2023-24

Speak Up® Research Project Findings

FROM ENGAGEMENT TO LEARNING:

CLOSING THE GAP BETWEEN STUDENT ASPIRATIONS AND CLASSROOM PRACTICES

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From Engagement to Learning:
Closing the Gap Between Student Aspirations and Classroom Practices

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Introduction

The National Educational Technology Plan, published in January 2024 by the US Department of Education, defined the relationship between the effective usage of digital tools and resources within K-12 classrooms and active learning by students within this context: "Active use of technology utilizes technology to discover, analyze, and apply learning rather than passively receiving information. It can empower students to take ownership of their learning, collaborate with peers, and use their skills practically and meaningfully. It reveals voice and choice in the learning process while enhancing engagement, critical thinking, creativity, and problem-solving abilities, preparing students for success in a technology-driven world."[i]

The verbs used in that definition of technology-enabled active learning speak volumes about the potential benefits of digital tools within K-12 education: discover, analyze, apply, empower, collaborate, problem-solve, enhance, engage, critically think, and prepare. However, as noted in the National Ed Tech Plan, for too many students, technology use does not result in these verbs, but rather their classroom usage of digital tools and resources primarily involves actions like taking an online test or uploading homework in learning management system, more passive uses of technology. In the 2023-24 Speak Up Research facilitated by Project Tomorrow®, 75% of high school students and 66% of middle school students say their principal use of technology in class is to complete an online quiz or assessment. While online testing provides many benefits to educators and schools in terms of efficiency and potentially greater access to student data, it is hard to see how using a Chromebook or laptop to take an end-of-course exam in Algebra helps students develop future-ready skills like critical thinking, creativity or teamwork. Conversely, despite widespread access to technology in schools, too few students report regular access to digital tools and corresponding experiences that enable them to create, collaborate, and communicate with teachers and peers. For example, only 3-in-10 students in grades 6-12 say they have learning experiences in school that enable them to develop new content using multi-media digital tools to substantiate learning or explore new ideas.

We see therefore a significant difference in classrooms where digital tools and resources are used to support active learning experiences that contribute to students' skills and self-efficacy, and classrooms where technology is still used to primarily support students' passive consumption of information or to support adult goals of efficiency. The 2023-24 Speak Up Research provides new evidence of the need to close the gap between students' aspirations for more active learning experiences empowered by technology and current classroom practices that thwart students' abilities to fully leverage a rich set of digital tools for new and more meaningful learning experiences. This uneven map of technology usage in the classroom threatens the long-held promise of digital learning to create a level playing field of opportunity for all students.

Teachers' comfort and confidence with using digital tools more effectively within classroom instruction has improved dramatically over the past five years. Project Tomorrow has reported on that trend for the past few

years in our annual reports. But the new emphasis as recommended in the National Ed Tech Plan is not simply on using technology to support traditional practices, but rather to think differently about how to leverage the plethora of rich and student-facing digital tools and resources, including virtual reality, artificial intelligence and increasingly sophisticated simulations and labs to provide new and more active learning experiences for all students. The focus must be on the verbs of usage, not just the nouns of access.

To support this new thinking and to stimulate new discussions in schools and districts nationwide, this year's Speak Up Research national report examines differences between classrooms in terms of technology usage and students' perceptions about the benefits when tech-enabled active learning is a regular part of their classroom experience. The three chapters in this year's report provide new findings about the current state of digital learning in America's classrooms and provide valuable information about the views of students. These findings should be of high interest to education leaders and state and federal policymakers interested in understanding the impact of the Digital Use Divide and how to potentially close the gap between current classroom practices and students' aspirations for more effective and engaging learning experiences in the classroom. As with all Speak Up reports, we put a premium on the views of our students as an important asset for local, state, and national decision-making about the future of education. To support that long-standing Project Tomorrow ethos, each chapter also includes a new research data about the views of students on how they are using technology to support learning, their perceptions of the value of those learning experiences, and their ideas for how technology can enable more active learning experiences for all.

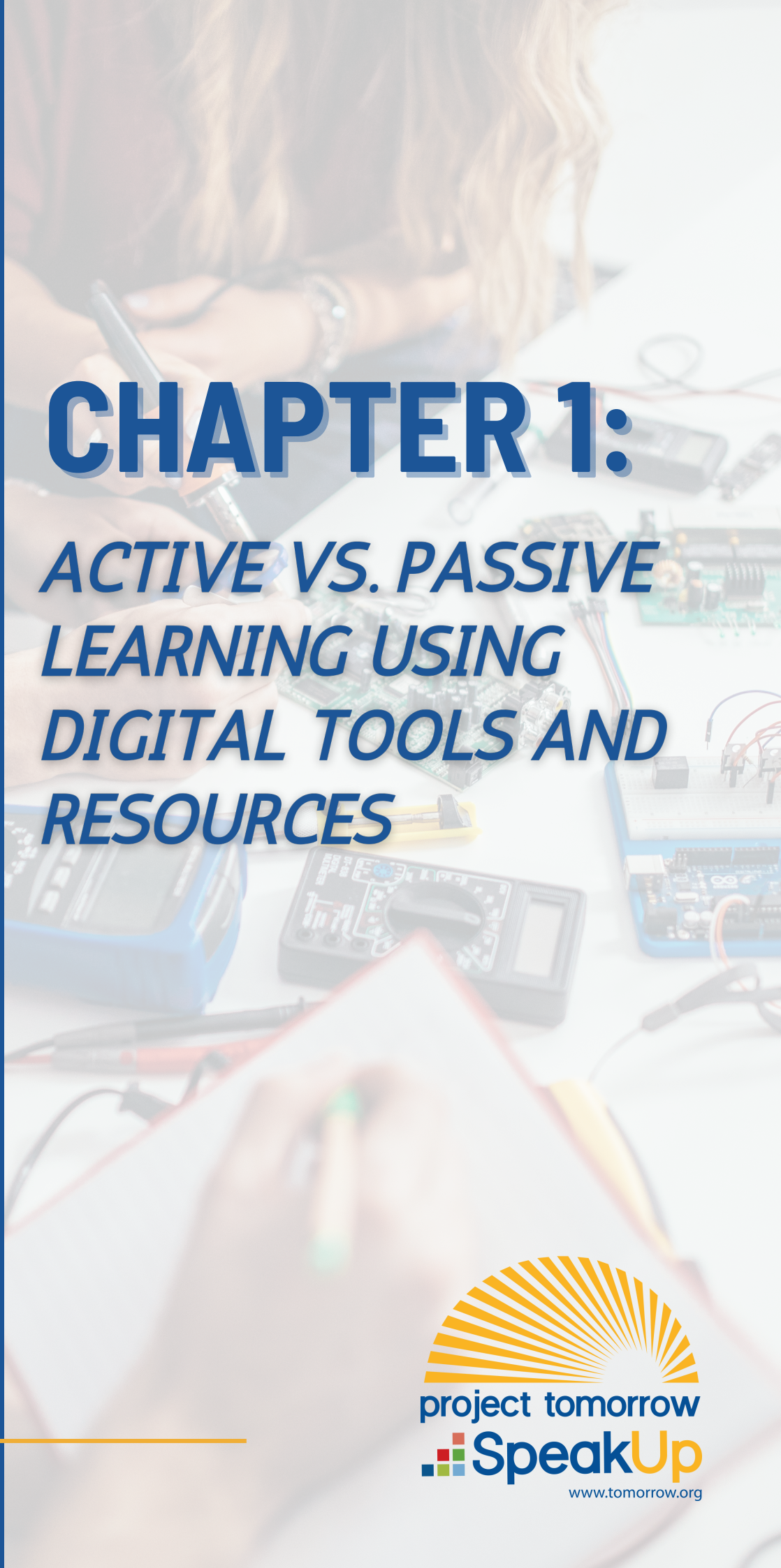
The three chapters and key student questions in this year's Speak Up National Report are as follows:

Chapter 1: Active vs. Passive Learning Using Digital Tools and Resources
Key student question: How effective is the use of technology for learning?

Chapter 2: The Value Proposition for Technology-Enabled Active Learning
Key student question: Why does effective use of technology for learning matter?

Chapter 3: Closing the Gap between Aspirations and Practices to Create More Active Learning Experiences
Key student question: How could the more effective use of technology improve your learning environment?

[i] US Department of Education, "A Call to Action for Closing the Digital Access, Design and Use Divides, 2024 National Education Technology Plan," January 2024.



CHAPTER 1:

ACTIVE VS. PASSIVE LEARNING USING DIGITAL TOOLS AND RESOURCES

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Chapter 1: Active vs. Passive Learning Using Digital Tools and Resources

Key student question: How effective is the use of technology for learning?

K-12 students are using a wide range of digital tools and resources in American classrooms today. A silver lining of the pandemic and corresponding online learning adoptions was a significant increase in access to classroom technology for both students and teachers. This increased access was coupled with new awareness of teachers to the potential power of technology to impact their own effectiveness as an educator and to engage their students in learning. As reported by Project Tomorrow in past reports, the experience of the pandemic-induced virtual learning, even with the differences in implementation success, was an important and sustaining stimulant for new teacher perspectives about digital learning.

Correspondingly, students continue to report increased technology usage in their classroom in the 2023-24 Speak Up Research results. And while the increased usage in total may be cause for celebration, particularly after so many years of limited teacher adoption of technology, a deeper look at the data reveals a more conflicted reality. As noted in the introduction to this year's report, the National Ed Tech Plan, released in January 2024, specifically called attention to the Digital Use Divide, defined as the disparity in how technology is being used to support learning. In some classrooms, digital tools are being effectively used to support active learning while in other classrooms the technology is still used primarily for organization or management purposes, and not as focused on student learning outcomes.

Students' report on technology use in school

Despite good intentions and investment, most technology usage in middle school and high school classrooms continues to support passive, not active learning experiences in the classroom, per this year's Speak Up results from students. As noted in **Table 1**, students are more likely to be using technology regularly to access an online lesson, take an online assessment, or post assignments to a learning management system than to engage with a virtual lab in biology, create an iMovie using multimedia tools to demonstrate knowledge of the Civil War, or code robots to prove geometric formulas in math class. **Whereas 75% of high school students say they use technology to take an online quiz or assessment weekly in school, only 33% are using online virtual labs to support their learning.**

Table 1: Digital tools that Gr 6-12 students say they use in school at least weekly

Digital tools and activities	Percentage of students who report this usage at least weekly	
	Gr 6-8 Students	Gr 9-12 Students
Access online lesson	78%	85%
Take an online quiz or assessment	66%	75%
Use a learning management system	67%	72%
Watch an online video	47%	55%
Read an online book or article on a digital device	36%	43%
Use online databases for research	40%	43%
Play digital or online games	42%	40%
Do a virtual lab	31%	33%
Create content using multi-media tools	23%	25%
Use AI as a study guide	19%	23%
Use AI to support writing tasks	18%	21%
Do coding or use computer programming resources	27%	21%
Use an augmented reality app	17%	17%
Use virtual reality content and equipment	12%	11%

Using the definition of active learning espoused in the National Ed Tech Plan, we categorized the most frequently used digital tools into two types of use cases: technologies that when used effectively support active learning and technologies that primarily support information consumption or class efficiencies, which may constitute a more passive use of technology. The following questions guided our identification process for each use case.

- Was the goal of the use case for technology within learning driven by student impact goals vs. adult efficiency?
- Did the use case help to support students' development of self-efficacy and agency?
- Did the usage of the technology tools involve a change in instructional practice, not just a substitution or replacement for a traditional instructional practice?
- Did the usage provide an opportunity for the student to be the driver of the learning experience and the outcomes?

Using these parameters, the digital tools and activities identified in **Table 1** are therefore characterized in **Chart A** as passive or active.

Chart A: Identification of passive and active uses of technology in classrooms

Passive uses of technology:

- Accessing an online lesson
- Taking an online quiz or assessment
- Using a learning management system
- Watching an online video
- Reading a book or article on a digital device

Active uses of technology:

- Using online databases for research
- Playing digital or online games
- Doing a virtual lab
- Creating multi-media content
- Using AI as a study guide or to support writing tasks
- Coding
- Using an augmented reality app
- Using virtual reality content and equipment

Of course, there are circumstances where teachers may be very effectively leveraging an online video from a museum or state park, for example, to create a highly engaging and interactive learning experience for their students. However, according to the Speak Up Research findings, teachers' use of technology to support active learning on a sustained and regular basis is still a work in process in most schools. The characterizations of passive vs. active uses of technology are helpful generalizations, therefore, to gain new insights into the spectrum of ways that digital tools are being used today to support student learning and teacher effectiveness, and to identify areas of additional growth and support.

To better understand the impact of technology in service of passive vs. active learning, the Speak Up Research team evaluated how differences in students' access to digital tools affected their perceptions of any obstacles they face using technology in school and the benefits of using technology within the learning process. This landmark research analysis answers the question: *how does the purpose and quality of the technology usage impact student learning opportunities and experiences?*

From that analysis, we examined how students using specific technologies (virtual labs, augmented reality, artificial intelligence, computer programming resources, data analysis and visualization tools, media creation tools and virtual reality) on a frequent basis in class (identified as at least weekly) responded when asked about the obstacles or barriers to using technology in school and their attitudes about the benefits of digital use within their learning ecosystem. Our conclusions include:

- **Students using technology frequently to support active learning were more likely to cite key barriers that were stifling or thwarting their abilities to use more fully digital tools for learning.**

- **Students using technology frequently to support active learning were more likely to identify a connection between effective technology usage and the development of future-ready skills.**

- **Students using technology frequently to support active learning were more likely to say they had stronger media and information literacy skills.**

Obstacles students face using technology for learning in school

Through the 21 years of the Speak Up Research Project, students have reported on the obstacles or barriers that prevent their effective usage of school-provided technology to support their learning goals. While the different obstacles have ebbed and flowed over the years, several have remained consistent as deterrents to student usage of digital tools in school. The list of longstanding deterrents includes school filters, slow or inconsistent school Internet connectivity, and the presence of too many rules that limit student technology access. Included in the category of "too many rules" are prohibitions against personal devices and social media usage in schools.

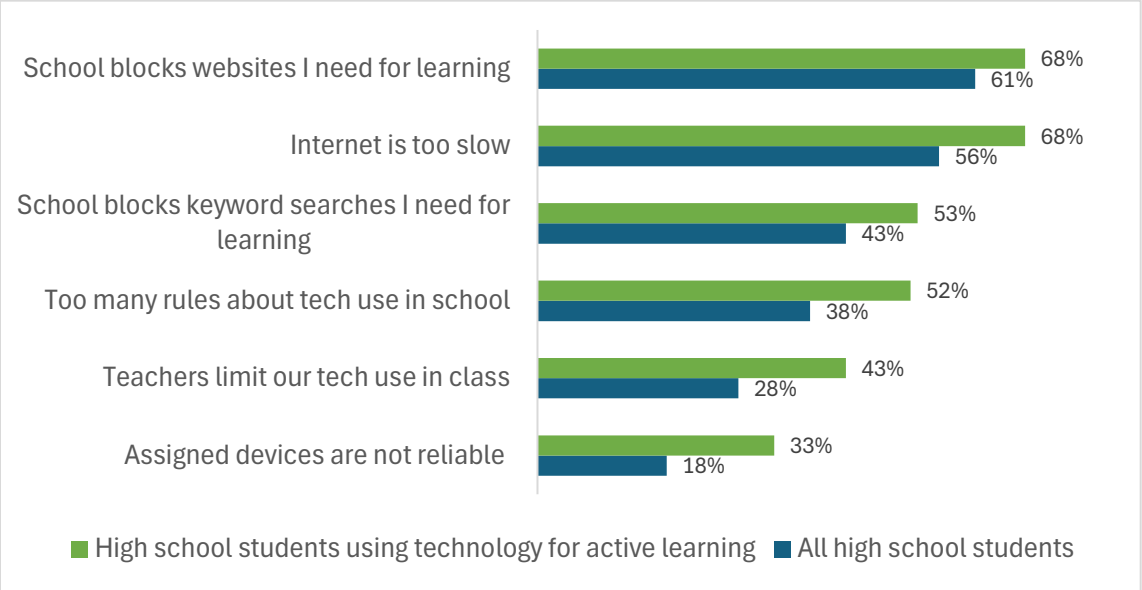
Table 2 identifies the current top challenges or barriers from the perspective of the students in high schools across different types of communities. **Students in urban and suburban schools are particularly sensitive to how their school is blocking access to websites they need for learning (65%) and the lack of adequate Internet bandwidth into their classrooms (1-in-6 students).** Their peers in rural schools share the same top 2 barriers but with a slightly smaller number of students, though still a majority, identifying those challenges.

Table 2: The top barriers to more effective technology use in school – according to Gr 9-12 students

Identified barriers	Percentage of students who say this is a top barrier for them			
	All Gr 9-12 students	Gr 9-12 students – urban schools	Gr 9-12 students – suburban schools	Gr 9-12 students – rural schools
School blocks websites I need for learning	61%	65%	65%	52%
Internet is too slow	56%	59%	60%	50%
School blocks keyword searches I need for learning	43%	44%	48%	38%
Too many rules about tech use in school	38%	37%	39%	35%
Teachers limit our tech use in class	28%	26%	33%	24%
Assigned devices are not reliable	18%	18%	24%	13%

The obstacles identified in **Table 2** are felt much more acutely by students who report engaging with active learning technologies on a weekly basis. **For example, while 56% of high school students say that their classroom Internet connectivity is insufficient to meet their learning needs, 68% of the students using the active learning technologies report this as a barrier to their learning potential** (**Chart B**). Similarly, 53% of these same active learning students say that how their school filters block keywords is a barrier to their more effective use of technology for learning; only 43% of all high school students in the national sampling share that same opinion.

Chart B: Obstacles encountered by high school students using various technologies to support active learning



As we collectively advocate for better uses of technology to support active learning, it is reasonable to expect that more attention will also be needed to address the typical obstacles or barriers that students identify already with accessing and using digital tools to support their learning in school. It is especially notable that 43% of the students who report using the active learning technologies in class also state that their teachers limit their technology usage. As noted in the National Ed Tech Plan, closing the Digital Use Divide is not about simply using technology in class, but rather about how those tools are employed to support greater student ownership, agency and self-efficacy. An equally important purpose is how these technologies being used within classroom learning enable students to develop the workplace skills needed for future success.

Connecting the dots between effective technology use and students' workplace skill development

Students in grades 6-12 identify the following future-ready or workplace skills as most important for their future success:

1. Ability to learn new skills on your own (identified by 72% of students in grades 6-12)
2. Learning how to work with different types of people (66%)
3. Critical thinking and problem-solving skills (62%)
4. Creativity skills (61%)
5. Leadership skills (59%)
6. Effective communication skills (57%)
7. Teamwork and collaboration skills (57%)
8. Time management and organization skills (56%)

On the Educator Speak Up survey, teachers report that they are generally helping their students develop these skills within their classroom instruction with two significant exceptions. **Beyond the top eight workplace skills noted above, 53% of students in grades 6-12 identified business skills (how to start or run a business) and 46% noted financial literacy skills as most important also.** These skills are not generally on teachers' radar currently. Only 11% of middle school and high school teachers say they were incorporating business skill development into their curriculum, and only 20% report addressing financial literacy development within their classroom practices.

Over many years of Speak Up reporting, Project Tomorrow has documented how students connect workplace skill development and better learning environments to the effective use of technology within their learning lives. For today's students, however, learning is a 24/7 enterprise, not limited by the confines of the classroom clock. Students' perceptions therefore on the value of using digital tools and resources to support active learning is a function of their classroom experiences as well as their own self-directed, interest-driven learning that takes place beyond teacher sponsorship, outside of school.

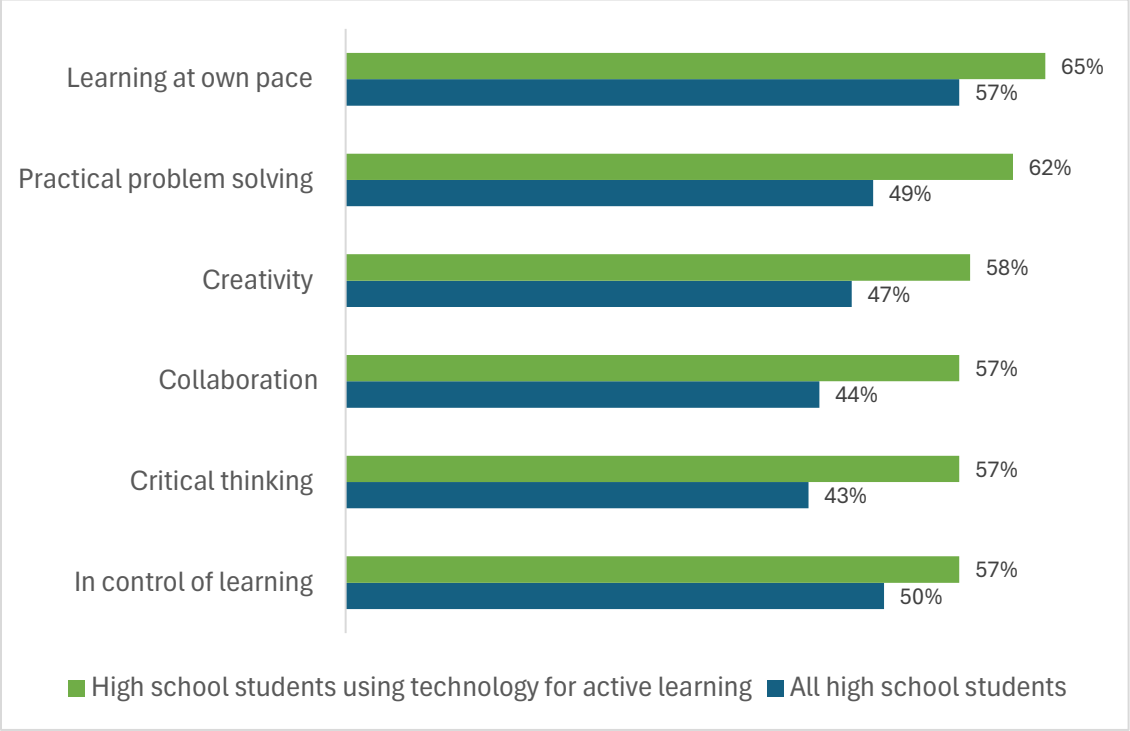
In general, students identify the benefits of using technology within learning in two different ways: how the technology impacts their learning experience in terms of personal agency, and how the technology supports the development of essential workplace skills. From a personal agency standpoint, students in grades 6-12 say that technology, when used effective to support learning, allows them to proceed through a learning process at a personalized pace that meets their own needs and enables them as the learner to be in more control of that learning progression. **For example, 58% of middle school students and 57% of high school students say that technology provides them with opportunities to learn at their own pace** (**Table 3**). Relative to skill development, students see a connection between effective technology usage and creativity, critical thinking, problem solving and collaboration. **Creativity is a highly valued skill by students and correspondingly, 53% of students in grades 6-8 and 47% of students in grades 9-12 note that they see creativity skill development as an important outcome from their use of technology within learning.**

Table 3: Benefits of using technology effectively to support learning – views of students in Grades 6-12

Benefits of effective technology usage	Percentage of students who agree with these benefits	
	Gr 6-8 Students	Gr 9-12 Students
Personal agency benefits:		
Learning at my own pace	58%	57%
In control of my learning	46%	50%
Workplace skill development benefits:		
Applying what I have learned to practical problems	49%	48%
Creativity skill development	47%	53%
Critical thinking and problem-solving skill development	43%	46%
Increased opportunities for collaboration with other students	44%	48%

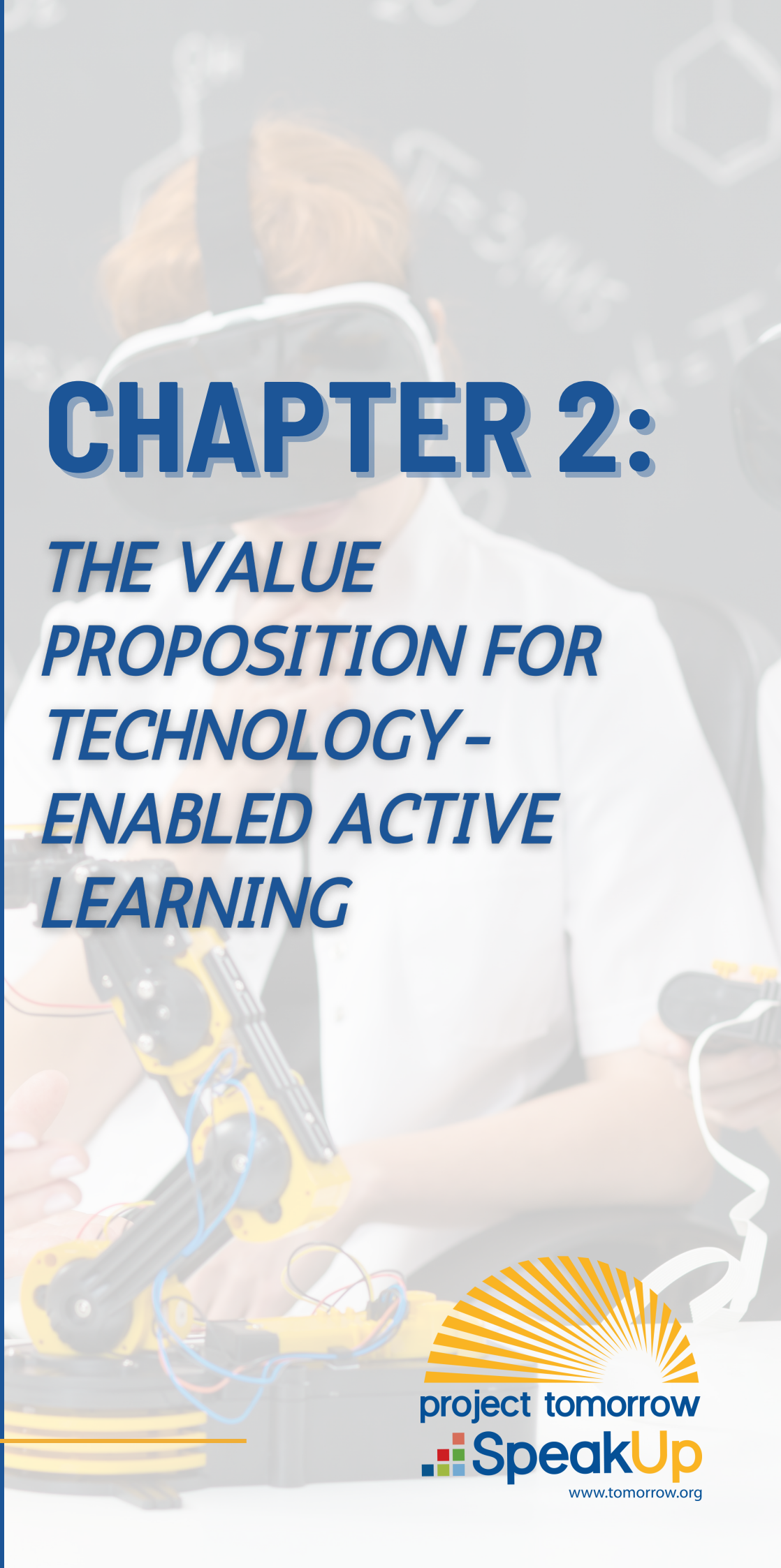
To underscore the value of using technology effectively within instruction, high school students who are empowered in their classes to use the various active learning technologies we identified are more likely to report the personal agency benefits and the workplace skill development benefits. This makes sense. If students are provided with opportunities to use digital tools to support the active learning verbs identified in the National Ed Tech Plan (discover, analyze, apply, empower, collaborate, problem-solve, enhance, engage, critically think and prepare) the impact of those experiences will be realized by the students themselves. The greatest differential is with the workplace skill development impact. **Students using active learning technologies are, for example, 33% more likely to say that technology use helps them develop critical thinking and problem-solving skills, with 57% of students saying that is a real outcome for them compared to 43% of all high school students in the sampling** (**Chart C**).

Chart C: Benefits of using technology to support personal agency and workplace skill development



"Remember that LEARNING comes before everything, and the key to learning is engagement. Oftentimes I see teachers or schools use technology as a crutch, saying 'oh, the assignments online so the kids will love it.' THAT IS NOT TRUE. An online assignment can be more engaging and more interesting than one on paper, but most of the time they are boring, google the answer and fill in the blank assignments that we lose interest in immediately. If you actually want students to learn, write questions that make you THINK about the information you googled, think about how it affects different aspects of the subjects at hand. Don't let school become a mundane, digital-paperwork factory."

- 11th grade student (Virginia)



CHAPTER 2:

THE VALUE PROPOSITION FOR TECHNOLOGY-ENABLED ACTIVE LEARNING

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Chapter 2: The Value Proposition for Technology-Enabled Active Learning

Key student question:
Why does the effective use of technology for learning matter?

In describing a potential value proposition for technology-enabled active learning, the 2024 National Educational Technology Plan advances a connection between the values articulated by districts for learner outcomes and how technology is being used to support those values. Many districts and some states have adopted "Portrait of a Graduate" documents that provide a vision for expected learner outcomes from education. Correspondingly, as noted in the National Ed Tech Plan, these documents also provide a way to connect the dots between effective technology usage within learning and ensuring that every student is well-prepared with the skills they need for future success.[i]

At the heart of many of these Portraits of a Graduate is a focus on the types of skills that students need to acquire and develop to be successful in college, the workplace or as citizens of a democracy. For many years, the business community and higher education institutions have voiced concerns that graduating high school seniors are not prepared with the requisite skills needed for either the workplace or the college classroom. The emphasis in these new Portraits of a Graduate on skill development alongside student outcomes in core subject areas is therefore a good step forward to address those concerns. And as noted in Chapter 1 of this year's report, students already see a connection between the effective use of technology for learning and their ability to develop skills such as critical thinking, problem-solving, teamwork, and creativity.[ii]

But is that connection between technology-enabled active learning and the development of future-ready skills also valued by students' parents and education guardians, and their teachers?

In this chapter we will examine those connections and the valuations for technology usage to support learning, both in school and out of school. Reflecting an increased importance on students' development of information and media literacy skills as a part of active learning, we also review the Speak Up data findings on students' current self-assessment of their skills and teachers' needs for additional support.

The classroom environment for developing workplace skills for future success

Parents and education guardians have long placed a high premium on school-based education as the right environment for helping their children develop appropriate workplace skills in addition to content knowledge. Correspondingly, parents also have voiced for many years their concerns about whether their local schools are

up to that task. On the Speak Up survey for parents and families, we ask the following question: What are your worries or concerns about your child(ren)'s future? The response options include concerns about educational attainment, economic self-sufficiency, taking on too much debt, and lack of engagement in school. And while those each garner support among parents across all demographic categories, the most predominant response from our 2023-24 research is, "My child is not learning the right skills in school they will need to be successful in the future," with 58% of all parents and education guardians saying this is their number one concern (**Table 1**). This concern has been the same top issue for parents over the past 10 years. In our 2014-15 survey, for example, 56% of parents chose that same response as their number one choice. The anxiety over skill development is slightly elevated for parents in rural communities but the consistency across grade levels and different family income levels is also noteworthy. A majority of parents are concerned that their local schools are not providing the types of learning experiences that will help their children develop critical future-ready skills. As noted in the National Ed Tech Plan, a key potential benefit of closing the digital use divide can be an increased focus on student skill development as outlined in many local Portraits of a Graduate.

Table 1: Parents' concerns about their child(ren)'s future and workplace skill development

Categories of parents who agreed this was their #1 concern about their child's future	Percentage of parents who agree with the concern: "Not learning the right skills in school they will need to be successful in the future"
All parents/education guardians	58%
Parents/education guardians – urban schools	55%
Parents/education guardians – suburban schools	60%
Parents/education guardians – rural schools	68%
Parents/education guardians – children in K-5 grades	58%
Parents/education guardians – children in 6-8 grades	60%
Parents/education guardians – children in 9-12 grades	58%
Parents/education guardians – with annual family income less than 75K	60%
Parents/education guardians – with annual family income from 75K to 150K	59%
Parents/education guardians – with annual family income more than 150K	58%

One of the challenges however is that students, parents, and teachers are not necessarily on the same page relative to the importance of various workplace skills or how those are supported in classroom instruction. In Chapter 1, we document the skills that students in grades 6-12 identify as most important for their future success:

1. Ability to learn new skills on your own (identified by 72% of students in grades 6-12)
2. Learning how to work with different types of people (66%)
3. Critical thinking and problem-solving skills (62%)

4. Creativity skills (61%)
5. Leadership skills (59%)
6. Effective communication skills (57%)
7. Teamwork and collaboration skills (57%)
8. Time management and organization skills (56%)

The annual Speak Up surveys ask parents to also articulate their vision for the most important skills for their child(ren)'s future success and we ask teachers about the skills they are helping their students develop in their classroom. Comparing these lists provides new insights into the challenge of creating a shared vision for skill development and consequently, the value of technology-enabled active learning to enable that skill nurturing process.

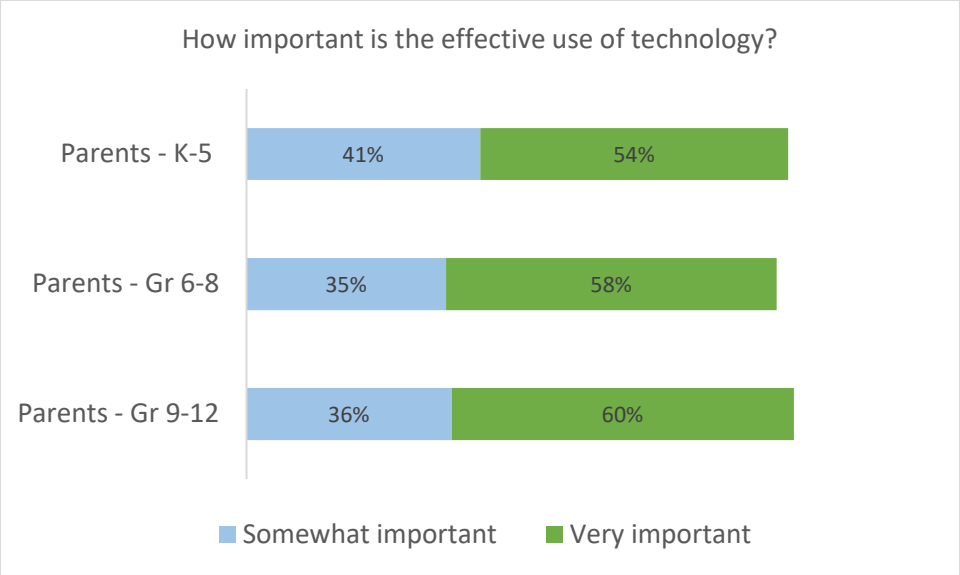
Parents and education guardians say that critical thinking, problem solving, and communication skills are the most important for their child(ren)'s future success (**Table 2**). These dovetail with popular opinions and other research findings, including what employers say are most important. Correspondingly, many teachers say they are providing active learning environments for students to develop skills such as critical thinking and problem solving along with teamwork and collaboration skills. But 83% of parents and education guardians also say that time management and organization should be a top focus in school-based skill development and 79% say the same about financial literacy. While not in the top 5 for how teachers are supporting skill development, two-thirds of classroom teachers (66%) report that they are helping students develop stronger time management and organization skills, notably through increased usage of digital resources such as learning management systems. However, only 11% of teachers state that they are supporting the development of students' financial literacies within their instruction. Given the universality of the support among parents with children in all grade levels for financial literacy skill development, this lack of school emphasis may be one explanation for parents' concerns about their children not learning the right skills in school to be successful in future endeavors.

Table 2: Identifying the future-ready skills for students to develop in school
- Top skills identified as most important by students and parents
- Top skills that teachers are supporting in class

Top 5: Per students in grades 6-12	Top 5: Per parents and education guardians	Top 5: Per teachers
Ability to learn new skills on my own	Critical thinking and problem solving	Critical thinking and problem solving
Learning how to work with different types of people	Communications	Teamwork and collaboration
Critical thinking and problem solving	Time management and organization	Learning how to work with different types of people
Creativity	Learning how to work with different types of people	Communications
Leadership	Financial literacy	Ability to learn new skills on my own

It is also important to point out from this year's research that, despite concerns by parents and educators about too much screen time usage by students, parents and education guardians still highly support the "effective use of technology within instruction." The key phrase is certainly, "the effective use of technology." Overall, 95% of parents and education guardians in our 2023-24 Speak Up survey say that the effective use of technology within learning is *important* for their child(ren)'s future success, with 58% stating that is *very important*. There is little discrepancy on this among parents with children in elementary, middle, or high school (**Chart A**). Likewise, parents in urban communities (95%), rural communities (93%) and suburban communities (97%) all say that the effective use of technology in schools is *important* for their child(ren)'s future success.

Chart A: Parents across all grade levels value the effective use of technology within instruction



But both parents and students worry about whether technology is being used as effectively as possible in classrooms to support active learning experiences for students. The following comment on the Speak Up survey demonstrates that concern from the student perspective.

Teachers' valuation and comfort with using technology to support active learning

In our annual Speak Up Research Project reports, Project Tomorrow has long documented a relationship between teachers' valuation of technology as a meaningful vehicle for supporting learning and the efficacy of those learning experiences for students. In short, teachers who have a higher appreciation for the potential of digital tools and resources to create more active learning experiences for students are more likely to also be effective facilitators in classroom technology usage that supports student learning. Teachers' appreciation for how technology can enable and empower them to create more meaningful learning experiences in their classroom has significantly evolved over the past ten years. The increased access to classroom technology, the experience of virtual learning during the pandemic, and a more explicit call for active learning experiences for students have contributed to this change in perspective. In the 2013-14 school year, one-third of teachers, for example, said that the effective use of technology in their classroom enabled them to encourage student self-

directed learning. The percentage of teachers holding that perspective increased 73% (or 24 percentage points) in the 2023-24 Speak Up reporting (**Table 3**). Now, 57% of teachers report that they are encouraging students' self-directed learning through the ways they are leveraging technology within instruction. Teachers' attitudes about the role of technology in supporting student centered learning and student collaborations also increased over the past ten years.

Table 3: Teachers' perceptions on how they are using technology to support active learning in their classroom – 10-year comparative view

As a result of using technology effectively in my classroom …	Percentage of teachers who agree	
	2013-14 school year	2023-24 school year
I am encouraging student self-directed learning	33%	57%
I am facilitating student-centered learning	36%	53%
I am facilitating greater collaborations between students	23%	39%

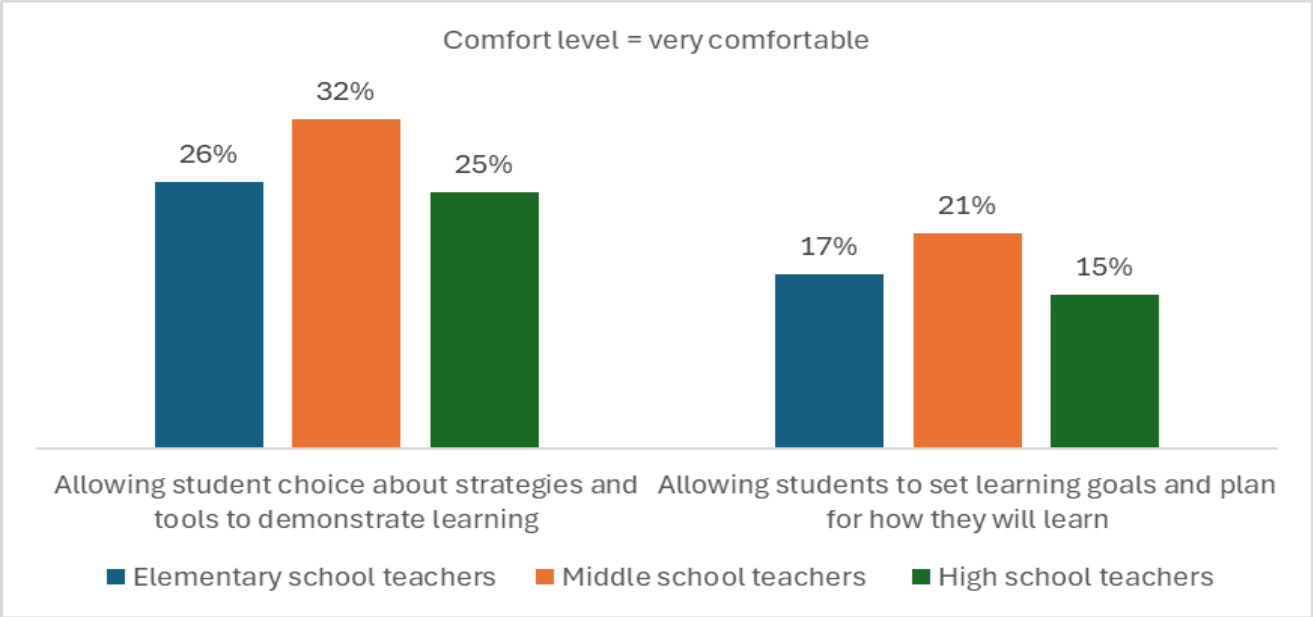
This change in valuation around the use cases for technology within learning is also evident in how teachers perceive the relationship between effective technology use and student outcomes, especially around future-ready skill development. Ten years ago, only 30% of teachers reported that their students were collaborating more with each other because of the effective use of digital tools and resources within their classroom. Today, 48% of teachers relate to that same outcome. But this process of adopting and adapting new learning models, including digital tools and resources, to support student outcomes continues to be a developmental process for many teachers. This is especially true for our newest educators who need additional support to learn how to leverage classroom technology resources to create and implement active learning experiences, not just to organize content or post grades. For example, 59% of teachers with 2-3 years of teaching experience and 51% of teachers with 4-10 years of experience say that when they use technology effectively in their classroom for active learning, they observe that their students are developing critical thinking and problem-solving skills (**Table 4**). However, only 4-in-10 first year teachers (40%) see the same results at this point. Similar differences exist across all the student skill outcomes that are highly valued by both parents and students.

Table 4: Teachers' perceptions on the ways technology supports student skill development in their classroom

As a result of using technology effectively in my classroom …	Percentage of teachers who agree				
	All teachers	First year teachers	Teachers with 2-3 years of experience	Teachers with 4-10 years of experience	Teachers with 11+ years of experience
My students are collaborating more with other students	48%	47%	58%	49%	46%
My students are developing critical thinking and problem-solving skills	47%	40%	59%	51%	45%
My students are applying knowledge to practical problems	43%	34%	46%	43%	42%
My students are developing creativity skills	42%	38%	51%	44%	40%
My students are taking ownership of their learning	35%	24%	32%	39%	36%
My students are communicating with me more	34%	37%	43%	36%	33%

Alongside the shift to more active learning experiences for students is a new focus on providing students with opportunities to develop agency and self-efficacy as learners. This focus aligns with the number one workplace skill identified by students as most important for their future success: Ability to learn new skills on your own (identified by 72% of students in grades 6-12). Students believe that their own capacity for self-initiated and self-directed learning will be a prerequisite for future work environments. However, despite the significant transformation in teachers' attitudes about technology usage and the connections to workplace skill development, teachers' comfort with enabling students to have more choices in education decisions is still nascent. Providing choice within educational settings enables students to develop greater personal agency and self-efficacy as a learner. However, only 35% of teachers across all grade level assignments say they are *very comfortable* allowing their students to have choices in the strategies or tools they use to demonstrate their learning results or outcomes. And only 17% of teachers report that same level of comfort with providing their students with the ability to set learning goals and plans for themselves. There is little differentiation by grade level assignment (elementary, middle or high school) in the number of teachers who report being *very comfortable* with these practices (**Chart B**). The issue therefore is not likely to be a curriculum or even student developmental consideration. Whereas many teachers may endorse providing their students with choices, such as between writing an essay or developing a slide deck within a project, the capacity to allow students to be more involved in key education decisions around their learning goals, problem determination, inquiry-driven learning, and how to truly represent learned knowledge may requires additional shifts in perspective, including defining new classroom roles as an educator.

Chart B: Teachers' comfort with allowing students to have choice in education decisions



The case for increased emphasis on student and teacher information and media literacy skills

The increased usage by students of social media and artificial intelligence did not create the need for students to develop information and media literacy skills, but it certainly has highlighted the importance of every student being well-versed in those skills. Additionally, as technology tools are used more effectively to support active learning in the classroom, the value of information and media literacy for both students and teachers has also gained new momentum. Students in grades 6-12 were asked on this year's Speak Up surveys to self-assess their own information and media literacy skills. The results indicate most students say they do not know how to detect bias or opinion or evaluate the accuracy of what they read online, nor do they understand how algorithms within digital resources work. For example, only 38% of middle school students say they know how to evaluate the accuracy of online information and only 35% of the same students say they know how to detect bias in what they are reading online (**Table 5**).

Table 5: Grade 6-12 students' assessment of their information and media literacy skills

Information and media literacy skills (selected set)	Percentage of students who agree that they are knowledgeable about these literacies	
	Gr 6-8 Students	Gr 9-12 Students
Know how to detect bias or opinions in the information that I read online	35%	39%
Know how to evaluate the accuracy of the information I find online	38%	38%
Understand algorithms and how they affect everyday experiences	23%	25%

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This student self-assessment aligns with teachers' perceptions of student information and media literacy skills also. Only 6% of teachers rated their students as highly proficient in digital literacy, responsible technology usage, and ethical online conduct.

However, high school students who are using technology to support active learning experiences (such as through digital tools like virtual labs, augmented reality, online games, or multi-media content development tools) are more likely to report their abilities to discern bias and accuracy in online resources than students whose primary experiences are with passive technology tools. In Chapter 1 of our national report, we compared the activities, attitudes, and aspirations of students who have been afforded the opportunity to use technology for active learning with their peers who are using technology for primarily management and organization goals (such as through the usage of online tests and learning management systems). In this case, another value of active learning experiences using technology is that the increased exposure to more sophisticated digital tools helps to strengthen students' information and media literacy skills. For example, whereas 39% of all high school students say they know how to detect bias in what they read online, 50% of students who use technology to support active learning report having that skill (**Table 6**). Similar differentials exist for knowing how to evaluate accuracy of online information and understanding the impact of digital resource algorithms.

Table 6: Self-assessment of information and media literacy skills by high school students using technology for active learning in school

Information and media literacy skills (selected set)	Percentage of students who agree that they are knowledgeable about these literacies	
	All high school students	High school students using technology for active learning
Know how to detect bias or opinions in the information that I read online	39%	50%
Know how to evaluate the accuracy of the information I find online	38%	51%
Understand algorithms and how they affect everyday experiences	25%	41%

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Recognizing the increasing importance of information and media literacy development for their students, 48% of teachers now acknowledge that they need more training to support not only their own skills but how to support their students' capacity development, including 77% of first-year teachers.

Value of active self-directed learning using technology beyond school

Beyond the scope of teacher sponsorship of technology usage, students demonstrate the value of using digital resources for learning through their own self-facilitation of tech-enabled, active learning experiences outside of school. Armed with a world of knowledge and resources in their smartphones, students are increasingly self-directing learning around areas of personal academic interest, passion, and curiosity, thus creating in many ways more meaningful experiences than those they are experiencing in their school-based learning. For today's students, learning is a 24/7 enterprise that is not constrained by the more traditional limitations of time, place or resources. Learning is not limited to the hours spent in a physical classroom. Or the information in an out-of-date science textbook or even the resources in the town library. Students also do not want their learning potential to be exclusively dependent upon the knowledge of their teachers. Rather students have their own vision for what constitutes effective learning today. In the student vision for effective learning, digital tools and resources are leveraged to enable more socially based learning experiences, learning that not tethered only to local resources, learning that provides relevancy within a global context, and learning which provides opportunities for self-determination and real student choices. The National Ed Tech Plan's description of active learning supports many aspects of the students' own vision for learning.

Since 2007, Project Tomorrow has researched the different ways that students leverage technology outside of school to support self-initiated and self-directed learning, and many of those research findings have been documented in various Speak Up annual reports over the years. Additionally, the 2022 book, *Free Agent Learning – Leveraging Students' Self-Directed Learning to Transform K-12 Education*, written by Project Tomorrow's Chief Executive Officer, Julie Evans, provides a comprehensive analysis of the findings from over 2.5 million students nationwide.[iii] In this book, Dr. Evans identifies students who are using technology to support their own learning goals as Free Agent Learners. In many ways, these Free Agent Learners, armed with almost ubiquitous access to digital tools and resources outside of school, are creating demonstration cases of the types of active learning experiences that align with their own vision for more effective learning in the classroom. Understanding the use cases and value proposition of self-directed learning by students can be an informative input into school and district planning on how to more effectively leverage technology to empower active learning in school.

Beyond access to learning devices and high-quality Internet to support schoolwork, educators seldom focus on how students are using technology outside of school to support their own learning. From the 23-24 school year Speak Up research, for example, only 1-in-3 teachers say that they regularly ask their students about their out-of-school learning experiences using technology. Additionally, 37% of high school teachers and 45% of middle school teachers say they never ask their students about their self-directed learning or have never even thought to do so. This is a missed opportunity to not only learn about students' use of technology but also to gain new appreciation for what students value in active learning experiences. These discussions would also help educators understand the central role of students' smartphones in their learning lives.

According to this year's Speak Up research, 45% of students in grades 6-8 and 58% of students in grades 9-12 report using technology outside of school to pursue personal academic interests at least weekly. High school

students in suburban schools (45%) are more likely than their peers in rural (33%) or urban (28%) schools to be engaging in Free Agent Learning daily (**Table 7**). For middle school students, the differentiation by community type is insignificant.

Table 7: Students' frequency using technology outside of school to pursue personal academic interests

Frequency	Percentage of students in grades 6-8			Percentage of students in grades 9-12		
	In urban schools	In suburban schools	In rural schools	In urban schools	In suburban schools	In rural schools
Daily	27%	27%	20%	28%	45%	33%
Weekly	19%	21%	20%	26%	19%	26%
Daily + Weekly = at least weekly	46%	48%	40%	54%	64%	59%

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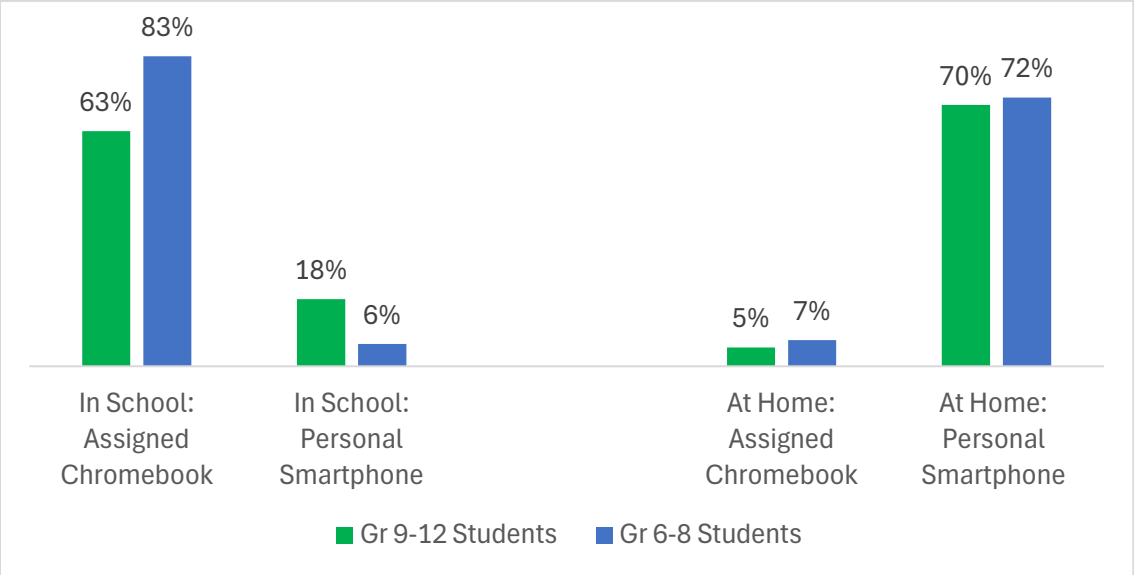
The types of self-initiated, self-directed learning conducted regularly by students varies by student interest of course. Some students use technology to learn new skills or explore a curiosity about the world, others use a variety of digital tools to self-remediate on a schoolwork topic. Examples include:

- Watching a video to learn how to do something or make something
  - 66% of students in grades 6-12 report doing this regularly
- Doing Internet research for websites to learn more about something they are interested in
  - 63% of students in grades 6-12 report doing this regularly
  - Additionally, 28% of students in grades 6-12 say they are using AI tools now to support this type of research
- Playing online, digital or video games to learn valuable skills including workplace skills like teamwork and critical thinking
  - 54% of students in grades 6-12 report doing this regularly
- Seeking and following people on social media channels to learn about new ideas or find affinity
  - 45% of students in grades 6-12 report doing this regularly
- Using online writing tools to get feedback from others and improve their writing skills
  - 42% of students in grades 6-12 report doing this regularly

The primary vehicles for these self-directed learning experiences as well as supporting schoolwork when at home continues to be the students' personal smartphones for those in grades 6-12. While many school districts allow students to take home district-owned devices including Chromebooks, laptops and tablets, students' preference even for homework is to rely upon their own personal devices, notably their phones for those activities. When at home, 70% of high school students and 72% of middle school students say they use their own phones to complete homework, check grades, submit documents, etc. These findings are in alignment with the results from the 2022-23 school year as well. Only 5% of high school students and 7% of middle school students

say they use their school provided Chromebook for those schoolwork activities in the 2023-24 school year (**Chart C).** In addition to students' long held preference for using their personal devices, this finding may also reflect a decrease in schools allowing students to take their school assigned devices home.

Chart C: Chromebook vs. Smartphone – Students' report most used devices for learning in school and at home



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As noted in Chapter 1 of this national report, students identify several key benefits to the use of technology resources to create and enable more active learning experiences, both in school and at home. Those key benefits include both personal agency outcomes as well as workplace skill development.

"As a result of using technology to support my learning, I am …"

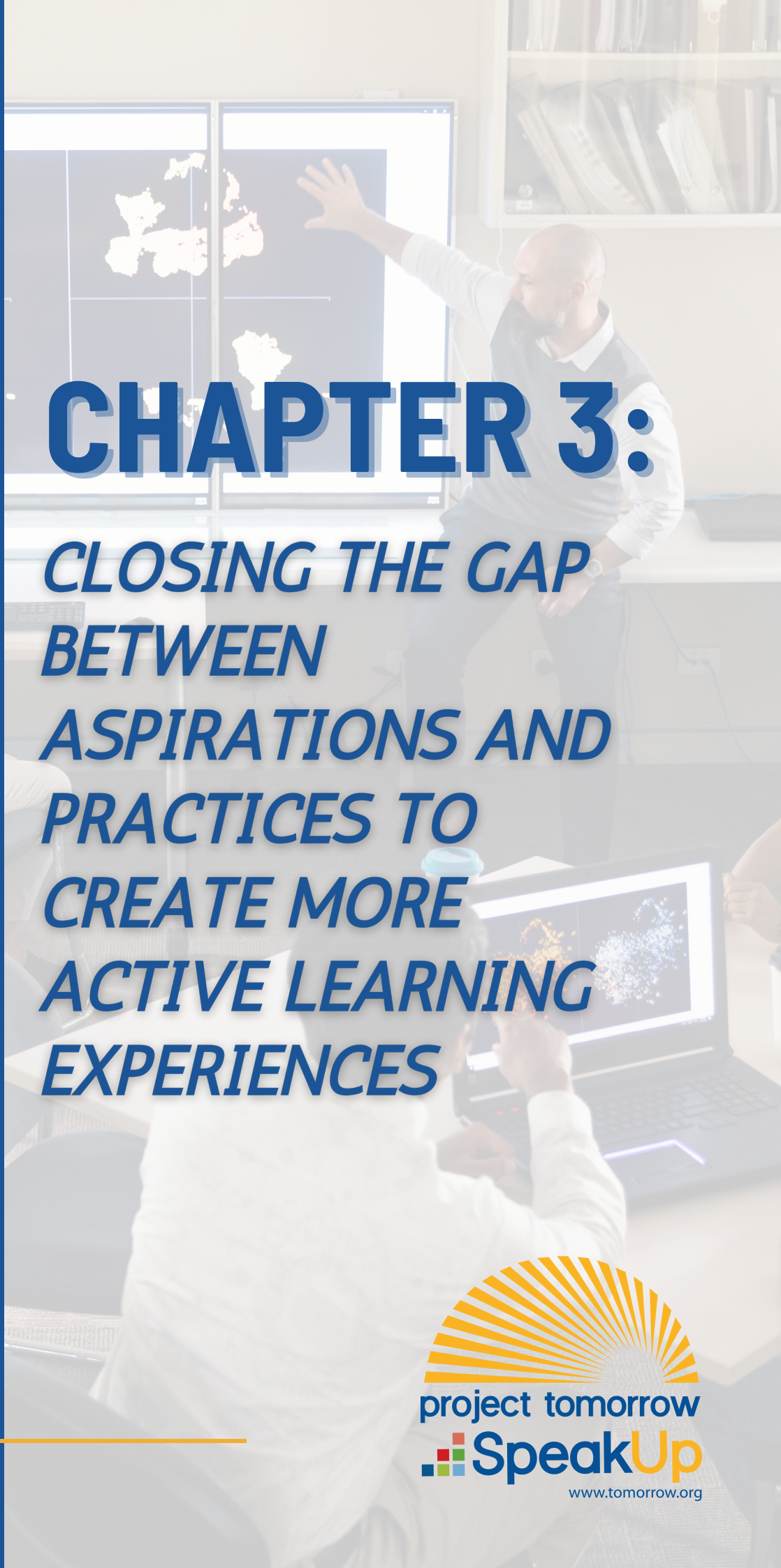
Personal agency benefits:

- Learning at my own pace
- In control of my learning

Workplace skill development benefits:

- Applying what I have learned to practical problems
- Developing creativity skills
- Developing critical thinking and problem-solving skills
- Collaborating with other students more

These benefits are evident when we examine students' experiences in technology-enabled active learning environments, whether those are in classrooms where teachers are facilitating those experiences or when students are on their own, self-directing learning around areas of personal interest or curiosity. These are the primary reasons why students say that the effective use of technology for learning matters, and additionally, these outcomes provide a proof case for why active learning experiences are indeed students' learning preferences.



CHAPTER 3:

CLOSING THE GAP BETWEEN ASPIRATIONS AND PRACTICES TO CREATE MORE ACTIVE LEARNING EXPERIENCES

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From Engagement to Learning: Closing the Gap Between Student Aspirations and Classroom Practices

Chapter 3: Closing the Gap to Create More Active Learning Experiences

Key student question:
How could the more effective use of technology improve your learning environment?

"In my personal case, making classes interactive and engaging is important. I struggle with getting distracted, but when I lock in and focus, I can be an amazing student. Technology is important but it's also important to make sure it's being used effectively and wisely, making sure to keep students like me on task. More engaging + interactive lessons (with or without technology) are incredibly helpful in getting me to understand subjects."

- 12th Grade Student (VA)

The students in our schools today have used technology throughout their young lives. From using mom's cellphone as a toddler to watch Disney videos to tapping out an essay on *The Great Gatsby* for English class using their school-assigned Chromebook, access to digital devices and content is not a new experience for this generation of learners. They are highly experienced in using digital tools and resources to support a wide variety of everyday tasks, including supporting relationships with friends, participating in e-commerce, finding an audience for their content creations, seeking entertainment outlets and learning about the world around them. As discussed in Chapter 2, learning for today's students is no longer the exclusive purview of school. Armed with a universe of knowledge in the palm of their hand, many students today are regularly self-directing their own learning experiences outside of school around areas of personal interest or curiosity, in addition to the digital learning experiences in their traditional classrooms.

For the past twenty years, the Speak Up Research Project has documented not only the types of digital learning experiences students are having, both in classrooms and beyond the school walls, but also students' perspectives on those experiences and their aspirations for more effective learning environments. From that research, we have distilled their experientially based aspirations into a **"Student Vision for Learning"** with four essential elements that students say would improve learning for themselves and their peers. Those four essential elements are:

- Learning that is **socially based** and provides opportunities for students to collaborate with peers, teachers and experts on co-learning experiences.

- Learning that is **un-tethered** from potential geographical or knowledge limitations within their schools and community, and rather takes advantage of what the students realize is a world of information and resources available online.

- Learning that is **contextually relevant** and provides tangible experiences for students to develop critical future-ready skills in addition to content knowledge.

- Learning that includes an element of **independence and control** of the learning process so that students can learn at their own pace and develop agency to support life-long learning.

This Student Vision for Learning is not a roadmap for technology use in school. But it can be used by education leaders to re-think and re-design school-based learning experiences. Based upon their experiences with using digital tools and resources to support both their personal and academic goals, our students have a keen understanding how technology can be more effectively leveraged to improve learning experiences while maintaining the importance of human connections and relationships. Unfortunately, as reported in this year's national Speak Up report, a gap continues in our schools between this Student Vision for Learning and how most students experience learning in traditional classrooms. As stated in the 2024 National Educational Technology Plan, closing this gap starts with our educators.

"*For schools to realize the potential of edtech to help transform learning for all students, they must be willing to imagine how they can transform learning for all educators.*"[i]

An important and easy first step in that learning process for educators can be considering the views and insights of their own students. Despite long-standing research that supports the value of student voice within education, 51% of high school students and 45% of middle school students believe that their teachers and administrator are not sincerely interested in their ideas about how to improve school-based learning experiences. When asked on the recent Speak Up surveys what they would tell their school principal about ways to improve school, many students noted "listening to student ideas." But many also went further to implore school leaders to go beyond just listening and to translate those ideas into real plans that would impact their future success. This quote from a high school student in North Carolina is representative of those pleas for action, not just listening:

"Listen to the all the ideas of students, truly take them into consideration and choose which are the most innovative and what could be the most effective plan to better student's future and education."

Though not a substitute for listening to your own students' ideas, the Speak Up Research findings provide a foundation for better understanding the Student Vision for Learning and can provide a valuable template for thinking about how to more effectively engage with your students to support improvements in their education.

Students and their wish lists for more effective learning experiences in school

Students' description this year about what constitutes an optimum learning environment closely parallels the Student Vision for Learning. Students place a high value on technology-enabled active learning experiences that are contextually rich in real problems-solving experiences alongside opportunities for them to have more choice and control over that pace of learning. These student aspirations are remarkably consistent whether the student is in an urban, rural or suburban community (**Table 1**). For example, 63% of students in grades 6-12 in urban schools say enabling students to make choices about how they want to learn creates an optimum learning environment for them; their peers in suburban schools (65%) and in rural schools (59%) agree.

Table 1: Students Speak Up about what constitutes an optimum learning environment

Students' optimum learning environments …	All Gr 6-12 students	Gr 6-12 students in urban schools	Gr 6-12 students in suburban schools	Gr 6-12 students in rural schools
Provide students with access to reliable devices and strong Internet	61%	59%	65%	59%
Enable students to make more choices about how they want to learn	63%	63%	65%	59%
Create opportunities for students to engage in real-world problem solving	53%	53%	55%	52%
Allow students to have more control over learning processes	53%	52%	55%	50%

Echoing what students identified as the obstacles to using technology most effectively in school (Chapter 1), 61% of students nationwide also say that it is essential to provide students with reliable devices and strong Internet connectivity to support their learning. This is especially important when we consider the digital tools that students say will support the active learning experiences recommended in the 2024 National Ed Tech Plan. Technologies identified as supporting active learning are not bit players in the classroom, but rather play an enabling role for those learning experiences. For example, an online simulation that shows students a chemical reaction that is not feasible to demonstrate in the physical classroom requires student devices and bandwidth to fully support that simulation to be effective as a learning modality.

In this year's Speak Up surveys, students in grades 6-12 identify the types of active learning digital tools that they believe would be helpful in supporting their future success. Reflecting the Student Vision element of socially based learning, students in grades 6-8 (82%) and students in grades 9-12 (84%) ranked online collaboration tools as their top choice (**Table 2**). Students highly value project-based learning experiences (78% of students in grades 6-8 and 83% of students in grades 9-12) that provide them with opportunities to develop future-ready workplace skills through real-world problem-solving activities. Activation of those types of experiences requires tools that support student collaboration, co-creation, and peer-to-peer learning. Students' wish for the ability to use these tools within the classroom, however, often depends upon teacher sponsorship or facilitation. Teachers highly value technology-enabled collaboration tools for classroom use, with 91% of teachers saying that they would find those tools helpful in their classroom. However, the effective use of those tools to support active

learning experiences for students is still a developmental activity for most teachers. At this point, only 26% of classroom teachers say they are *very comfortable* facilitating student collaborations using digital tools.

Table 2: Digital tools that support active learning – what tools students say are helpful for school success

Digital tools for active learning	Percentage of students who chose these digital tools	
	Students in grades 6-8	Students in grades 9-12
Collaboration tools	82%	84%
Student-teacher communication tools	72%	82%
Online databases	74%	78%
Multi-media tools for creating content	65%	72%
Online and digital games	68%	70%
Coding and computer programming resources	69%	70%
AI tools that personalize learning	70%	70%
Online animations, simulations and virtual labs	67%	69%
Virtual reality equipment and content	58%	53%

It is notable that 70% of students in grades 6-12 also ranked highly the use of AI tools to support more personalized learning experiences, higher than online animations and virtual reality headsets and content. This high ranking on AI, despite still limited usage in school, indicates that students see significant potential for this emerging technology to create more active learning experiences for them in class.

The developing role of AI in education

There is certainly much more that we all can learn about the potential of AI within education. The Speak Up Research surveys have asked a few questions about AI and AI-type tools over the past few years. Starting in the 2023-24 school year, our focus was on how students and educators were currently using Generative AI products, like ChatGPT, and their insights about potential use cases for these types of technologies. This data supporting these research questions was collected both via our year-long Speak Up Classic surveys and a special Speak Up Snapshot on AI in spring 2024.

A key finding this year is the disparity between students and teachers on their familiarity with Generative AI tools based upon usage. According to our 2023-24 data findings, only 10% of classroom teachers said they were using Gen AI tools regularly. Comparatively, 45% of students in grades 6-12 say they have used AI tools as a study

guide or to support research and information gathering during the year. Similarly, 43% of students in grades 6-12 report using AI for writing support such as for idea generation or revision suggestions.

Examining high school students' use of AI to support these learning tasks also illustrates that students in suburban communities have a higher frequency of usage than their peers in rural or urban communities. While 41% of students in suburban schools report using AI as a study guide at least weekly, only 32% of their peers in urban schools and 34% of their peers in rural schools report that same frequency of usage (**Table 3**). Likewise, there is a 9-percentage point difference between students in suburban schools and urban schools relative to the use of AI as an idea generator.

Table 3: Frequency of high school students' use of AI for learning tasks

Frequency	Percentage of high school students reporting this level of frequency with usage					
	AI as study guide			AI as idea generator		
	Urban	Suburban	Rural	Urban	Suburban	Rural
At least monthly (includes daily and weekly usage)	32%	41%	34%	30%	39%	32%
Few times during the school year	10%	9%	13%	11%	9%	13%
Never used	58%	49%	53%	59%	52%	55%

This disparity may not be the result of how their teachers are using AI in the classroom. Only 14% of students in grades 6-12 say that their experimentations with AI as a learning tool occurred in the classroom. However, 28% of students in grades 6-8 and 30% of students in grades 9-12 acknowledge experimenting with AI tools has been a self-directed learning experience for them (**Table 4**). The difference based upon community type is also evident in students' self-directed AI experimentation. While 33% of middle school students in suburban schools say they were introduced to AI capabilities through their own experimentation outside of school, only approximately one-quarter of their peers in rural schools (27%) and in urban schools (25%) say the same.

Table 4: Student experimentation with AI – in school or on their own

Familiarity and usage factors	Percentage of students	
	Students in grades 6-8	Students in grades 9-12
Personal experiences:		
Experimented with AI on my own	28%	30%
Schoolwork related experiences:		
Experimented with AI as part of an in-classroom experience	14%	14%

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Despite these personal AI experiences, students acknowledge that learning how to use AI safely and ethically is an essential skill for them to develop to be successful in the future. One-quarter of students in grades 6-8 (26%) and 21% of students in grades 9-12 list AI skill development as an important future-ready skill.

Today's students and their technology skills

In the early days of Speak Up Research reporting, some educators would use our data findings to support a long since debunked theory that students were digital natives and adults were digital immigrants, meaning that students had a natural proclivity to using technology more effectively than their teachers or parents. Our data always provided a more nuanced view, however. One key problem with that theory was the idea that all students were high technology users with superior skills and a stronger interest in using technology than the adults in their lives. That was not true in 2003 and it is still not true today. In 2014, 24% of students in grades 6-12 self-assessed their tech skills as advanced compared to their peers. In 2024, 33% of students in grades 6-12 label their skills with technology as advanced (**Table 5**). But the vast majority of students today (60%) still consider themselves to possess average tech skills, just as they did 10 years ago. And even with the ubiquity of technology in their personal and learning lives, a percentage of students still consider themselves tech-beginners (7%), thus continuing to confound the digital native argument. Only slight differentiations for students' self-assessments appear to be community type dependent, reflecting therefore not only the widespread access to technology across all types of communities, but also students' own personal usage of these tools.

Table 5: Grade 6-12 students' self-assessment of their technology skills – compared to peers

Community types	Advanced tech skills	Average tech skills	Beginner tech skills
Nationwide	33%	60%	7%
Urban schools	32%	61%	7%
Suburban schools	38%	55%	7%
Rural schools	30%	63%	7%

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It was once thought that schools needed to take the lead in teaching students how to use technology effectively within learning. Many schools embraced that need and included classes on the Microsoft Office applications in their course catalogs. However, today, 54% of students in grades 6-8 and 58% of students in grades 9-12 report that their technology skills are primarily self-taught. Only 23% of high school students say they learned technology skills in a formalized class in school.

But this does not mean that students do not value learning more about how to use technology effectively. Students (41% of students in grades 6-12) say knowing how to use technology is an important future-ready skill that will prepare them for future success. Those skills include learning about AI and becoming more proficient with information and media literacies. Students want that skill development around technology, however, to be embedded within active learning experiences that are aligned with their overall vision for learning. In closing the gap between students' aspirations for using digital tools and resources effectively and current classroom practices, therefore, it is valuable to be reminded that our students continue to have worthy ideas about how to better leverage technology to support learning goals for themselves and their classmates. And to appreciate that these students are true believers in terms of putting their learning needs upfront, and not playing into the game of using technology just for technology's sake. These are good insights for us all to keep in mind every day.

I truly believe that it is a detriment to our learning if we allow digital tools to completely replace in-person learning. However, there is serious merit to the implementation of technology into modern curriculum. If we focus on the positive forms of technology in today's learning environment, we can greatly improve education for years to come.

- 10th Grade Student (VA)

About Project Tomorrow and the Speak Up Research Project

Project Tomorrow's nonprofit mission is to support the effective implementation of research-based learning experiences for students in K-12 schools. Project Tomorrow is particularly interested in the role of digital tools, content, and resources in supporting students' development of college and career ready skills. The organization's landmark research is the Speak Up Research Project, which annually polls K-12 students, parents, educators, and community members about the impact of technology resources on learning experiences both in school and out of school, and represents the largest collection of authentic, unfiltered stakeholder voices on digital learning. Since 2003, over 6.3 million K-12 students, parents, teachers, librarians, principals, technology leaders, district administrators, and members of the community have shared their views and ideas through the Speak Up Project. Approximately 100,000 K-12 stakeholders shared their views on education and digital learning through the 2023-24 Speak Up Research Project. Learn more at www.tomorrow.org.

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[i] US Department of Education, "A Call to Action for Closing the Digital Access, Design and Use Divides, 2024 National Education Technology Plan," January 2024. Pages 17 – 20.

[ii] Project Tomorrow, "Active vs. Passive Learning Using Digital Tools and Resources, From Engagement to Learning: Speak Up Research Project National Report 2023-24," October 2024.

[iii] Evans, J. A. (2022). *Free Agent Learning: Leveraging Students' Self-directed Learning to Transform K-12 Education.* John Wiley & Sons. https://www.tomorrow.org/publications/free-agent-learning/