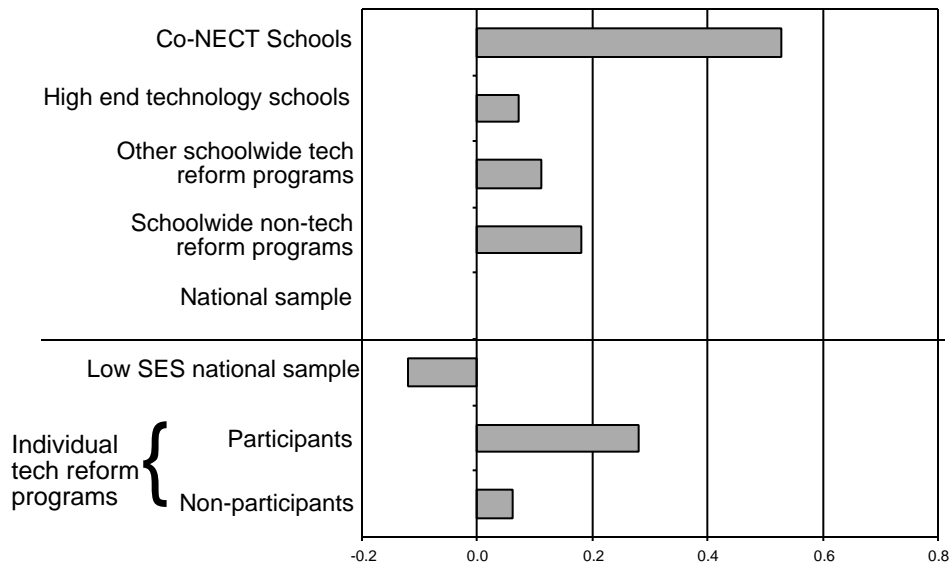


FIGURE 50: PROFESSIONAL SCHOOL CULTURE

Teacher Learning Community

It is common for us to share samples of student work
 Other teachers encourage me to try out new ideas

Evaluation: Teacher Recognition and Peer Constructive Criticism

Teachers who successfully innovate are given public recognition
 Most teachers will press another if that person is not teaching well

Integrated, Teacher-Respecting Staff Development

Staff development is followed by support to help teachers implement ideas
 New ideas presented are discussed by teachers afterwards

Goal Consensus

The principal's philosophy of education is similar to my own
 Most teachers share my beliefs about the central goals of the school

FIGURE 51: PROFESSIONALISM OF SCHOOL CULTURE COMPARED TO THE NATIONAL SAMPLE

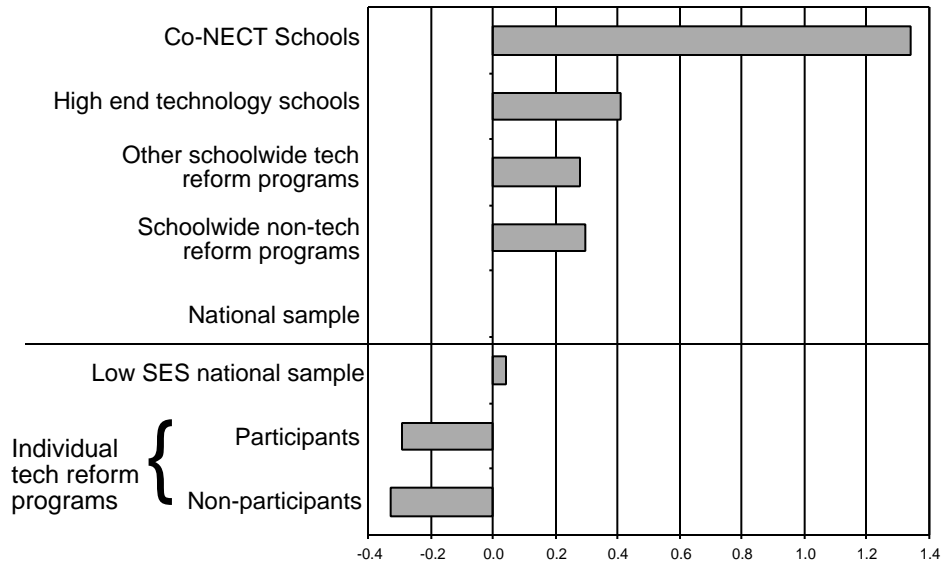


FIGURE 52: NEED AND AVAILABILITY OF SUPPORT FOR TECHNOLOGY

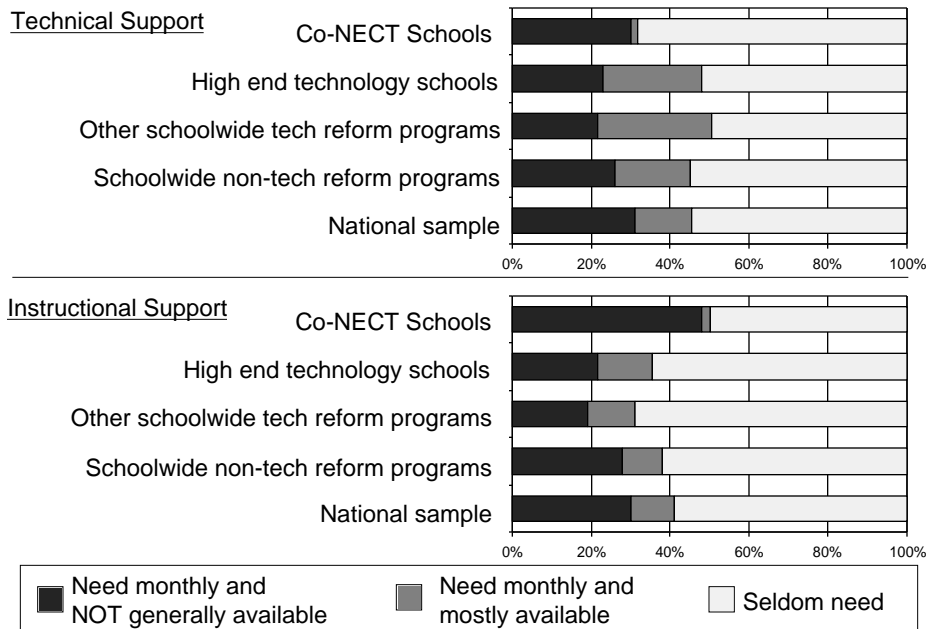


FIGURE 53: AVERAGE NUMBER OF STAFF DEVELOPMENT TOPICS ABOUT COMPUTERS AND ABOUT PEDAGOGY

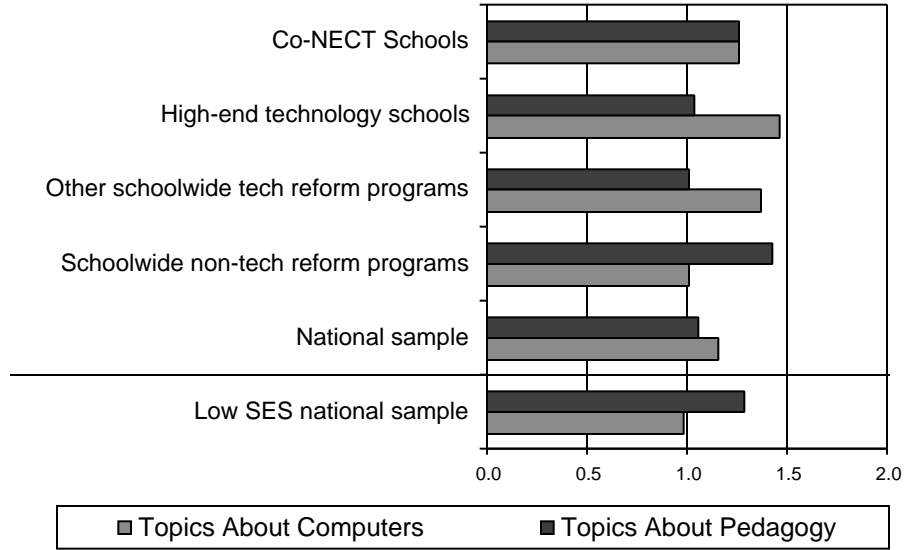


FIGURE 54: PERCENT OF TEACHERS FEELING LOW PRESSURE

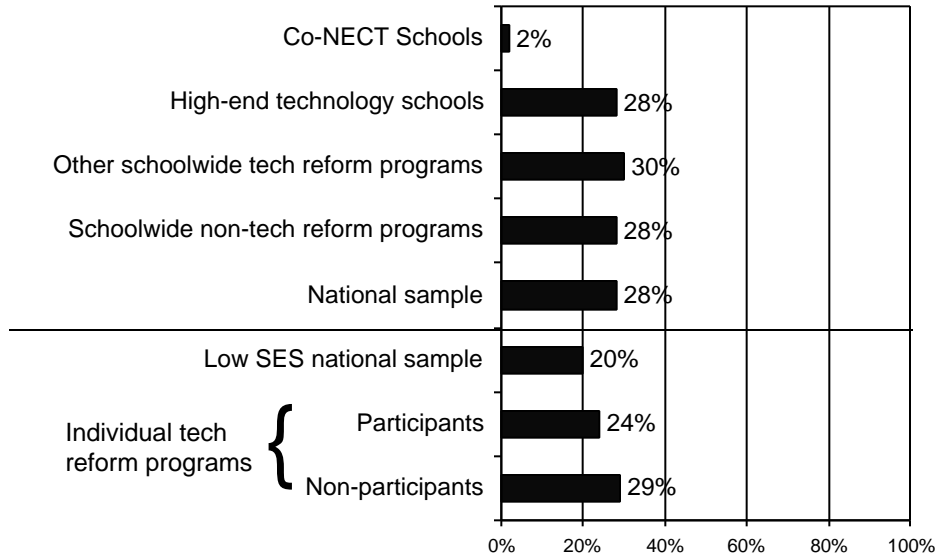


FIGURE 55: TRADITIONAL PRESSURES
 COMPARED TO THE NATIONAL SAMPLE

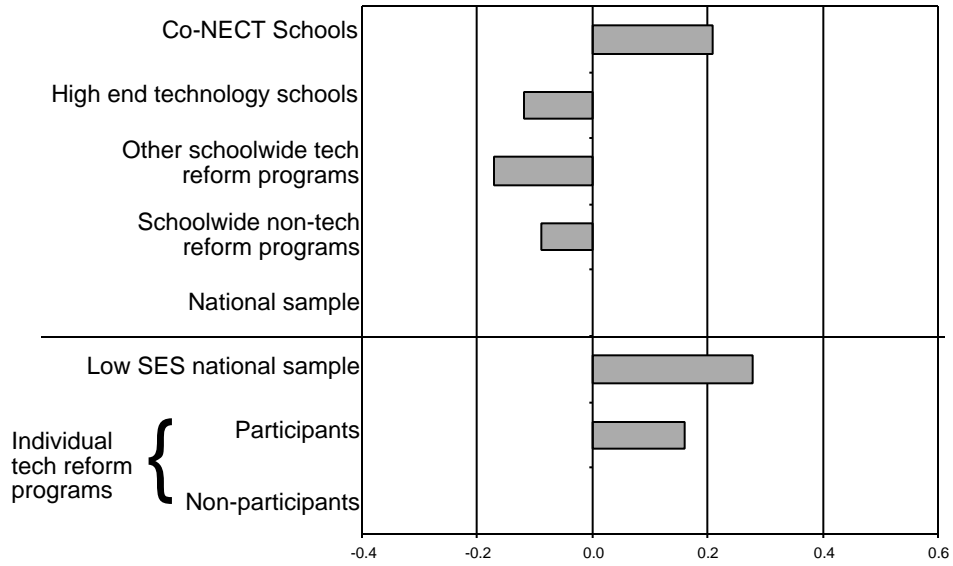


FIGURE 56: CONSTRUCTIVIST PRESSURES
 COMPARED TO THE NATIONAL SAMPLE

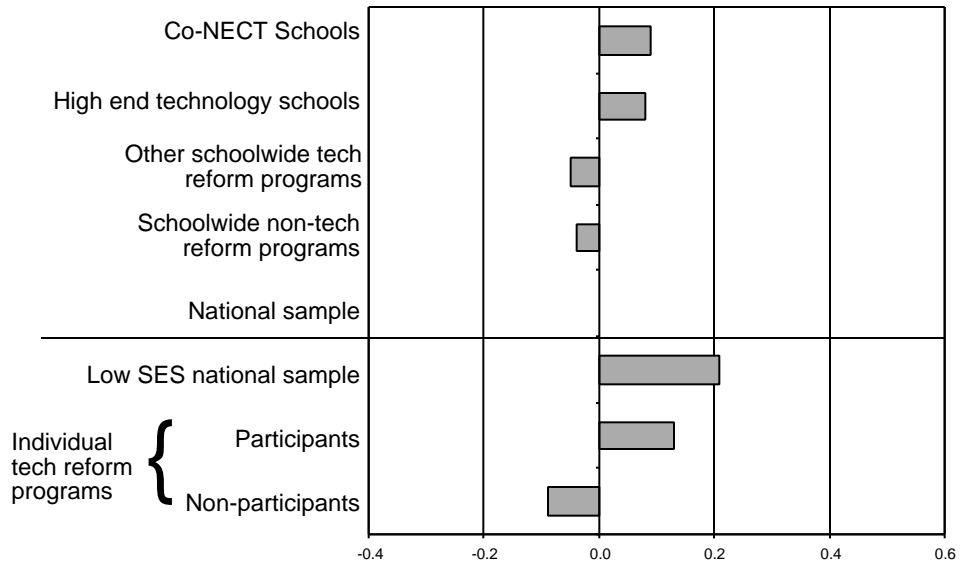


FIGURE 57: TECHNOLOGY PRESSURES COMPARED TO THE NATIONAL SAMPLE

