D2L

How the Pandemic Has (Re)Shaped K-12 Teacher Professional Learning

Survey Findings, Research Brief and Recommendations
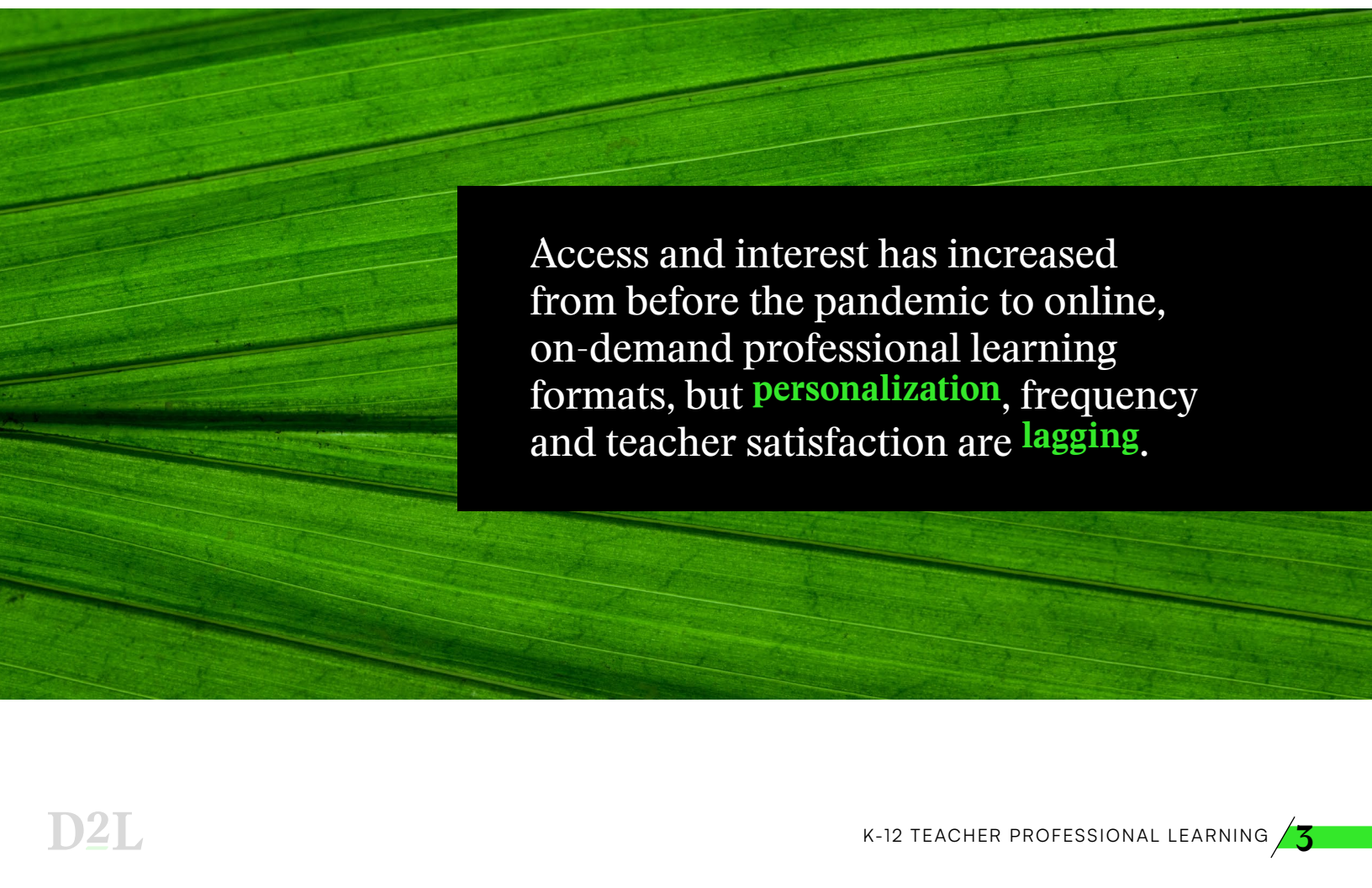
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Introduction

The COVID-19 pandemic drove a dramatic shift in the delivery of instruction and learning, further pushing many teachers to remote and hybrid models. K-12 educators have needed to pivot their teaching, as well as their professional learning, more to online formats. There is rightly much focus on the pandemic's impact on student needs and instruction, but less is known about its impact on teachers' professional development.

To help answer these questions, D2L commissioned **Interactive Educational Systems Design (IESD), Inc.,** an independent research firm, to survey nearly 1,000 U.S. K-12 teachers and school district administrators about teachers' professional learning (PL). The research examines educators' opinions and experiences from pre-pandemic times to now and contributes to our collective understanding of evolving teacher PL priorities and opportunities for improvement.

The survey identified a shift in teachers' views and expectations including a desire for more online, on-demand, frequent and targeted professional learning. These views are consistent with research-based best practices that recommend teachers' professional learning be timely, job embedded and personalized. Yet it also found persisting gaps in the availability of personalized learning that, if left unaddressed, may limit opportunities to meet teacher needs and enhance student success across all schools.

This research brief includes a summary and analysis of survey findings, an outline of the alignment of survey findings with research-based practices, and recommendations for enhancing professional learning practice to better align with both evolved teacher expectations and efficacy research.

Access and interest has increased from before the pandemic to online, on-demand professional learning formats, but **personalization**, frequency and teacher satisfaction are **lagging**.

Key Findings

The IESD survey identified a growing educator interest emerging out of teachers' pandemic experiences in professional learning that is ongoing, on-demand, online and targeted. However, likely due in part to their limited access to frequent and personalized professional learning, **only 20% of surveyed educators identified strong satisfaction** with the professional learning opportunities made available by their school and district.

While 94% of U.S. K-12 educators agree that ongoing professional learning is important to a teacher's effectiveness, only 36% expect their district to provide professional learning on such a frequent ongoing basis, as needed.

Educators were asked in detail about five specific PL types/formats—targeted, online on demand, online live, online professional learning community (PLC) within district and online PLC extending outside district—that enable such ongoing professional learning:

- **Impressively, 91% of educators identified interest in professional learning that is targeted to meet each teacher's specific, unique needs**, with 43% indicating increased interest as a result of their professional experience during the pandemic.

- **Notably, 71% identified interest in professional learning that is online, on demand (e.g., video segments, learning modules, courses)**, with 55% indicating their interest increased since the pandemic started.

- Educators reported **online on-demand (71%) and online live (67%) professional learning was more available** than before the pandemic, while **for targeted professional learning in contrast, only 20% reported increased availability** and 24% reported decreased or no availability.

In general, the more frequently schools/districts make PL opportunities available, the more likely educators were to agree both that PL is important and that they are satisfied with their PL. For example, **82% of respondents were satisfied if PL was available frequently—on a regular, ongoing basis as needed, compared to 43% being satisfied if PL was available only once or twice each semester or less often.**

Of the PL types surveyed, **educators identified the least interest in teacher PL via online live sessions** (e.g., video conferencing or webinars):

- Only 18% indicated strong current interest in online live PL, while 41% indicated slight interest or no interest; and

- While 43% identified increased interest since the pandemic's start, 17% identified decreased interest (the most of the five surveyed types), which we speculate results from the former group perhaps being new to this format while the latter may be fatigued by live, online remote teaching and PL during the pandemic.

District administrators and teachers often varied significantly in their responses. For example, administrators were more likely to identify the amount of educator time required as a barrier to online PL—both live and on-demand (82%)—compared to teachers (48%). This finding suggests that teachers may be more willing to commit their time to online PL than administrators believe, perhaps in part because they like its flexibility to their unique needs or comparatively see it as being less time-consuming than in-person PL.

Other findings identify differences by role, experience and school level, and explore barriers to online PL. For example, more than 90% of educators agreed that technology is important for instruction and student learning and well supported by their districts, while technology was identified as a barrier to online PL by only 6% of teachers (lack of comfort with technology) and only 14% of administrators (lack of technology infrastructure).

Background

The COVID-19 pandemic has had a profound impact on K-12 education, including pushing many to shift to emergency remote and hybrid schooling. This meant that educators not only needed to pivot their instruction and provide additional student support, but also move their professional learning online.

The pandemic experience serves as a catalyst both to highlight K-12 educational challenges and inequities and to spark new opportunities to reimagine teaching and learning. Perhaps no issue is more central to the future success of our students than the satisfaction, support and preparedness of the teacher workforce.

While research has long identified that **teachers and teacher quality are the strongest school-related factors in determining student learning and achievement**,[i] (Economics of Education Review, 2011) the importance of teachers has perhaps never been so widely appreciated as during the pandemic. At the same time, the disrupting challenges have greatly exacerbated teacher fatigue, frustration, and **exits**.[ii] (U.S. News, 2021)

Teacher support and professional learning, therefore, appear more important than ever to teacher effectiveness, retention and success. Yet, the educator satisfaction with, and efficacy of, much professional learning remains modest. Spending in the U.S. on teacher professional development (PD) is estimated at **$18 billion annually**[iii] (~2.5% of total K-12 spending), while this survey confirmed previous findings that **few teachers feel highly satisfied**[iv] with their PD opportunities. (Gates Foundation, 2014) Studies have also generally indicated a **weak return on investment**.[v] (Educational Researcher, 2013)

Among the reasons for past shortcomings may include that teacher professional development, or in-service education, has traditionally been delivered in a pre-scheduled, episodic and system-wide approach and not adequately job embedded. Research finds that "**most teachers receive PD of short duration** (less than eight hours on a topic, usually in afterschool workshops)."[vi] (Learning Policy Institute, 2017)

Changing needs and circumstances make such traditional professional development increasingly less effective even as its importance grows:

"A number of significant changes in U.S. education policies and practices, student demographics, and technologies have led to changing expectations for instruction and curriculum that have translated into **changing expectations for teachers**."[vii] (The National Academies, 2020)

"For students to develop mastery of challenging content… teachers must employ more sophisticated forms of teaching. **Effective professional development (PD) is key** to teachers learning and refining the pedagogies required to teach these skills."[viii] (Learning Policy Institute, 2017)

As identified by this D2L-commissioned survey, and driven in part out of necessity from emergency pandemic schooling, there are encouraging signs of a shift toward more research-based practices as teachers are:

- more willing (than administrators recognize) to commit their time to frequent and ongoing professional learning;

- able to access more online and on-demand professional learning opportunities; and

- seeking PL that is more timely, personalized and supported by an online professional learning community.

Among the resulting questions is how to further update practices to meet the evolving interest such as in more targeted and personalized PL that the survey identified as relatively less available, as well as if, and how, these views and progress will extend past the current conditions.

About the Survey

Interactive Educational Systems Design (IESD) conducted a survey during September and October 2021 on behalf of D2L. The survey gathered information from district administrators and teachers, focusing primarily on teachers' professional learning. The purpose of this research was to contribute to our understanding of trends in K-12 professional learning throughout the U.S.

More than 65,000 district administrators and teachers included in the education market database of MCH Strategic Data were invited by email to take the survey. In total, 977 qualified educators responded to the survey, including 127 district administrators and 850 teachers. **The survey questions, data, and subgroup/cross-tab analysis are available here.**

Educators were asked a series of questions about their experiences and their opinions, including how both have changed from prior to the pandemic. Findings are reported below, including by certain demographic groups and with additional cross-tabs that examine the intersection of experiences and opinions.

The margin of error for results from the entire group of respondents was approximately ±3.1% at the 95% confidence level. Margin of error estimates for specific subgroups analyzed in this report varied from approximately ±3.4% to ±8.7%. Subgroup analyses are not included in instances of very small subsample sizes (less than 25 respondents) and very large margins of error (greater than ±20%). Subgroup analyses included z-tests to determine statistically significant differences between/among percentages at the 95% confidence level.

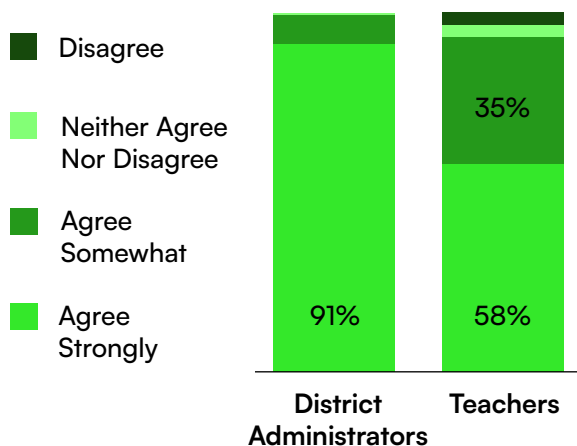|	
NO. OF QUALIFIED RESPONDENTS	• 977
STAFF ROLE IN DISTRICT	• District administrators (13.0%) • Teachers (87.0%)
YEARS AS AN EDUCATOR	• 0 to 10 years (25.9%) • 11 to 20 years (34.7%) • More than 20 years (39.4%)
STATE IN WHICH DISTRICT IS LOCATED	• All 50 states (no respondents from DC) • States with >3% of sample: TX, CA, FL, OH, PA, NC, IN, IL and NJ. Together, these nine states made up 45.9% of the respondents.
SCHOOL LEVEL (TEACHERS ONLY)	• Elementary school (28.9%) • Middle/junior high school (33.9%) • High school (40.7%)

Survey Findings in Detail

Importance of Ongoing Professional Learning

Impressively, 94% of educators agreed that *ongoing professional learning is important to a teacher's effectiveness* (in contrast with traditional episodic PL such as workshops or in-service professional days). Views varied by subgroup:

- **By Role**—91% of district administrators strongly agreed that ongoing PL is important to a teacher's effectiveness, compared to 58% of teachers who strongly agreed (Figure 1). This difference in degree (i.e., agree somewhat vs. strongly) may suggest that many teachers have not sufficiently experienced (effective) ongoing professional learning to recognize its importance.

- **By Experience**—In general, **the more experienced an educator is, the more they viewed ongoing PL as important** to a teacher's effectiveness. This finding suggests that, as teachers gain experience, they increasingly recognize the importance of ongoing professional learning to support their needs.

FIGURE 1: IMPORTANCE OF ONGOING PL

Legend:
- Disagree
- Neither Agree Nor Disagree
- Agree Somewhat
- Agree Strongly

District Administrators: 91%
Teachers: 58%, 35%

Satisfaction with Professional Learning Opportunities

While 63% of educators agreed that they are satisfied with the *teacher professional learning opportunities provided by their districts*, **only 20% of those educators agreed strongly** (Figure 2). Views varied by demographic:

- **By Role**—**District administrators (81%) were more likely than teachers (60%) to be satisfied**, while teachers were more likely to be dissatisfied (28%) compared to administrators (13%). This finding suggests that teachers may have higher or different expectations for what constitutes satisfactory PL and so are less satisfied comparatively with their actual experiences, or administrators may have an over-inflated view of the PL being offered given they are not the recipients.

- **By Grade Level**—**In general, elementary school teachers were less satisfied than high school teachers when it comes to their professional learning opportunities.** For example, elementary school teachers (25%) were more likely than high school teachers (17%) to agree strongly that they are satisfied (while 29% of high school teachers disagreed compared to 22% of elementary school teachers). This finding suggests that district provided PL may be better matched in topic for elementary school teachers, perhaps in part because secondary school teachers require PL targeted to their course expertise while district PL may be more often generalized and focused on classroom management, for example.

Expected Frequency of Professional Learning Availability

Educators were divided almost equally when asked: *How often do you expect that your school/district will make available professional learning opportunities to teachers this school year—once or twice a semester, about once a month, or more frequently on an ongoing basis?* (Figure 3)

- The variance among teacher expectations suggests the divergence of practices among districts, with some providing very infrequent professional learning opportunities while others provide PL opportunities on a regular, ongoing basis, as needed.

- Interestingly, 51% of district administrators expect PL will be available *more frequently than once a month— on a regular, ongoing basis, as needed*, compared to 34% of teachers. This finding suggests either a difference in definition or a difference in awareness, perhaps in both cases caused by inadequate communications about goals and needs as well as about available opportunities.
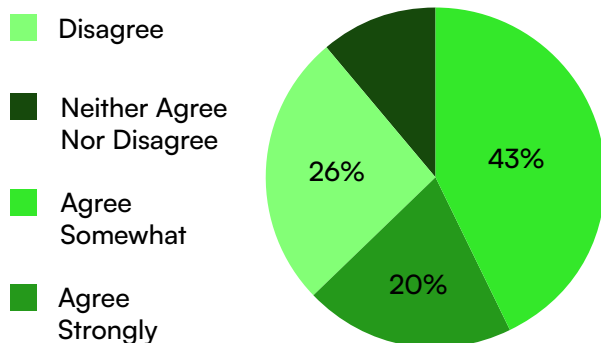
FIGURE 2: PL SATISFACTION

- Disagree
- Neither Agree Nor Disagree
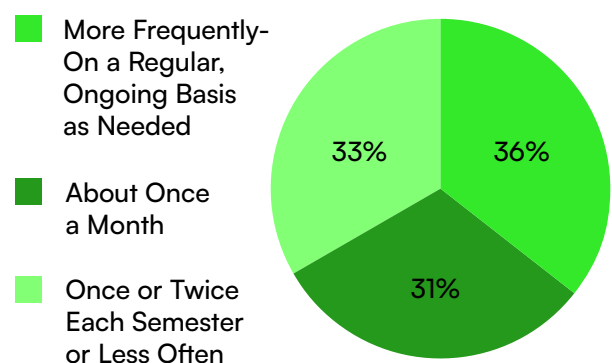- Agree Somewhat
- Agree Strongly

43% / 20% / 26%

FIGURE 3: FREQUENCY OF PL AVAILABILITY

- More Frequently- On a Regular, Ongoing Basis as Needed
- About Once a Month
- Once or Twice Each Semester or Less Often

36% / 31% / 33%

Interest and Availability for Five Types/Formats

Educators were surveyed about their current level of interest in five types/formats of professional learning (Figure 4).

- **Notably, 91% of educators identified a current interest in PL that is** *targeted* **(including 56% strongly interested), while 71% identified a current interest in** *online on-demand* **PL (including 32% strongly interested).** Net current strength of interest (*strongly interested* less *not interested*) was also greatest for targeted (55%) and online, on-demand (21%).

- About 66% identified interest in PL **supported by an online professional learning community (PLC)**, with little difference between the two types: *within* the district and *extending outside* the district.

- **Current interest in** *online live* **PL was the lowest, at 59%**, including only 18% with strong interest, and the highest number reporting not interested (15%). Net current strength of interest was therefore just 3%.

Educators were also asked: As a *result of your professional experience during the pandemic, how has your level of interest changed* (in each of the five surveyed types/formats)? (Figure 5)

- **Change in interest and net change in interest (***increased* less *decreased***) was greatest for** *online on demand* **(55% increased; net 43%) and** *targeted* **(43% increased; net 40%).**

- **For** *online live sessions***, 43% identified increased interest, but interest decreased the most (17%), for a net of 26%.**

FIGURE 4: CURRENT INTEREST IN 5 TYPES OF PL

	Targeted	Online, On Demand	Online PLC (Extended)	Online PLC (Within District)	Online Live
Slightly Interested		18%	22%	23%	26%
Somewhat Interested	35%	39%	45%	43%	42%
Strongly Interested	56%	32%	22%	23%	18%

Legend: ■ Strongly Interested ■ Somewhat Interested ■ Slightly Interested ■ Not Interested
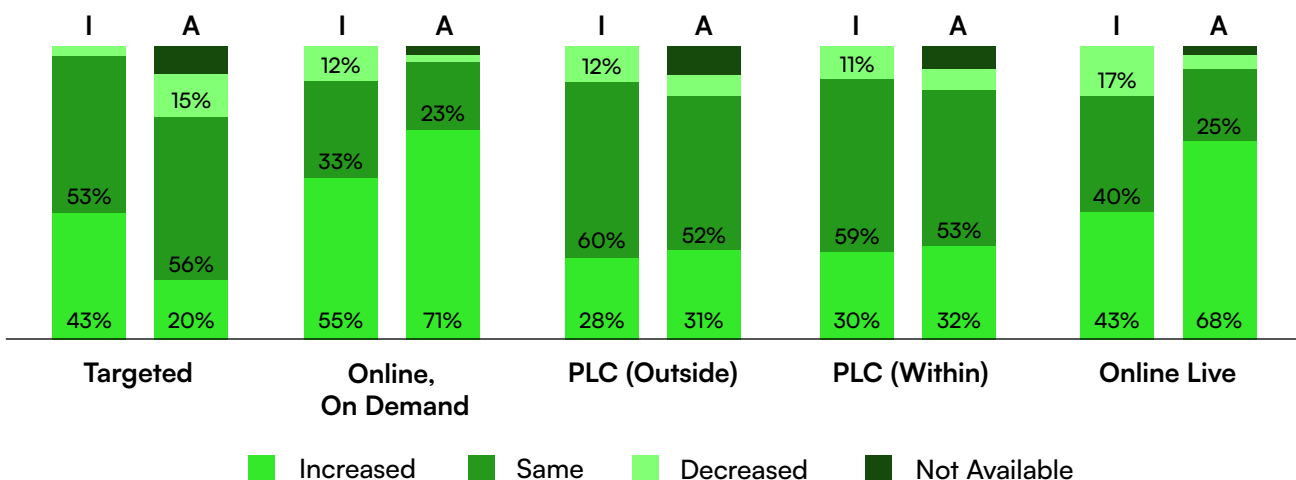
Looking at current interest and change in interest together, we find the following:

- **Educators identified the greatest current interest (both total and net strength) and the greatest change in interest (both increase and net increase) in *targeted* and *online on-demand* professional learning.** These findings suggest that their pandemic experience caused teachers to increasingly recognize the importance of PL that is personalized to their needs in both content and timeliness. The catalyst for this shift may have been their need for PL that met their unique needs in a time-effective manner to support their sudden and profound instructional shift.

- **Educators identified the least current interest (both total and net strength) and the least change in interest (both increase and net increase) in *online live* professional learning.** These findings may arise in part from both their teaching and their PL that was often pushed into online live formats. We may speculate about resulting fatigue as well as recognition that video-conferencing and other synchronous group formats may not sufficiently address their need for targeted and timely support, depending upon the implementation model.

- In short, targeted PL appears to have started out during the pandemic with the strongest interest while also gaining significant additional interest, followed by online on-demand PL, which had the greatest net gain in interest. While online live PL gained significantly, current net interest still lags well behind the other four types surveyed.

Finally, educators were also asked: *Compared to before the pandemic, how has the availability of the following types of professional learning changed in your school/district?* (Figure 5)

- **In total, 71% of educators cited that online on-demand professional learning is more available now than before the pandemic, while 68% cited an increase in online live PL availability.** This finding is not surprising considering the shift to remote learning forced by the pandemic. The question will be the degree to which these practices endure even if emergency conditions do not require them.

- **Only 20% identified increased availability of targeted professional learning, while 15% cited a decrease and 10% indicated targeted PL is not available.** This change in availability of targeted PL is concerning, but it could be a temporary change during the pandemic due to the extended PL needed across the teacher force focused on timely issues of technology, social-emotional learning (SEL), remediation, etc.

- About 9% indicated that an online PLC (both within and extending outside the district) is not available, 7.4% cited decreased availability, and about 31% cited increased availability.

FIGURE 5: CHANGE FROM PRE-PANDEMIC IN INTEREST (I) AND AVAILABILITY (A)

	Targeted		Online, On Demand		PLC (Outside)		PLC (Within)		Online Live	
	I	A	I	A	I	A	I	A	I	A
Decreased / Not Available	15%		12%		12%		11%		17%	
Same	53%		33%	23%	60%	52%	59%	53%	40%	25%
		56%								
Increased	43%	20%	55%	71%	28%	31%	30%	32%	43%	68%

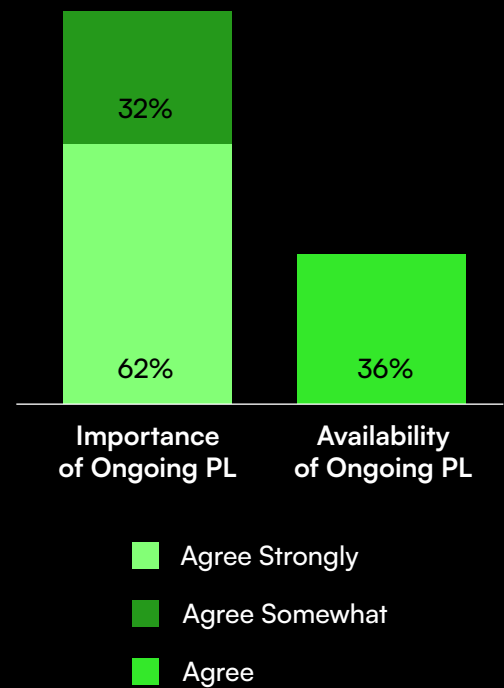Legend: ■ Increased ■ Same ■ Decreased ■ Not Available

Importance and Frequency of Professional Learning

While 94% of U.S. K-12 educators agree that *ongoing professional learning is important to a teacher's effectiveness*, only 36% expect their district will provide professional learning on a regular, ongoing basis as needed (Figure 6). These findings suggest a very wide gap between what educators want and believe is important and what they anticipate their districts will actually provide.

- **In general, the more frequently educators expected their schools/districts will make PL opportunities available to teachers, the more likely they were to agree strongly with the importance of ongoing professional learning.** This finding suggests that actual experience impacts views. Educators without access to frequent ongoing PL are not in a position to appreciate its importance. In contrast, educators with more frequent and ongoing access experience the benefits and thus further appreciate the importance.

- For example, educators who expected more frequent PL availability—on a regular, ongoing basis—were more likely to agree strongly that ongoing PL is important to a teacher's effectiveness (71%), which is a figure that is higher when it is compared to educators who expected availability about once a month (59%) or once or twice each semester or less often (55%).

- Similarly, educators who agreed strongly that ongoing PL is important are more likely to be strongly interested in professional learning supported by online PLCs of both types (~30%) than educators who agreed somewhat that ongoing PL is important (~11%). Note that by design, online PLCs provide frequent, ongoing support as needed.

**FIGURE 6:
PL IMPORTANCE COMPARED TO AVAILABILITY FREQUENCY**

Importance of Ongoing PL: 32% Agree Somewhat, 62% Agree Strongly
Availability of Ongoing PL: 36% Agree

- Agree Strongly
- Agree Somewhat
- Agree

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Satisfaction and Frequency of Professional Learning

Availability of ongoing and online professional learning is generally correlated with teacher PL satisfaction.

- **In general, the more frequently educators identified that their schools/districts will make PL opportunities available to teachers, the more likely they were to *agree* that they are *satisfied with the teacher professional learning opportunities provided by their districts*** (Figure 7). This finding suggests that PL better meets teacher needs and goals the more frequently it is available to them, and that teachers are far less satisfied with their PL if they do not have ongoing access.

- For example, educators who expect that their district will make PL available *more frequently—on a regular, ongoing basis* are more likely to be satisfied with the teacher PL opportunities provided by their district (82%) compared to educators with availability only *once or twice a semester or less* (43%).

- Educators expressing strong satisfaction with PL opportunities provided by their district were more likely to report that availability of the five types of PL increased from before the pandemic, compared to educators expressing dissatisfaction (Figure 8). Once again, satisfaction appears to be associated with PL availability. For example, educators who strongly agree they are satisfied with PL opportunities provided by their district are more likely to answer that the availability of online PLCs (average of both types) increased compared to before the pandemic (~46%) compared to educators who disagree that they are satisfied (~17%).

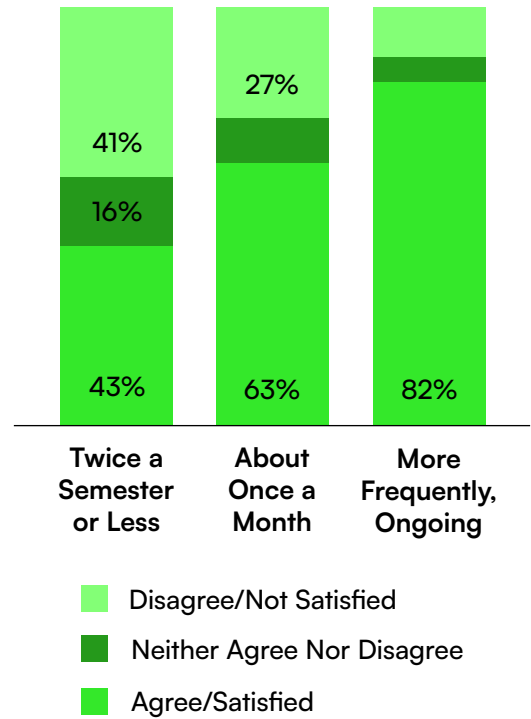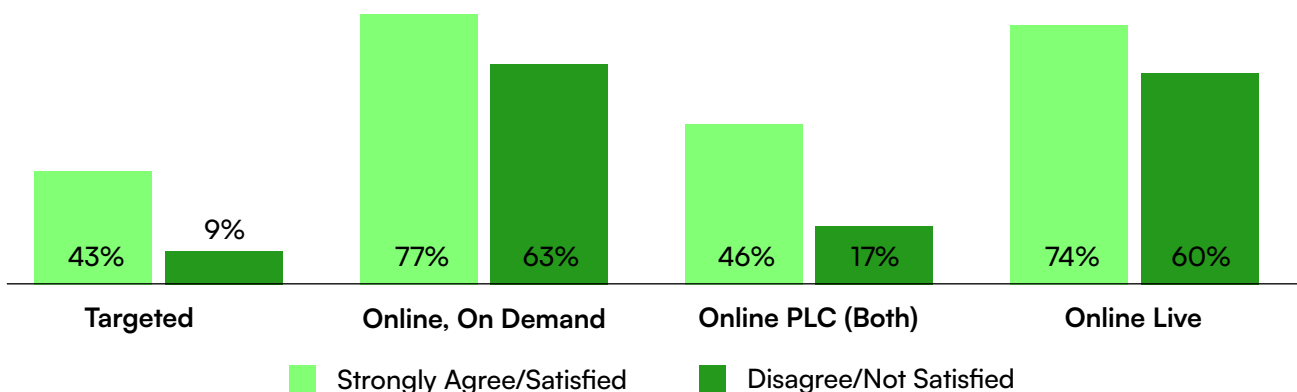FIGURE 7: PL SATISFACTION BY AVAILABILITY FREQUENCY

FIGURE 8: INCREASED AVAILABILITY BY SATISFACTION

Technology and Professional Learning

More than 90% of educators agreed with each of the following three statements:

> *Technology and digital learning are **important** components of instruction, classroom management, and student learning.*
>
> *I am **comfortable** using/supporting the use of technology and digital learning for instruction, classroom management, and student learning.*
>
> *Our **schools encourage and support** the use of technology and digital learning for instruction, classroom management, and student learning.*

- **When asked about the barriers/challenges to teachers' online professional learning, only 6% of teachers identified *lack of comfort with technology* as a barrier, and only 14% of administrators identified *insufficient technology infrastructure* as a barrier.** These findings suggest that neither teacher technology skills nor technology access are barriers to online PL at either the individual teacher or district levels.

- **In general, the more that educators agreed their school encourages/supports the use of technology, the more likely they were to agree they are satisfied with their PL.** For example, educators who agreed strongly that their school encourages/supports the use of technology were more likely to agree that they are satisfied with their PL (72%) compared to educators who agreed somewhat that their school encourages/supports the use of technology (56%). This finding suggests that schools supporting technology are more likely to do so through frequent, on-demand, online and targeted professional learning, which contributes to satisfaction.

- Similarly, educators who agreed strongly that they are satisfied with PL opportunities provided by their district are more likely to agree strongly that their schools encourage and support the use of technology and digital learning (76%) than educators who disagree (42%) that they are satisfied with their PL.

Challenges and Barriers to Online Professional Learning

Educators were asked to identify the challenges they see to participating in (teachers) and implementing (district administrators) online professional learning (live or on demand) in their school/district.

- Teachers most identified challenges of *online PL not engaging* (56%), *needed topics not offered* (54%), and *too much time required* (48%) (Figure 10). This finding may suggest that too much online PL is still live, lecture-style instruction, and so it is not meeting their needs for PL that is targeted or that is interactive, collaborative and ongoing, as it would be if it were supported by an online professional learning community.

- Administrators most identified *educator time required* as the top barrier (82%), followed by budget constraints (44%) and *teacher demand/resistance* (34%) (Figure 12).

- **District administrators most frequently cited *educator time required* as a barrier to implementing various forms of online PL (82%), while only 48% of teachers cited the time required as a challenge** (Figure 9). This finding suggests that teachers may be more willing to commit their time to online PL than administrators believe they would, perhaps in part because they like the flexibility, timeliness and targeting to their unique needs that is afforded by online PL.

**FIGURE 9:
EDUCATOR TIME REQUIRED AS A BARRIER TO ONLINE PL**

82% Administrators — 48% Teachers
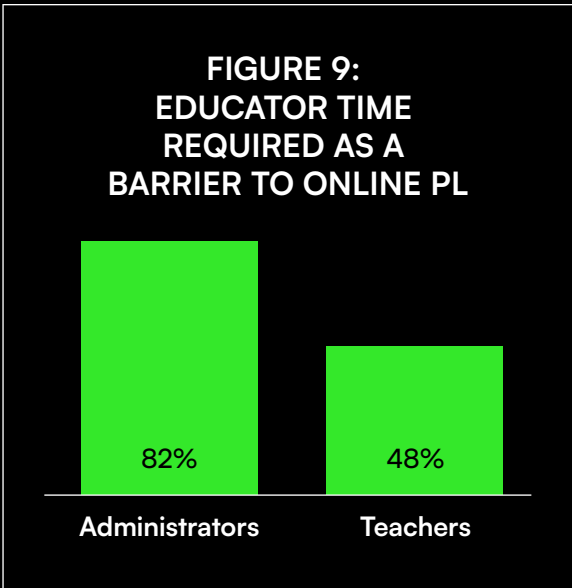
- Teachers who expected PL availability more frequently than once a month were **less** likely to identify *online PL as not being engaging* (48%) and *topics are not what I need* (46%), compared to those expecting PL less often (58%; 60%). These findings suggest perhaps the relationship between PL targeting and frequency (i.e., the more frequent is the PL, the more likely the PL is varied and offers choice so that teachers can target the PL to the topics they need and increase engagement.)

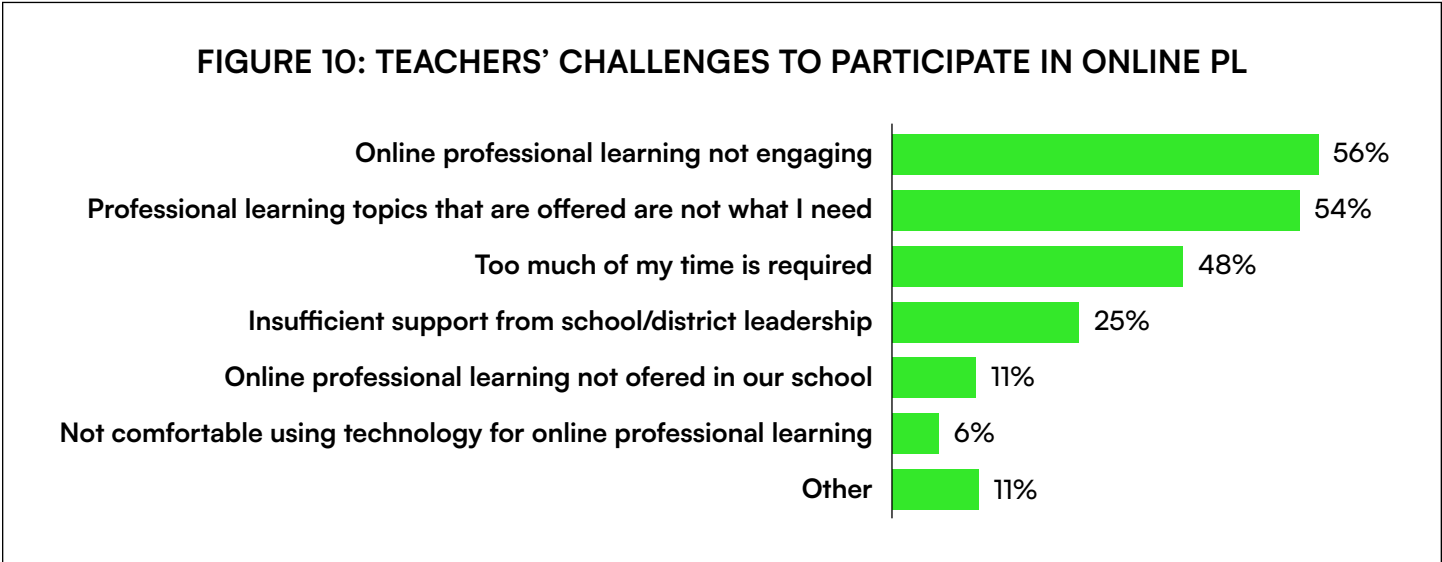**FIGURE 10: TEACHERS' CHALLENGES TO PARTICIPATE IN ONLINE PL**

Challenge	Percent
Online professional learning not engaging	56%
Professional learning topics that are offered are not what I need	54%
Too much of my time is required	48%
Insufficient support from school/district leadership	25%
Online professional learning not ofered in our school	11%
Not comfortable using technology for online professional learning	6%
Other	11%

FIGURE 11: TEACHER IDENTIFIED BARRIERS TO ONLINE PL BY SATISFACTION

Legend:
- Agree/Satisfied (light green)
- Disagree/Not Satisfied (dark green)

Barrier	Agree/Satisfied	Disagree/Not Satisfied
Not engaging	51%	63%
Topics Offered Are Not What I Need	46%	69%
Insufficient Support From Leadership	14%	43%
Online PL Not Offered In Our School	6%	20%
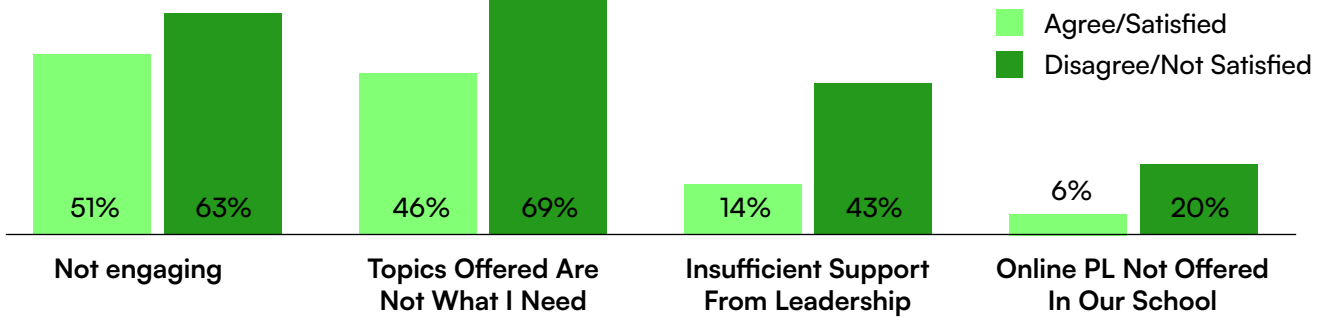
FIGURE 12: ADMINISTRATORS: BARRIERS TO IMPLEMENTING ONLINE PL

Barrier	Percentage
Education tiem required	82%
Budget constraints (e.g., professional learning...)	44%
Insufficient teacher demand/teacher resistance	34%
Administration time required	25%
Union labor agreement	18%
Insufficient technology infrastructure	14%
Insufficient support from school/district leadership	8%
State/federal regulations	6%
Other	9%
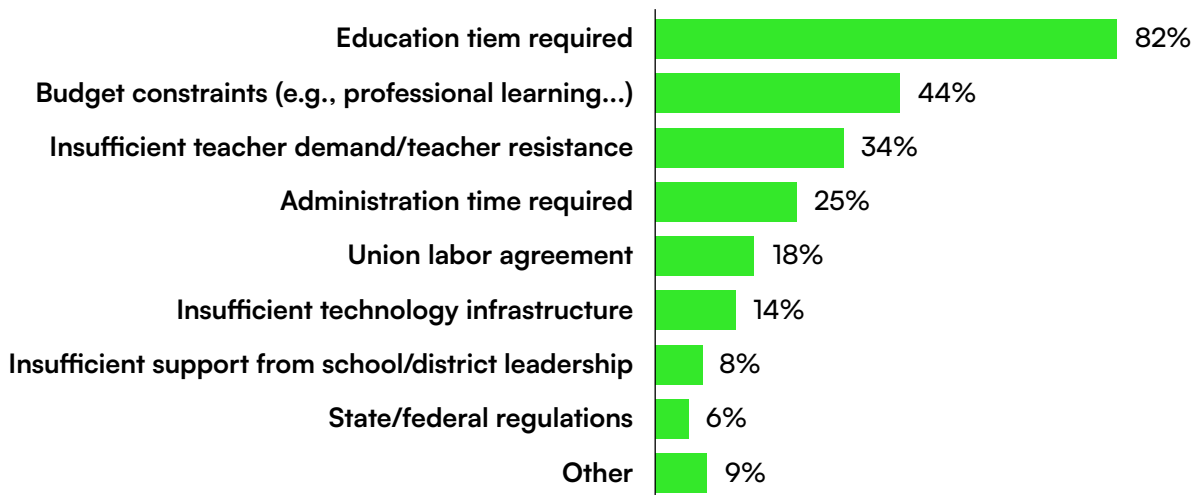
- Teachers who were dissatisfied with their district's PL opportunities were more likely to identify several challenges participating in online (live and on-demand) professional learning: lack of PL engagement, PL topics offered are not what they need, insufficient leadership support, and online PL not offered (Figure 11).

- In general, the higher the school level, the more likely it was that teachers identified that topics offered are not what I need. This finding suggests that secondary school teachers are more likely to be seeking PL that is more specific to their course topic, which varies more at the high school level.

Topics of Interest

Educators were asked: *Which of the following focuses of professional learning do you value the most* (in general or for a specific subject area)? (Figure 13)

By Role:

- The professional learning focuses that were most valued tilted toward instructional topics, with best teaching practices selected most often, followed by supporting SEL and a growth mindset, subject area knowledge, and use of technology to monitor student progress and differentiate instruction. Educators were less likely to value more routine topics (e.g., technology operations, classroom management and administrative procedures).

- District administrators were more likely than teachers to identify best teaching practices (85% vs. 63%) and supporting student social-emotional learning and a growth mindset (70% vs. 51%) as among the professional learning focus areas they valued the most. Nevertheless, these were the two most frequently selected professional learning focuses for both subgroups.

- Teachers were more likely than district administrators to identify how to operate specific technology hardware or applications (34% vs. 10%) as among the professional learning focus areas they valued the most. This finding suggests that teachers still need support on operating tools and apps beyond that recognized by administrators.

By School Level:

- High school teachers were less likely than other teachers to value *supporting student social-emotional learning and growth mindset*. This finding suggests that high school teachers might need more PD support to get their buy-in that these are important to student academic success.

- Elementary teachers were more likely than high school teachers to value *classroom management*. This finding suggests that classroom management may be inherently more challenging at the elementary school level, where a mix of whole-group, small-group and individual instruction is more common.

By Years as Educators

- Newer teachers (0—10 years) were less likely than more experienced teachers to value *best teaching practices* and were more likely than other teachers to value *classroom management*. Some newer teachers might find that they must master classroom management before focusing on the finer points of teaching practice.

FIGURE 13: TOPICS OF INTEREST

	ALL	STAFF ROLE		SCHOOL LEVEL (TEACHERS)			YEARS AS EDUCATOR		
		DISTRICT ADMIN	TEACHERS	ELEMENTARY	MIDDLE/ JUNIOR HS	HIGH SCHOOL	0—10 YEARS	11—20 YEARS	20+ YEARS
Best teaching practices (in general or for a specific subject area)	66.1%	85%	63.3%	65.9%	60.4%	63.6%	57.3%	67.3%	70.9%
Supporting student social-emotional learning and growth mindset	53.4%	70.1%	50.9%	53.3%	55.2%	44.8%	53.8%	54.0%	52.7%
Content knowledge in a specific subject area	47.5%	47.2%	47.5%	41.1%	51.7%	47.7%	49%	48.7%	45.5%
Use of technology to monitor students' learning progress and differentiate instruction	45.9%	39.4%	46.8%	44.7%	48.3%	47.7%	47.8%	44.5%	45.7%
How to operate specific technology hardware or applications	31%	10.2%	34.1%	32.9%	34%	36.7%	27.7%	31.9%	32.5%
Classroom management	22.8%	28.3%	22%	28.5%	22.2%	17.3%	33.2%	21.2%	17.4%
How to complete specific administrative procedures	4.6%	0.8%	5.2%	5.3%	4.5%	5.8%	6.3%	3.5%	4.4%

Research Alignment

These survey results demonstrate that, emerging from the pandemic:

- Professional learning was further extended to online options (on-demand and live sessions), and to a lesser degree to virtual professional learning communities;

- Teacher interest increased in online and targeted professional learning, and they agree with the importance of ongoing professional learning; and

- The availability both of targeted and of frequent, ongoing professional learning community still lags behind when it comes to teacher interest.

At the same time, a number of research synthesis have identified a consensus regarding the characteristics of effective professional learning to improve teacher knowledge, practice and impact. (Learning Policy Institute, 2017[ix]; Educational Researcher, 2009[x])

These elements include:

- content focus

- active learning

- coherence

- sustained duration

- collective participation and collaboration

- coaching/expert support

- feedback and reflection

- model effective practice

While it will take time to understand the impact of the changed views and practices identified in this survey, we can now identify how these changes are increasingly aligned to these above noted research-based PL best practices.

Frequent, Regular, and Ongoing

Notably, 94% of educators agreed that ongoing professional learning is important to a teacher's effectiveness, but only 36% expect their district to provide professional learning on a regular, ongoing basis as needed. In general, the more frequently PL opportunities are offered, the more satisfied teachers were with the PL. While this type of PL is lagging, teachers increasingly recognize the importance of frequent and ongoing PL.

Frequent, regular and ongoing professional learning is generally identified as a best practice in the research. Significant learning requires sustained and spiraling learning, providing opportunity for application, reflection and continuous improvement. "**Frequency and quality of the follow-up opportunities** are variable yet indispensable,"[xi] (Learning Policy Institute, 2019), and "change requires professional development activities to be of **sufficient duration, including both span of time ... and the number of hours.**"[xii] (Educational Researcher, 2009) This suggests that meaningful PL requires more than short, one-off workshops.
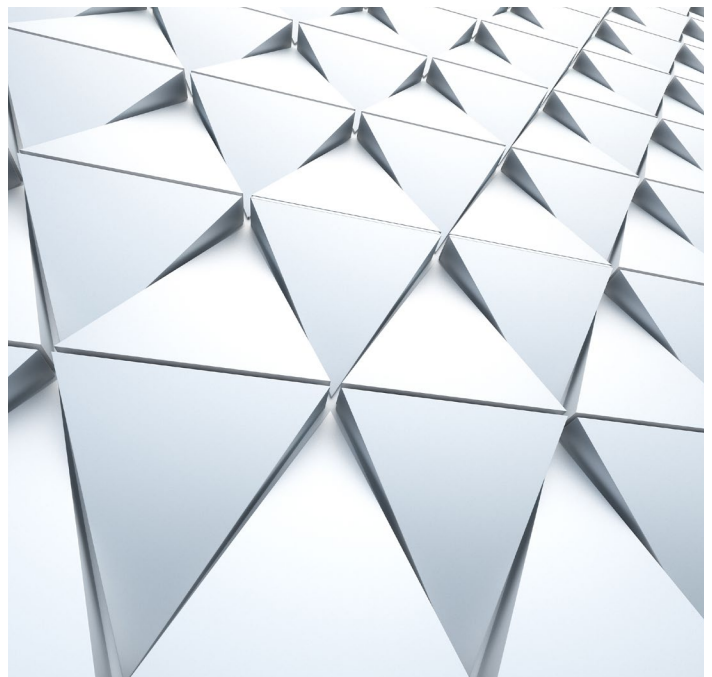
Targeted to Meet Each Teacher's Specific, Unique Needs

While 91% of educators identified interest (and 43% identified increased interest) in PL that is targeted to meet each teacher's specific, unique needs, only 20% identified an increased availability from prior to the pandemic. While again practice is lagging, teachers increasingly recognize the importance of targeted and personalized PL.

Research identifies the best practice of **learning personalization with flexibility and targeted individualized approaches** to meet each learner's specific, unique needs.[xiii] (The Learning Accelerator, 2019) Personalization is needed to meet the needs, goals, and schedule of each teacher, while differentiation enables varied learning pathways toward mastery. "**One-size-fits-all PDs inevitably fail to engage all (or even most) participants.**"[xiv] (Edutopia, 2021) Teacher voice and agency are important not only in shaping the opportunities and design, but also in providing feedback to refine the instruction and coaching they receive. "**Technology exponentially increases possibilities** for personalizing, differentiating, and deepening learning ..."[xv] (Learning Forward) Effective PL must dynamically account for teacher interests, learning readiness, and prior and evolving knowledge.

Online, On Demand

Importantly, 71% of educators identified interest in professional learning that is online, on demand (e.g., video segments, learning modules, courses), and 55% indicated their interest increased since the pandemic started. Notably, 71% of educators also cited an increased availability from before the pandemic, suggesting that actual practice is catching up to interest.

Online on-demand PL is consistent with the efficacy of both ongoing and targeted professional learning. Models that are flexible, such as being asynchronous, can help meet the dynamic schedule, interests, and needs of each teacher. For example, in the 3 Ds framework (discover, discuss, demonstrate), "'discover' could take the form of **pre-learning that is asynchronous**. Ideally, this allows

for tremendous choice on time, place, path, and/or pace."[xvi] (Edutopia, 2021) **Video libraries** are effective, for example, in modeling effective teaching, allowing teachers convenient and ongoing access.[xvii] (Science, 2011) Through online courses with video models, message boards, and small group practice, **technology can effectively facilitate collaboration and active learning**.[xviii] (Journal of Educational Psychology, 2009)

Supported by an online professional learning community

About 66% of educators identified interest in PL supported by online PLCs with little difference between the two types: within the district and extending outside the district to peers and experts/coaches. About 28% identified increased interest for each, while change in availability since before the pandemic increased for approximately 31% but was decreased or not available for about 16%.

PLCs "are **groups of teachers that share and critically interrogate their practices** in an ongoing, reflective, collaborative, inclusive, learning-oriented, and growth-promoting way."[xix] (Edutopia, 2015) Research identifies **several important characteristics of an effective PLC**[xx] (Teaching and Teacher Education, 2008): "successful collaboration; focus on student learning; continuous teacher learning; teacher authority to make decisions regarding curriculum, the processes of their own learning, and aspects of school governance."[xxi] (**Edutopia, 2015**) The importance of collaboration in instructional teams is connected to improved outcomes.[xxii] (American Educational Research Journal, 2015) Further, **active learning is enabled by such PLC techniques** as review of videotaped classroom lessons, online collaboration and a virtual community of expert coaches, while web-mediated coaching can foster collaboration as an effective method for improving student achievement.[xxiii] (Science, 2011)

Recommendations for Practice

The K-12 education system may be at an inflection point. Changes in practice during the pandemic, perhaps formed out of necessity, have provided an opportunity to grow innovative methods and formats. These emerging practices are often better aligned to the research, and increasingly to teacher interests. With support, there is opportunity for these research-aligned practices to persist to better meet ongoing needs and goals.

These survey findings suggest four steps that can be taken by education leaders at all levels to improve teachers' professional learning at this critical time:

1. **Increase the frequency and availability of professional learning**
   Frequent, ongoing professional learning is needed for both efficacy and teacher satisfaction. This includes more online, on-demand opportunities as well as greater implementation of online professional learning communities. Teachers are seeking more availability. While time required is identified as an issue, teachers identified far less concern about this factor than did administrators, while new models and understanding can cut through this (perceived) barrier. A culture of professional learning and continuous improvement is important to success.

2. **Enhance the personalization of professional learning**
   Providing more targeted, differentiated professional learning is effective and a top teacher interest. Availability of personalized PL appears to have mostly remained the same during the pandemic, and so more options and variability are important to meet expectations and efficacy. Targeting PL to unique teacher needs based on their experience, subject area, proficiency, methods, etc. can be enabled by more online and on-demand opportunities. Partnerships can also help extend the availability, as most districts cannot meet the diversity of needs alone, especially at the secondary level where subject-matter expertise is increasingly important.

3. **Improve communications with teachers about professional learning**
   Ongoing gaps exist in views and definitions, especially between teachers and district leaders. Increased communication can better align goals and expectations with availability/flexibility, including around time, modality and topics. Teacher voice and agency is critical. Formal and informal methods can be used to identify needs and evaluation of existing options. A district catalog or learning management system as well as other processes can help enhance awareness of and access to available options.

4. **Offer a spectrum of professional learning formats and modalities, including online, on-demand and in-person methods supported by online professional learning communities**
   Synchronous (real-time) PL methods (in person and live online) are important but not sufficient. Meeting teacher needs and driving efficacy requires extending the availability of flexible professional learning that is online, on-demand, self-paced, and supported by online professional learning communities. Asynchronous methods and learning communities provide added convenience and timeliness, and are needed to personalize learning and enable deeper experiences.

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