Teacher Innovator Institute

Highlights from Fall 2020 Evaluation

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Background

Study Purpose & Methods

TII Evaluation Methods

For the 2020-21 school year, the Teacher Innovator Institute (TII) was forced to adapt its approach and support for teachers to the realities of the COVID-19 pandemic. In response to this, the evaluation activities were designed to support NASM in understanding what is happening with their 2020-21 TII pivot, strategizing for TII going forward, and establishing valuable insights about supporting innovative teaching during a difficult year.

In this year, the evaluation continues to focus on the three driving evaluation questions, but within each the focus is on the impact and response to the conditions of teaching during a pandemic.

1. How does TII participation change teachers' knowledge of informal teaching practices?

2. How does TII participation influence teachers' skills and practices in the classroom?

Fall Check-in Survey

As part of the adaptation of the evaluation to the pandemic, we conducted a Fall 2020 check-in survey of all ~90 TII teachers in late September / early October 2020. The purpose was to understand:

- What does the teaching environment look like for teachers (so far) this year?
- How is teaching and learning working? What are struggles? What are opportunities?
- How is TII helping teachers adapt?
- What help and resources from TII are most helpful in getting through this year?

The survey was primarily meant to guide NASM in ongoing decisions and adjustments to the virtual program support being offered during this school year. In addition, because TII reaches a broad spectrum of teachers in the United States, the data also provide a robust snapshot of the conditions, challenges, and success stories being managed and led by K-12 educators in this country. 69 teachers completed the survey.

Because we know these conditions are changing continually in education systems, this check-in will be replicated in Winter 2021.

Fall Focus Group Chats

While the survey provided a useful broad picture of the responses of teachers, school systems, and students to the pandemic – and ideas for how to incorporate authentic learning in these conditions – it was limited in how much depth it could provide. To close this gap, we invited teachers to participate in a follow-up focus group discussion to reflect further on their experiences.

Given the pressures being placed on teachers, we stressed that this activity was only if they could make the additional time. Ultimately, 7 teachers participated in these discussion groups. The depth and examples they provided helped illustrate and expand what was learned from the survey.

As with the survey, we will repeat this method in Winter 2021, although we may take a different focus for the discussions, depending on the program needs at that time.

Fall Teaching Environment

Fall COVID Check-ins

Classroom Conditions & Context

TII teachers who responded to the COVID Fall Check-In represent a broad spectrum of teaching environments, regions, and population densities across the United States.
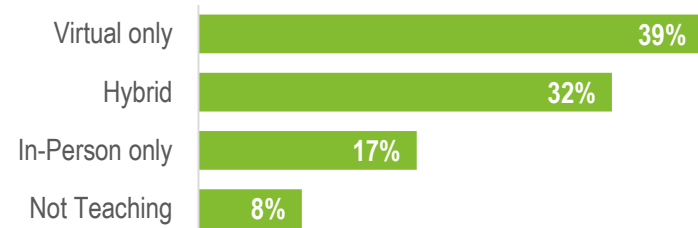
About four in ten teachers taught in virtual-only environments during the first Fall quarter, with another third (32%) teaching in a hybrid model, with time split between virtual and in-person teaching. 17% of teachers were teaching students only in-person. The differences (and changes) in these conditions are explored in the next pages.

Teachers were generally evenly split between urban and suburban, with slightly fewer rural teachers. **63% of teachers in urban areas were in virtual-only conditions, with the rest teaching in a hybrid environment.** (In other words, no urban teachers were fully in-person in early Fall.) In contrast, **around 30% of rural and suburban teachers were teaching exclusively in-person**.

Teachers come from all over the US, with the greatest number of teachers working in the Midwest. **75% of all teachers working exclusively in-person were in the Midwest.** No teachers reported teaching in-person only in the Northeast or Pacific West. The Pacific West had the highest rates of virtual-only teaching (70%) while the Northeast had the highest rates of hybrid teaching (83%).

Many teachers expected their teaching environments to change in the coming months, based on open-ended comments.
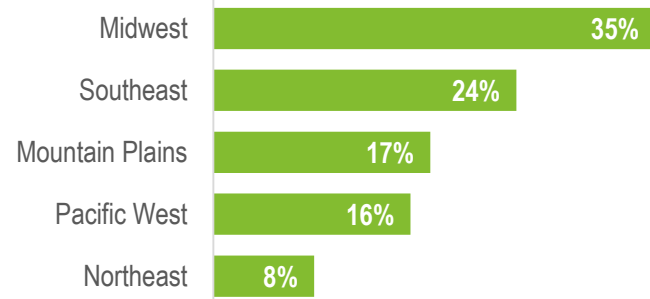
Classroom Environments as of September/October 2020 (n=69)

Environment	Percentage
Virtual only	39%
Hybrid	32%
In-Person only	17%
Not Teaching	8%

Location of schools (n=63)

Location	Percentage
Urban	37%
Suburban	37%
Rural	27%

Region of schools (n=63)

Region	Percentage
Midwest	35%
Southeast	24%
Mountain Plains	17%
Pacific West	16%
Northeast	8%

Fall Teaching Environment

Focus Groups: Teaching Environment

Focus group discussions revealed the extent to which these conditions are in flux. Nearly all of the virtual-only teachers expected to transition to a hybrid or in-person environment during the fall semester.

Most of the teachers who participated in focus groups were teaching in virtual-only environments for the time being. But most expected, as of mid-October, that these conditions were going to change, with more moves to in-person work later in the year.

The in-person teachers did not foresee any changes to their teaching environment (in mid-October), unless they were forced home due to an outbreak among students or faculty.

None of the teachers in focus group discussions were teaching in a fully hybrid model, although one teacher was in the process of transitioning to hybrid. However, in-person teachers reported having to support virtual learning if they had students in quarantine or when parents suddenly opted kids out of in-person instruction.

"In early August, the School Board decided that they were going to have us come back virtually for the first nine weeks…(Then) last week, they decided that we will come back. Sixth graders will be the first ones in the middle school range that will come back. They will report back to school on November the 2nd. We will break them into cohorts. We'll have cohort one, cohort two. Cohort one comes Monday and Tuesday. The building is deep cleaned and sanitized on Wednesday. And then Thursday and Friday, cohort two will be in the classroom. Meanwhile, cohort one will be online. They've installed new technology equipment and …my room at school looks like a television studio.."

- Focus Group Participant

"I'm at a Montessori school…We have been 100% in school since we started right before Labor Day. I did not know how long we could continue…The end of our first trimester is in two weeks and I can't believe that it's looking like, knock on wood, that we're going to make it at least this far. We're just going to keep going until they tell us to stop kind of thing."

- Focus Group Participant

Fall Teaching Environment

Classroom Adaptations

Teachers working in-person reported a variety of classroom adaptations via the survey, with mask-wearing in classrooms being essentially universal for in-person instruction. Use of other strategies was somewhat more variable.
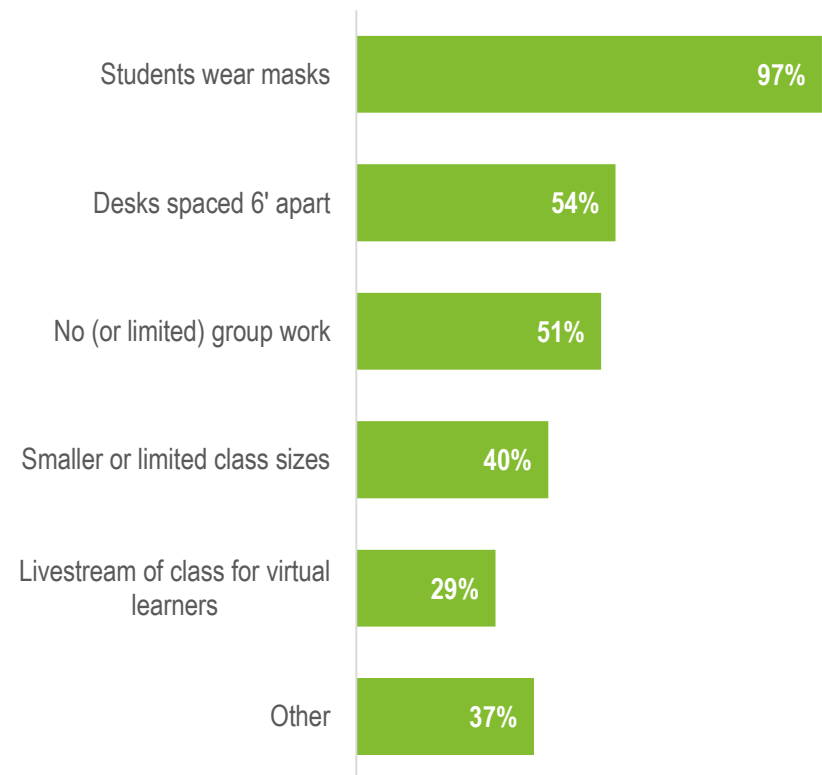
In addition to mask-wearing, around half of teachers used physically distant desks and allowed for no or limited group work. About four in ten teachers reported smaller class sizes; these typically were teachers in a hybrid environment, in which students attended in-person classes in alternating shifts throughout the week. Less than a third reported livestreaming class for virtual learners.

Over a third of in-person teachers described 'other' adaptations being made, although many of these open-ended comments were additional details about masks, physical distancing, or class sizes. For example, four teachers described students split up into "pods" of 3-4 in order to limit contact; all but one of these teachers were in-person only, and all were in the Midwest.

Three teachers went into greater detail about scheduling for hybrid models, including rotating cohorts and shorter school days. Two teachers described intensive cleaning protocols between classes and throughout the day, while two other described frequent COVID testing protocols. One teacher described teaching two halves of a class in adjacent in-person classrooms; they would teach one classroom live while the other room watched via Zoom, with the teacher walking back and forth between the rooms throughout the lesson.

Classroom Adaptations due to COVID-19

Safety measures being taken in classrooms, among teachers that reported in-person or hybrid teaching environments (n=35)

Adaptation	Percentage
Students wear masks	97%
Desks spaced 6' apart	54%
No (or limited) group work	51%
Smaller or limited class sizes	40%
Livestream of class for virtual learners	29%
Other	37%

Virtual Teaching Approaches

86% of TII teachers in virtual or hybrid environments do some amount of synchronous instruction, in which students are required to attend virtual lessons at a set time.

Nearly half of all teachers using virtual learning environments reported using a combination of live, scheduled virtual instruction along with asynchronous lessons, such as re-recorded sessions or other virtual lessons and activities.

Only 14% of teachers reported only using asynchronous virtual instruction, such as pre-recorded lessons. All but one of these teachers is working in a hybrid environment, so this may be a strategy to more easily provide in-person lessons to virtual students.
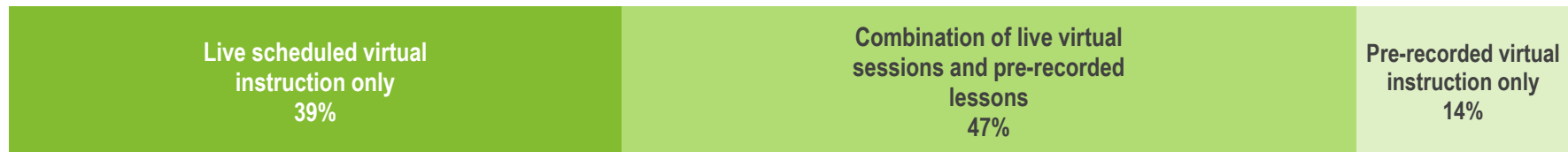
Teachers reported spending an average of 16.7 hours per week with their students in live, synchronous virtual instruction (out of 42 reporting).

The number of hours per week spent doing live instruction online ranged from 1 to 40. Among teachers doing virtual-only instruction, hours per week of synchronous class time ranged from 2 to 35 hours, with most teachers falling towards the middle of the range.

Teachers in hybrid environments tended to report the extremes: either very few hours or very high numbers of hours spent on synchronous virtual teaching – this is likely due to some teachers streaming their live, in-person instruction for students on alternate schedules or in quarantine.

Virtual Teaching Structures among TII teachers

Teachers were asked via the survey to select if they were using live (required) virtual synchronous instruction, asynchronous instruction such as recordings or lessons that could be completed any time by students, or some other type of instruction (most often a combination of the two) (n=51)

Live scheduled virtual instruction only 39%	Combination of live virtual sessions and pre-recorded lessons 47%	Pre-recorded virtual instruction only 14%

Fall Teaching Environment

Content & Curriculum Shifts

Nearly 3 in 4 TII teachers reported that the content they would normally cover had shifted this school year. Over half the teachers whose content had shifted or changed in emphasis reported that the changes came from both themselves and a directive from their school or district.

Interestingly, over a third of the teachers who reported content shifts made that decision solely on their own, without any directive from their school. Based on discussions, this was likely due to impacts of reduced class time or face-time with students. Only 6 teachers made shifts based solely on school or district directives, without including their own changes as well. Another 29% of teachers reported no shifts in their content, compared to a "normal" year.

"I have administrative support to focus on science to incorporate reading instruction rather than using prescribed materials. I have support from the principal to alter math instruction significantly to meet individual student needs."
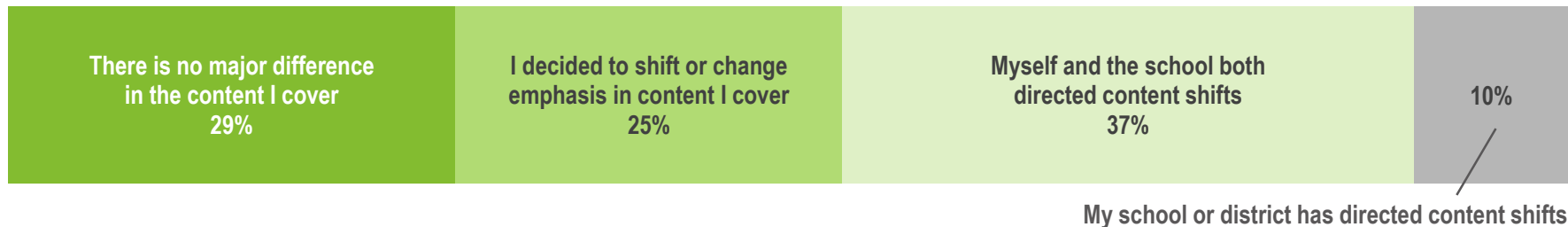
\- Survey Respondent

"... I have a million students. It's been really hard to get them things to do because there's so many of them. But, in the spring, our school district was not real worried about too much of curriculum and more just social and emotional. We didn't do a whole lot of science curriculum. Now we are, so it gives us more access to things..."

\- Focus Group Participant

Reported Content Shifts in the Fall Semester

Teachers were asked via the survey to select if the content they would cover or emphasize during a "normal" year had shifted, and if so, who was directing those changes - either the teacher, the school or district, or both (n=63)

There is no major difference in the content I cover 29%	I decided to shift or change emphasis in content I cover 25%	Myself and the school both directed content shifts 37%	10%

My school or district has directed content shifts

Fall Teaching Environment

Barriers & Challenges in Classroom Adaptation

Survey respondents most often described change or flux in their schools and classrooms as a challenge in adapting to the pandemic.

Nearly one-fourth of teachers mentioned the idea of the impact of constant flux and changes in teaching conditions as presenting substantial difficulties for adaptation. Another area of struggle was complicated schedules, which made it harder to keep track of which group of students they were seeing at what time and on what day. Hybrid environments seem most prone to this challenge, with alternating in-person classes on different days and/or at different times of day.

Five teachers described feeling anxious or worried about in-person teaching or how well their schools would implement safety policies. Four teachers felt that newly limited class time created a barrier to covering all the content they had planned. Three teachers experienced challenges with leadership at their school or district. All of these barriers were touched on in the focus groups.

Challenges in Current Teaching Environments

Coded responses to the open-ended survey question, "What else, if anything, would you like to share about the way your school has adapted (or not) to COVID-19?" (n=43)

23% **Constant Flux**
Planning lessons has been difficult or especially time-consuming due to classroom environments (in-person, hybrid, virtual, etc.) that have recently changed or may change soon. Students and teachers are both having trouble settling into a routine or feeling "normal."

16% **Complicated Scheduling**
New scheduling approaches intended to limit contact between students have made it especially hard for teachers to keep track of their classes and to get to know their students. This concern was most common among teachers in a hybrid learning environment.

12% **Concerns about Personal Safety**
Anxiety or fear over being forced to go back to the classroom, or concern over lack of enforcement in school safety policies.

9% **Less Instructional Time**
Less time teaching due to longer or more frequent breaks, shorter or fewer school days, socio-emotional check-ins, and other time limitations.

7% **Challenges with School Administration**
School administration is slow to adapt to new circumstances or pushes for curriculum and/or scheduling changes that are not helpful.

⇄ Transition & Flux: Challenge Detail

The challenge of transitioning from one teaching environment to another is a major source of stress to many teachers. Teachers in stable environments (virtual or in-person) were more able to find a routine that worked for them and students.

As these examples from teachers illustrate, there were various ways that teachers are adapting to continually changing conditions. One specific issue was teachers in districts where it may vary from day-to-day whether a given student was attending in-person or virtually, based on parents' choice or forced quarantine. Schools' policies differed on how to engage virtual students (permanent or temporary) in schools that were primarily holding in-person classes.

Conversely, teachers working in a stable setting (in-person or virtual) noted that getting into a rhythm and figuring out what works as a success or "silver lining" so far. This may indicate that regardless of the environment, change or flux is one of the greatest challenges facing teachers during COVID-19.

"The school board back in August … decided that they were going to have us come back virtually for the minimum, first nine weeks. But virtually, very different than last year's last nine weeks…The last nine weeks, everything was asynchronous. There was very little accountability for the students in terms of checking in, making sure they were getting their assignments done. … Those kids that didn't do anything, I'll tell you, they're feeling it now because now that they're in the mindset, "Oh, it won't count," … No, it's counting and I'm getting ready to push out report cards. … It's going to be a rude awakening when some of them see their grades because it's now required to be online.

- Focus Group Participant

"This school year has been a moving target. Directives change before they can be implemented. … We pass information on to families only to learn an hour later that information is no longer valid."

- Survey Respondent

"We only meet in person with students 4 days per week right now; the board wants to change that next quarter. If they do, it will mean (once again) having 1 week's notice to rearrange our classrooms & schedules while simultaneously meeting usual obligations."

- Survey Respondent

"It's really hard because I've got three kids today because they're in quarantine until November 5th or something. And then I'm getting another one tomorrow. So, I get all my kids in a routine and going, and then all of a sudden three more kids come and have no idea, and I have to stop and go back to week one with them while the rest of my kids are just sitting there..."

- Focus Group Participant

Fall Teaching Environment

Scheduling: Challenge Detail

As with issues around constantly changing circumstances, teachers reported a multitude of challenges with scheduling students and teaching as another area of difficulty.

The stress of shifting schedules and/or reduced class time seems to be one of the greatest challenges facing teachers right now, especially among teachers who are expected to do both in-person and virtual instruction.

"The schedule doesn't best fit the needs of the students. Administrators understanding/lack of understanding of technology and desire to stick to the old school schedule as well as the teachers union and contractual issues have really made it difficult to be innovative with the virtual platform."

- Survey Respondent

"Our schedule is very confusing. They split up our students by alphabet, A-L, and M-Z. All A-L students have zoom classes on Monday and Tuesday, with their work due on Friday. The M-Z students zoom on Thursday and Friday, with their work due the following Wednesday. For the kids, the schedule isn't that bad - for the teachers it's kind of a living nightmare. Trying to remember 185 students, which class they're in, and which group they're in is very difficult."

- Survey Respondent

"We went to a block schedule, so hallway exposure is reduced. We have a color-coded plan, based on the number of cases in our area. If the number does not decrease next week, we will go to self-contained and video ourselves teaching, so that the other teachers can present our lessons. When that happens, I will have to change content from hands-on inquiry to teacher-directed learning."

- Survey Respondent

"They will report back to school on November the 2nd. We will break them into cohorts. We'll have cohort one, cohort two. Cohort one comes Monday and Tuesday. The building is deep cleaned and sanitized on Wednesday. And then Thursday, Friday, cohort two will be in the classroom. Meanwhile, cohort one will be online. They've installed new technology equipment and everything so we can... My room looks like a television studio at school now."

- Focus Group Participant

Fall Teaching Environment

Successes in Classroom Adaptation

Some teachers described successes that have occurred in their school's adaptation to COVID-19. This included schools finding new ways to support students, acting quickly to distribute supplies to access learning, and creating a feeling of support.

Additional resources and student support were focused on emotional needs of students. These included limited homework and assessment, one-on-one counseling, and limited screen time for students learning virtually. Other support was more materials-based, with schools doing work to make sure all students had access to virtual learning.

Teachers who felt especially well-supported described feeling ready to take on whatever comes, or as having positive relationships with parents, students, and school administration.

Other comments from teachers noted their school's safety policies, including masks and physical distancing, and others described parents being given the choice of whether their child went back to school or not as a way of supporting families.

Successes in Current Teaching Environments

Coded responses to the open-ended survey question, "What else, if anything, would you like to share about the way your school has adapted (or not) to COVID-19?" (n=43)

16% **Resources and Support for Students**
Extra emotional support for students during this time including one-on-one relationships, limiting screen time, and stress-reducing policies such as limited homework.

14% **Distributing Technology and Supplies**
Success in distributing laptops, tablets, school supplies, and other resources to all students in a class, grade, or school. This also includes mobile hot spots to improve internet access in some areas.

14% **Feeling Ready & Supported**
References to trainings, support from administration or other school staff, positive relationships with parents, and/or a general positive attitude about the situation and the rest of the school year.

12% **Safety Policies**
Some teachers went into greater detail about new or more frequent cleaning or safety policies such as cleaning, masks, and physical distance.

5% **Parent Choice**
In some schools, parents were given a choice of whether or not they wanted their child to attend school in-person.

The Upsides of Virtual Learning

Interestingly, we heard that virtual learning has revealed some unexpected upsides for some learners, who are finding this format more conducive to their learning styles than traditional in-person formats.

Multiple teachers described that some, but not all, students are thriving in virtual formats, including both children who might be a bit shy and children who are easily distracted in a classroom. Teachers noted that some students who appeared shy in-person are participating more, and introverts (those who recharge by being alone) are enjoying less time in high-interaction environments. This reemphasizes the wide variety of learning styles, and that some traditional classroom modalities are not well-suited to all learners.

Teachers in one focus group discussed how virtual learning was aiding their classroom management. Primarily, teachers noted their new abilities to intervene when a student was trying to cause a disruption and/or had difficulty regulating how to let others have a turn to speak, mainly through the mute button.

"I think some students are thriving in this environment. Students who might be really distracted in the classroom or distractable in the classroom or who might try to be the distraction, in the virtual setting, there's not as much opportunity for them to just insert themselves to be the main influencer… Something about online, our kids, especially our older kids, can really get with and they sign on at a certain time. (So) it's been good for some kids."

- Focus Group Participant

"The mute button is the best thing in the world, especially for middle schoolers. Because when you mute them, they're like, "Why did you mute me, Miss?"

"Because you were being inappropriate. If you want to come back, you will be appropriate."

- Focus Group Participant

"[Virtual learning] also allows me time to talk to those kids who are very introverted. I had one student, we were talking about possibly going back and he goes, "I don't want to go back." I asked him "Well, why don't you want to go back?" and he goes, "Because I like being alone." He's one of those introverted kids that doesn't like socialization (so) he's blossomed in this setting."

- Focus Group Participant

"There is so much more one-on-one time to spend with students who need it and the distractions are down to a minimum. Disruptors who would traditionally hold the class hostage no longer have any power. They are simply exited from the Zoom. It was tested once or twice by a few and since then I've had no discipline problems. None. There is only positive peer pressure and the shy, often intimidated, students are blossoming."

- Survey Respondent

Context for Teaching

Fall COVID Check-ins

Biggest Teaching Challenges

Teachers are facing a variety of challenges to teaching this year – from workload, to technology barriers, to student engagement, and finding adaptable activities.

A major barrier that TII teachers identified was the unusually high workload, and resulting stress on their time, that has occurred this year. All teachers are having to adapt lessons, and many teachers have expanded duties with reduced class time to cover content.

Technology is a challenge for some, which includes finding the right programs to use in classes and helping students with technical issues. Similarly, some teachers noted the difficulty of finding appropriate activities given restrictions of in-person or virtual settings.

Other challenges related to the students, as teachers have to find new ways to get students engaged and build rapport, particularly in virtual settings. Again, the theme of flux came up, with constant changes making it hard to plan for the year (or even week) ahead.

Biggest Teaching Challenges Facing Teachers

Coded responses to the open-ended survey question, "What has been the biggest challenge you've experienced so far in trying to teach in this new environment?" (n=61)

26% **Workload & Lack of Time**
Teachers don't have enough hours in the day for extra planning and new duties; more time needed to cover material in new environment or schedule

25% **Technology Hurdles**
Learning new programs, fielding tech issues with students, and finding apps that work for both teachers and students

20% **Getting Students Engaged**
Unmotivated students, lack of attendance/participation, or not being able to assess level of engagement in a virtual setting

20% **Finding Appropriate Activities**
Lack of available object-based or hands-on activities, limited group work, and general challenges in creating interactive lesson plans

13% **Building Rapport with Students**
Challenges in connecting with students in the new environment or leveraging student relationships to help students make progress / stay engaged

11% **Constant Flux**
Circumstances have already changed this semester or will soon, making it hard to plan appropriately

Context for Teaching

Biggest Teaching Challenges (cont.)

A few infrequent teaching challenges were also raised, depending on environment.

As in reflections on the school system, the complications of planning teaching with complicated student schedules was a barrier. Another unique challenge for this year was that in-person teachers were put in the role of safety enforcement, reminding students about masks, distance, and other protective measures.

A few teachers specifically called out the difficulty with differentiating instruction to meet students' needs, which was related to challenges with building rapport and getting to know students deeply in these virtual and hybrid environments.

Biggest Teaching Challenges Facing Teachers

Coded responses to the open-ended survey question, "What has been the biggest challenge you've experienced so far in trying to teach in this new environment?" (n=61)

8% **Scheduling**
Scheduling approaches that may further complicate teaching and/or limit connecting with students on a personal level

7% **Safety Policy Enforcement**
Having to constantly remind students (and, for some teachers, fellow school staff/faculty) to properly wear a mask, give each other space, etc.

5% **Differentiation**
Difficulty connecting to students' unique learning needs and personal interests in the new environment; less understanding of where students need extra scaffolds or support

10% **Other Challenges**
Other miscellaneous challenges, such as anger or frustration from parents, having to multi-task during class time, and teaching without classroom / lab supplies

Context for Teaching

🕐 Workload and Lack of Time: Challenge Detail

In surveys and the focus groups, teachers explained the difficulties of the higher-than-normal workload and lack of time.

Some teachers described how time-consuming it is to plan virtual lessons and teach in multiple environments, while other teachers felt pinched by reduced class time and a late start to the semester.

In addition to the practical challenges, there is the psychological toll of these conditions. Many teachers described feeling overwhelmed as a result of new work duties, feeling they simply lacked enough time in the day for both planning and teaching.

"Doing two (sometimes three) jobs to teach the students in front of me as well as the ones that are at home at the same time."
- Survey Respondent

"Moving all of my lessons digitally, recording my lessons for students quarantined at home, and keeping up with it all. It's more time consuming than anything challenging."
- Survey Respondent

"There's not a lot of spontaneity in terms of letting the kids be really creative with their projects. Sometimes kids will take it above and beyond and they'll do that naturally, but a lot of those kids who need the structure or the prodding or whatever it might be that we can do when we're in person, and the time... Sometimes I would spend 90 minutes with kids building one prototype. Now it's like, 'Okay, you have 20 minutes. Go!'"
- Focus Group Participant

"Everything takes SO MUCH longer, and I have so much LESS time--to plan/create/teach/engage with kids."
- Survey Respondent

"Another limit that I am experiencing is we did not return to school after March 12th last year. And we did not start this year until Labor Day and we normally start like August 10th. So we started three weeks late. So trying teach what they missed in fourth grade, along with the rest from missing three weeks at the beginning. And they have cut down my time to... I teach science and social studies, I have 45 minutes to teach both."
- Focus Group Participant

Context for Teaching

Technology Hurdles: Challenge Detail

In both the survey and the focus groups, teachers described the difficulties faced in making technology work for them and their students.

These issues ranged from teachers not knowing technology well themselves – and having to quickly learn it – to having to double as IT support for their students and parents who are experiencing tech issues from home. For some teachers, these tech issues claimed substantial time that could have otherwise been dedicated to developing new lesson plans or supporting students in other ways. Teachers are wearing so many different hats and expected to maintain new areas of expertise in this unusual year.

Other tech challenges that were described were more specialized, including trying to figure out how to get different technology systems to mesh in the classroom, how to help students access specialized programs from whatever device they were using, and/or helping students learn new apps from home.

"The concern for not knowing technology too well that it would be an epic fail on the first week back and doing online."

- Survey Respondent

"Keeping students engaged virtually, and managing the much larger work load. And being tech support for students/families."

- Survey Respondent

"We were given a month of PD and prep to learn our new platforms, but only in a "sandbox" mode. Once things could go live, it was Friday night before school started Monday and there were a million billion things I had worked SO HARD ON that became straight trash. Now, 5 weeks in, I think I've finally found tools that work for "most" kids on "most" days."

- Survey Respondent

"…They're not able to download different things onto their laptops due to security issues or all kinds of good stuff that the school is trying to protect the laptop from. But because of that, good stuff also can't be accessed. That makes it an issue. Because my class should be completely able to do online without any sort of adjustments, really. But because many don't have an Android tablet, which is how we make our apps on the MIT app inventor, they have to download an emulator, because it doesn't work with Apple products, which is what the majority of people have. And they can't download the emulator 'cause it takes up too much memory, the security issues."

- Focus Group Participant

Context for Teaching

⚇ Student Differentiation: Challenge Detail

Teachers working in virtual and hybrid environments seemed to experience more difficulty in differentiating instruction for students' needs and working as flexibly as they would in classrooms.

While challenges in differentiation only came up among 5% of survey respondents, this was a recurring theme among focus group participants. These are a few examples of how teachers describe why differentiation is so challenging when teaching virtually. Teachers in hybrid environments with complicated scheduling also reported challenges in tailoring learning to each student and gauging where each student was in their understanding of a topic.

For teachers in virtual environments, not always being able to see each student and "keeping an eye on the room" became challenging in differentiation and classroom management. Teachers reported feeling unsure at times as to whether the class was getting the content or needed more time or a different perspective.

So it's really hard for me to talk for a long time online, because in my class I would talk for 10 minutes, (then) they would go work, then I would talk for 10 more minutes. It's really hard to gauge that when you're online. It's really hard to say, "Okay, go do this and come back," especially with middle schoolers because they're like kindergartners, they have no attention span."

- Focus Group Participant

"… Being able to manage the workload of keeping track of all students and providing resources for all students. Differentiation is more difficult when you cannot interact with the student in person and cannot see exactly an accurate reflection of their learning and work ability."

- Survey Respondent

"Building relationships with students and checking for understanding have been equally difficult."

- Survey Respondent

"It's really hard to differentiate when you're online. That's one of the real struggles I've had is differentiating for my SPED. In this area of my world, we have a bunch of ELLs, English Language Learners, because I live 30 minutes from the border. Differentiation is really tough. That's one of the hardest things."

- Focus Group Participant

Context for Teaching
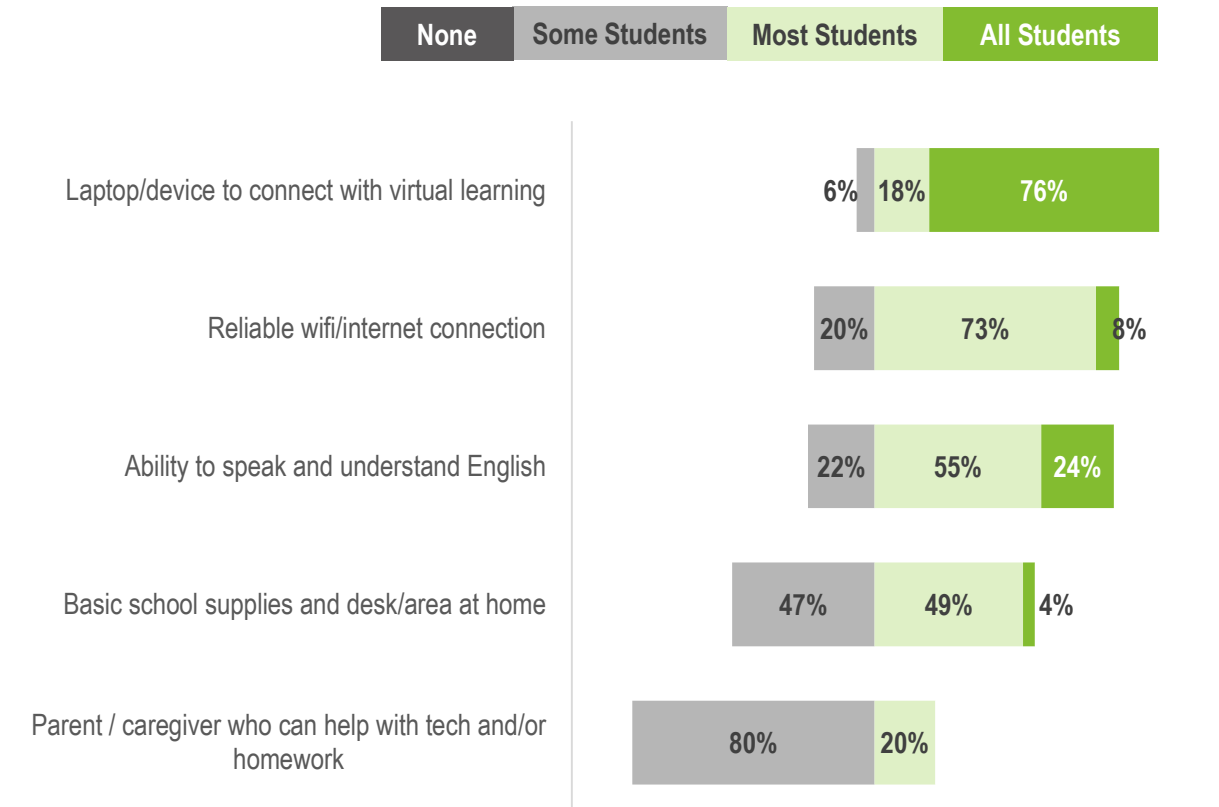
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Equity in Virtual and Hybrid Learning

For teachers in virtual or hybrid settings, access to devices seemed to be fairly well-covered by Fall 2020. Major equity issues, however, remain around household capacity to support remote learning.

At the most basic level, 94% of teachers reported that most or all students had access to a device. This was the only indicator where the majority of teachers felt all students had this resource. When it came to reliable internet, the trend was that most (but not all) students had this resource; and for virtual-only learning, even a small group of students without reliable internet causes major equity issues in the classroom.

Where the bigger gaps in access were noticed was household support. Around half of teachers reported only some students have the space and basic school supplies to do schoolwork; and 80% of teachers reported that only some students had a caregiver who could help them with virtual learning. For the field, this (much trickier) factor seems to be a greater concern for equity, rather than simply distributing devices.

Reported Amount of Students with Access to At-Home Resources

Rating responses to the survey question, "As best you've observed this year, how many of your students have access to each of the following?" (n=51)

None	Some Students	Most Students	All Students

Laptop/device to connect with virtual learning — 6% | 18% | 76%

Reliable wifi/internet connection — 20% | 73% | 8%

Ability to speak and understand English — 22% | 55% | 24%

Basic school supplies and desk/area at home — 47% | 49% | 4%

Parent / caregiver who can help with tech and/or homework — 80% | 20%

Context for Teaching

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Other Equity Issues in Virtual Learning

The pressures created on teachers and school systems in providing student/family tech support is an additional ripple effect of the equity issues.

Teachers have noted that, even when most students are provided a device, they need support in making the technology work that a family may not be able to provide. Teachers and schools are suddenly stepping into the role of basic "tech support" for families in their communities. Similarly, teachers reiterated that some students have spotty or unreliable internet connections, which impacts reliable attendance to virtual class.

Other equity-related barriers noted included parental engagement (discussed on the next page), students experiencing high levels of anxiety, and students who do not have access to adequate study space or school supplies. Four teachers also described students who are providing childcare or support to younger siblings during scheduled class time.

Other Teacher-Reported Equity Issues for Students in Virtual Learning

Coded responses to the open-ended survey question, "If you have observed barriers to students accessing virtual learning not listed [in the rating question on the previous slide], share them here." (n=34)

29% **Tech Support**
Teacher or school overwhelmed with tech needs, such as broken devices, trouble using apps, and students' lack of basic computer skills

21% **Reliable Internet Access**
Even with school supports, some students do not have a reliable internet connection for virtual learning.

15% **Lack of Parental Support**
Parents that seem overwhelmed or unconcerned that their child is missing school, falling behind, or unable to access technology

15% **Student Anxiety**
Students that are stressed, overwhelmed, or otherwise unable to concentrate or engage normally

15% **Under-Resourced Family**
Students in low-income homes, including students without access to reliable and adequate study space and/or school supplies

11% **Caring for Siblings**
Some students are providing care for younger siblings during their school hours, limiting their own participation

Context for Teaching

Parental Engagement: Challenges & Successes

This year seems to have underscored the importance of parental engagement and support at home to enabling student success. Examples in survey responses and focus group discussions highlighted both immense barriers and encouraging success stories from this autumn.

As seen on page 23, nearly 80% of teachers felt that only *some* students had an adult at home to provide tech support and homework help. The detail about what is happening in homes ranged from parents who seem not to have the bandwidth to support their child's learning, to families that do not prioritize getting access for their students, to those who will not help instill a sense of accountability and importance of education in their children.

While a student's home life has always been a factor in education and engagement, learning from home has exacerbated these inequities for many students so far this semester.

"And I do have to say too, I have never liked calling parents, but I call parents all the time. I call all my parents, usually at least once a week, if not more, I email them all the time and I feel like I have such huge support now from my parents that I know I've been missing that for several years and not even realizing it. But they are being very supportive."

- Focus Group Participant

"The biggest barrier [to virtual learning] I've seen so far is for students who don't have someone at home who is able to keep them on task and accountable during the day. Students who do rarely miss any school, but those who don't have been able to miss a lot."

- Survey Respondent

"We also have a number of parents that do not seem to be concerned that their child is not attending/participating in school this year."

- Survey Respondent

"The problem with it is, is that the kids want to be engaged, but the kids don't have the decision to call the cable company to say whatever [about accessing the free internet service] because some of the roadblocks have actually been the parents, which is sad because all they're doing is, they're blocking their student from learning."

- Focus Group Participant

Equity Issues in Virtual Learning: Examples

"The ability for our small tech department to keep up with the demands of maintaining district wide one-to-one laptops K-12. Many students have laptops that are already broken or need updates only I.T. can do and it's becoming a problem for student access."

- Survey Respondent

"Students that tend to be disengaged in the pre-COVID are very much more disengaged in the virtual setting."

- Survey Respondent

"I have to keep in mind the kids that are going out to the buses that are pulling into their neighborhoods so they can get a Wi-Fi signal because we have that going on. [To help] the kids in some of our really impoverished areas (for lack of a better word), we have school buses that are going out into some of their neighborhoods… [the buses have been] turned into big Wi-Fi hot-spots and the bus drivers sit with the buses all day long."

- Focus Group Participant

"That's the challenge of a teacher. Because when they're in my lab, I can give every kid the same thing. But when they're each in their individual homes or we have some kids who are going to daycares, it makes that part even harder."

- Focus Group Participant

"I think there's a lot of equity issues with the poverty level and the language barriers. It's gotten better as we've gone along. I'm missing less and less kids because they're starting to figure it out. I find that those kids, once they get on, they're... I had a kid who I hadn't seen for probably five weeks. Then he joined class and got everything done in the last four weeks of class because he was on and he was so engaged and so happy to be doing something."

- Focus Group Participant

"Students who are working from home don't have access to the same design software. Well, they DO have access to the adobe creative cloud, but they don't have room on their home computers or they don't know how to access the software from home."

- Survey Respondent

Context for Teaching

Creating the Student Experience
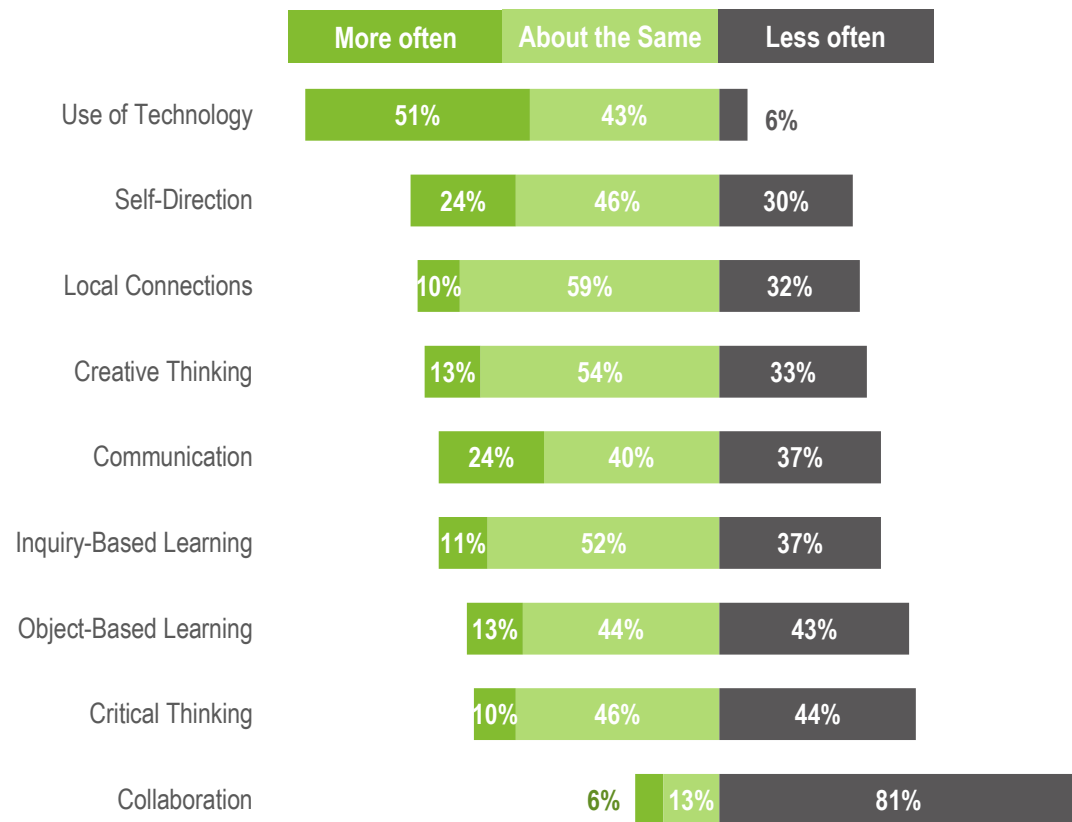
Fall COVID Check-ins

Changes in Classroom Practice

In terms of the classroom practices, the majority of teachers reported they've been able to keep applying authentic practices at a similar level to normal (or more). The exception is student collaboration.

There were substantial expectations that 2020 conditions would make it harder for teachers to use authentic learning practices. But the data indicate that around two-thirds of teachers feel they were able to maintain their "normal" frequency of using many of the practices, including student self-direction, creative thinking, local connections, and inquiry. While a substantial portion of teachers are not able to maintain their usual practices, this largely highlights how adaptable TII teachers have been in 2020.

Unsurprisingly, students using technology to support learning is the practice that teachers are using *more often* this year. On the flip side, 8 out of 10 teachers haven't been able to use collaboration for learning nearly as often as normal. This has been the largest hurdle to overcome when teaching with physical distancing and in virtual spaces.

Reported Frequency of Using Selected Classroom Practices as of Sept/Oct 2020 as Compared to a "Normal" School Year (n=63)

	More often	About the Same	Less often
Use of Technology	51%	43%	6%
Self-Direction	24%	46%	30%
Local Connections	10%	59%	32%
Creative Thinking	13%	54%	33%
Communication	24%	40%	37%
Inquiry-Based Learning	11%	52%	37%
Object-Based Learning	13%	44%	43%
Critical Thinking	10%	46%	44%
Collaboration	6%	13%	81%

Student Experience

Use of Technology: Details

As noted on the previous page, use of technology to productively support learning is the one practice many teachers are using even more often than in a normal year. These examples highlight some of teachers' success stories and challenges.

Some teachers reported great successes with finding apps and programs that worked well for their classes and classroom environments. They support students to use technology to engage with lessons, demonstrate thinking, and replicate successful classroom practices and interactions in a virtual space. Focus group teachers described using a range of new apps and platforms, including one teacher who described success using the Smithsonian Learning Lab in her classes.

Not surprisingly, some teachers also noted barriers and difficulties with incorporating the technology, including broken devices, challenges finding the right program to adapt activities successfully, and general frustration with "making it work."

"This is the first time we have had access to technology like this. I am able to use apps like peardeck which provide instant feedback from all students. Those who do not like to share in front of the class are communicating with me much more than they do in class."

- Survey Respondent

"Parts of online grading are going well. I do a weekly SEL check for students that I used to do with classroom vote machines. It is so nice having it as a quick form, and more students have tech this year because of the pandemic."

- Survey Respondent

"The concern for not knowing technology too well, that it would be an epic fail on the first week back and doing online."

- Survey Respondent

"Students who are working from home don't have access to the same design software. Well, they DO have access to the adobe creative cloud, but they don't have room on their home computers or they don't know how to access the software from home."

- Survey Respondent

Student Experience

Student Self-Direction: Details

Despite the pandemic, more than two-thirds of surveyed teachers reported they have been able to let their students take charge of their own learning. In focus group discussions, teachers described how they have been able to do this, even virtually.

Teachers in all three focus groups described strategies they are using to give their students control and decision-making ability in project-based work. Examples included letting students decide how to create projects for an open-ended assignment and giving students choices about which topics or mediums they use for projects. Another teacher used more flexible assessment options, including such as modeling, presenting, and using images to communicate understanding.

In one survey response, a teacher noted how the virtual learning environment has actually helped students become more empowered and in control of their learning and needs, which is a tremendous growth in social-emotional skills.

"My students are self-advocating more than I thought possible at 12/13 years old. They have nearly mastered sending emails and reaching out for guidance."

- Survey Respondent

"It really got me thinking about, this year, how to set up my classes so that we can get to those projects where kids are self-directed in that learning rather than me saying, "Here's how you design your chassis and put it together." We can give them several options, that menu, and they can take their learning and pick one and go with it."

- Focus Group Participant

"We actually just finished our first project. This project was a bit more structured because we were going through how the process works…The next one, the parameters will stay the same, but the directions will be fewer… And it's all student led where they get to decide what they're doing… it's more tied closely with computer science and specifically creating apps and if they don't want to do that, they can do something else. But they create whatever they want."

- Focus Group Participant

"My STEM kids did a STEM career project and they got to choose whatever career they wanted to do… They had a choice board (to select) how they wanted to present the project… A lot of them did the regular PowerPoints or reports. But I had kids do drawings and collages. I had one little sixth grader—he was so cute, one of the things was they could do a TED Talk—he chose to do a TED Talk and it was so darn cute..."

- Focus Group Participant

Student Experience

Hands-On and Object-Based Learning: Details

While using hands-on and object-based strategies in a time of virtual learning presents a new set of obstacles, many TII teachers proved that it can be done with a variety of strategies.

While it hasn't been as easy as a normal year, when everyone is working together in a fully-stocked classroom or lab setting, TII's STEAM teachers have been grappling with the challenges of whether they can maintain use of hands-on and object-based strategies, particularly in virtual settings.

It seems clear that teachers who have found success did so as a result of their own ingenuity and extra efforts. For example, some teachers have distributed or mailed objects and supplies to students' homes, an idea that came up in all three focus groups. Not all teachers are permitted to mail materials, so some described working with what the students have at home and getting creative in finding alternatives for a specific object, tool, or other resource. Teachers also described challenges and successes in hands-on learning throughout the survey.

"The first assignment I gave the kids is to make a Maker-space box at home. Put in a box, whatever you think you might need to make things, tape scissors, ruler. If you don't have a ruler, what could you measure with, we did all that kind of stuff. If you don't have scissors, what could you cut with? So they have a box now by themselves. One day we made an airplane, like "Get your box up, we're going to make an airplane." … It was fun."

- Focus Group Participant

"Sometimes meaningful engagement is just simply having the right materials for the day or for the week or for the quarter or whatever. I actually mailed out materials so that way they could truly become engaged in object-based projects because sometimes those kids that are tactile, they need to touch something."

- Focus Group Participant

"[My greatest challenge is] how to do hands-on projects, especially with my youngest students K-2."

- Survey Respondent

"Everything that I do in a science lab is so material-based and virtual strips that away from me. I can try to be creative. I feel like the spring, I relied on the kids having materials a lot more and asking them to be creative. With me, with the fall, I'm trying to get the materials to them and it almost restricts me more because it's like, "Oh, well I know you have like, four pipe cleaners and a cotton ball because that's what I was thinking a month ago you might need, but now...".."

- Focus Group Participant

Student Experience

Collaboration and Group Work: Details

As discussed in the survey results, use of collaboration and group work to support student learning has been the most difficult practice to maintain in the face of physical distancing and virtual classrooms.

Teachers recognize that the loss of student-to-student collaboration is a major impact on' learning experiences, but it has been a barrier that is incredibly difficult to overcome.

While it's an ongoing struggle, and many teachers have not been able to overcome it, several TII teachers in focus group discussions did describe efforts they are making to incorporate some group work – even if they don't reach the level of a normal year. One teacher is planning for (louder) group work in a physically-distanced classroom, while another teacher described doing small-group 'escape rooms' using breakout rooms in Zoom to prepare for an upcoming test. These creative efforts highlight that it is possible to incorporate, although it is yet another innovation on teachers' shoulders to create this year.

"[My biggest challenge is] trying to still do cooperative and group work activities and sharing of materials."

- Survey Respondent

"There are no small groups or partner work. Sanitation takes up a large majority of time."

- Survey Respondent

"We did an escape room today for the first time. So that was interesting. … I put them in breakout rooms and we had a digital escape room together. … We have our first common assessment in science tomorrow, its on matter, so they had to know things about matter to be able to do different things."

- Focus Group Participant

"They all have to stay at their seats, six feet apart. … My next unit is very much hands-on with lab materials, test tubes and all that stuff. I've made sure that our chemical closet at school has got enough chemicals to accommodate all this repetition because normally, I want them engaged in conversation and collaborating and talking. And so, we're going to do it differently. We're going to still be six feet apart and as they're doing it at their own table, I want them talking to the person who's six feet away from them. My room will be a little louder than normal, but that'll be okay. It's okay. It's middle school and I want them talking. Who have they collaborated with since March the 13th?"

- Focus Group Participant

Student Experience

Keeping Students Engaged

Teachers in the focus groups and surveys were concerned with engagement: keeping students interested, gauging the degree of participation in online settings, and their interest levels in the topics and activities presented in class.

Maintaining and gauging student engagement in class was primarily an issue for teachers in virtual or hybrid settings. Even in physically distanced classrooms, in-person teachers are able to use much of their traditional toolbox.

Some of the virtual teachers had trouble telling how engaged online learners were; some students log on, but do not respond or clearly interact with the lesson. Other teachers reported lower attendance than a "normal" semester, a general lack of participation, or decline in turning in assignments.

However, teachers in all three focus groups brought up creative ways they have found to get students more engaged in virtual learning, including reward programs, apps, and other strategies. These types of creative solutions were echoed in survey data, as well.

"I have had more students fail this semester than in years past simply because I am not there to directly remind them to turn in work."

- Survey Respondent

"In school, sometimes, something I think will take two days takes four days. I feel like I want to do a better job, if we go virtual, of getting better input from the kids as to how they're understanding whether it's an exit ticket each day or they have to do a video repeating back what they learned so I can see or whatever. That's one thing that I have learned that I want to make sure that I do better on at the point when we go virtual."

- Focus Group Participant

"We were (getting) concerned about the decline in engagement after the novelty had worn off of being engaged in the lesson through synchronous learning. We came up with this incentive (that) we've always done in person (called) PAWS (which) represents be Prepared, A+ attitude, Work responsibly and Show respect. It's been killing us that we're not catching kids doing the right thing (so) we started doing a digital PAWS … and it's really helped because my engagement level…I have nearly perfect attendance now. I have kids participating. Some of them are still not turning their work in and that's going to happen even if they were (in person). But I have kids having meaningful participation in the lesson."

- Focus Group Participant

Student Experience

Success Stories in Teaching in 2020

Although 2020 has been unbelievably difficult for teachers and students, we found that TII teachers reported a range of success stories or "small wins" already.

1 in 5 TII teachers described finding a lesson, subject, or activity that worked really well in their current teaching environment. A smaller number noted finding new apps or tools to support teaching and learning.

Other successes had to do with relationships. 19% of teachers described how resilient their students have been, with some noting that the students are adjusting better than most adults. Similarly, many teachers found ways to build classroom community and connect with students; some teachers described being closer to their students due to this shared hardship. A few teachers even noted *increased* attendance in virtual classrooms.

A few teachers also described success due to simply getting into a rhythm with whatever their "new normal" is. This seems to be the flipside experience from teachers' extreme challenges due simply to constant flux or changes in the environment.

TII Teachers' Success Stories

Coded responses to the open-ended survey question, "What has been a success story – even a small win – that you've achieved so far in teaching in this new environment?" (n=59)

20% **Finding Lessons / Subjects / Activities that Work**
Positive outcomes or feedback from lessons, topics covered, or classroom activities in the current environment

19% **Resilient Students**
Students that have adapted well to changing circumstances, are willing to try new things, and report enjoying the current learning environment

19% **Building Relationships and Classroom Community**
Building relationships with students, classroom community, new ways of communicating/connecting with students in hybrid or virtual environments

14% **Finding New Teaching Tools**
Discovering new apps and other teaching tools that support learning in the new environment

8% **Increased Attendance**
More students attending school, as compared to last spring semester when the pandemic first hit

7% **In a Rhythm**
Teacher and/or students starting to "get it" and settle into a routine with the current environment

Student Experience

Success Stories: Survey Quotes

"I am understanding how to use my resources a lot better. I have learned several online platforms in depth."

- Survey Respondent

"This is the first time we have had access to technology like this. I am able to use apps like peardeck which provide instant feedback from all students. Those who do not like to share in front of the class are communicating with me much more than they do in class."

- Survey Respondent

"We've been able to really solidify our class routines, so it feels fairly "normal" for a school day. Students have actually been doing really well with our combination of live and asynchronous learning. Hopefully a success."

- Survey Respondent

"The students are adapting fairly well to wearing masks. Also, they are designing an object to 3d print that will allow them to open doors without touching [them]. This has allowed me to give them a real-world application for 3d printing."

- Survey Respondent

"I have seen the students that are normally more shy reach out more and I've been able to bond with them online more than I think I would have in the classroom. I think some students are relieved that there is a lot less peer pressure in the online learning environment."

- Survey Respondent

"I feel like I know my students and their families better being I was in their homes in a virtual manner daily. I have a better understanding of why my students are the way they are."

- Survey Respondent

"I have been integrating models into grades 3-5, in which students revisit every few weeks and add new understandings and connections. We have not completed a model as of yet, but it has been neat to see some of the models grow and change depending on a student's understanding."

- Survey Respondent

Student Experience

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Success Stories: Focus Group Quotes

The deeper focus group discussions allowed teachers to share even more in-depth examples of successes and unique approaches to teaching effectively.

Some teachers from focus groups described ways they have been able to engage parents to get buy-in about learning strategies for the year. Another described partnering with local organizations to get her students supplies and other support. One teacher described bringing another teacher into the classroom to help with specific activities.

Teachers also reflected on learning to use their time effectively and beginning class by socializing in order to support their students' needs beyond content. One teacher also reported staying online after class for students who needed extra attention.

Two teachers described very specific wins, such as a teacher helping get a Wi-Fi-enabled school bus to move closer to a student's home so she could connect, and creating virtual after-school clubs to give students extracurriculars.

"And we really set our kids up for success at the beginning. Because we had a lot of parent meetings, we went through "if" explanations and stuff like that. So that helped out, we do have a big parent involvement. So that really helps at our school."

- Focus Group Participant

"I have 45 minutes per week with a class. I feel like social is such an important part that we keep hearing about, so I'm spending the good five, 10 minutes at the beginning really socializing, interacting, asking kids how they're doing, checking in."

- Focus Group Participant

"I also think [virtual teaching] makes me better as a teacher because I have to think way more about my time management because I can't go back and make up what I missed tomorrow because I don't see my kids every day. I've got to make sure that I use my time really, really well and choose my activities really, really well because time is very, very precious when you only have them for... now I have them for 90 minutes a week. That's still not very much compared to what I would have them if we were in class. I have to make really good choices. It's making me use all kinds of resources, TII, and a whole bunch of other resources I have to make the best choices. Sometimes I haven't made the best choices, but I'm getting better."

- Focus Group Participant

Student Experience

Other Successes: Focus Group Quotes

"I think kids got really creative in the springtime and teachers got really creative. I didn't necessarily have materials that I could give them. I was doing a lot of challenge-based stuff. Like, "Here's a challenge. What can you find and create that meets this challenge?" Most students really loved that."

- Focus Group Participant

"You have to adapt. There's no way I'm going to get through all the curriculum I usually would have. So I've just selected a few projects and just made sure I've emphasized the importance of the engineering design process, working as a team, problem solving and then careers. I decided those are my biggest I have to get to with my kids. And then if I touch upon other things then okay, that's great. But otherwise I'm not going to worry. I'm not going to let it be like, "Oh my God, I'm not going to get to everything." I'm just going to adapt."

- Focus Group Participant

"Because we are in class, first of all, they're just so doggone grateful to be in class... I have one math class of five kids. I have five tables. There's one (student) at each table. Even my science class, I'm actually in two rooms and I have two kids per table. They're way more engaged because there's not four at a table anymore. There's less of the crosstalk. That's really helped us all, just the social distancing and they have to pay more attention because of that."

- Focus Group Participant

"And [a local donor] created a tech hub to help all the schools. And then they reached out and asked us to pilot a student program where our kids support the families when it comes to technology issues. So our kids are actually the ones calling up families and students or emailing them and helping them with any technology issues."

- Focus Group Participant

"I usually spend the first five minutes saying, "Hey, how is your day?" It's really back and forth. (And then) I always save the last five minutes of class especially for my SPED kids who need more help that won't ask in front of all the other kids. They'll stay on and … I'll break it down for them more."

- Focus Group Participant

Student Experience

Support Needs

Fall COVID Check-ins

Focus Groups: Useful Aspects of TII

Focus group discussions confirmed that connections with and support from fellow TII teachers was the most useful aspect of TII this year.

Teachers in two out of three of the focus groups brought up the value of getting recommendations for tried-and-true resources from other teachers in the network. These teachers also emphasized the usefulness of getting answers or suggestions to specific problems they needed to overcome, or in quickly finding resources tailored to specific age groups or topics of study. **The just-in-time nature of the network communications seemed to be what made it more accessible.**

Two focus groups discussed the value of content and resources provided by TII, such as the Learning Lab. Some teachers expressed that they liked knowing those resources were available, but for some, they felt too overwhelmed to spend time looking through all the content or figuring out how they could apply it to their own ever-changing classroom environments. **The repository-of-resources model seemed to require more effort to use.**

"As every teacher knows, the most powerful things come from other teachers. I mean, they just do because when you've been in the trenches and you're like, "Oh, this really works." … The collaboration, even when we get together in happy hours and people talk about what they're doing in their classroom, I'm like, "Okay, I'm stealing that." I just think the collaboration, when you get a bunch of really bright teachers together is amazing."

- Focus Group Participant

"The connection to the other teachers is great. I know that if I ever have a question or want to know about something, I can go to that Facebook group and put it in there and ask the question and I'll get at least five teachers if not 20 teachers directing me in a certain space. So, I agree. That's the best, the best resource. Yeah."

- Focus Group Participant

"I did go to a couple of [TII happy hours] and there was just so many people so no one would talk because there were so many people. Even just to say, middle school teachers or something where you break it down so it's more specific so you're more able to talk and get the good ideas that you need.

- Focus Group Participant

"It really depends on the person. It's kind of like the students. Some teachers, we want the materials and the content, and some teachers want the social also, and emotional."

- Focus Group Participant

TII Supports
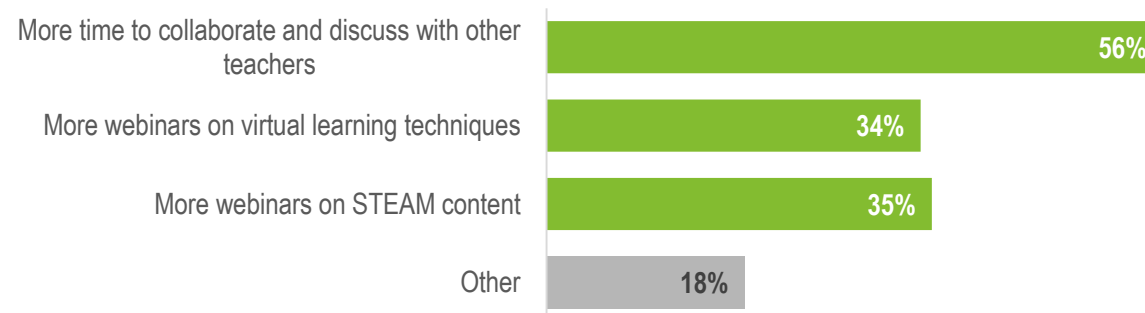
Areas for Additional TII Support

While needs are very mixed, over half of teachers felt that they needed more time to collaborate and connect with other TII teachers; although about a third of teachers selected each of the webinar topics.

Collaborating and discussing ideas with fellow teachers appears to be an ongoing need and value that TII could help fill. These ideas and feelings are recurrent throughout feedback from teachers about how they have engaged with TII so far this year and what they would like more of moving forward.

Webinars may be useful to a segment of teachers, but this may be a subset of teachers. Of those interested in STEAM content, most were seeking activities that could be done in or accommodate a virtual environment. A few teachers also stressed the need for activities that use materials found in most homes. Other topics included math connections, engineering challenges, more inquiry and project-based learning, drones, ecosystems, force and motion, and Smithsonian Learning Lab.

Areas in Need of Additional Support from TII

Closed-ended responses to the survey question, "In what areas could you use additional support or ideas from TII?" (n=68)

Area	Percent
More time to collaborate and discuss with other teachers	56%
More webinars on virtual learning techniques	34%
More webinars on STEAM content	35%
Other	18%

Open-ended survey comments about areas of additional support from TII:

"Teaching science and math hands-on with limited supplies and limited sharing allowed between students."

"General STEAM ideas that are applicable in a classroom but also in other educational settings."

"How to do engineering and design challenges with limited resources, and not being able to work together in the traditional sense."

"Project based learning and pulling in math and science content that is grade level specific."

TII Supports

Focus Groups: Areas for Additional Support

In focus groups, TII reiterated interest in more virtual networking with teachers, in order to share resource recommendations and/or to get emotional support.

Teachers shared different ideas for what they would like, which emphasizes that there is not likely a one-size-fits-all approach to offering support. One teacher wanted open "office hours" to stop in and explore a tool or strategy. Another teacher wanted a single location in which to find relevant class activities, but curated in a way that helped them not feel overwhelmed by options.

One discussion group described feeling overwhelmed by the wealth of resources, events, and options from TII. There was a sense of appreciation mixed with guilt for "ignoring" opportunities. These teachers seemed to want clarity to reduce the sense of obligation. This feeling that it is "too much" is clearly very strong for some teachers, while not an issue for others. **Finding ways to make it feel safe to opt-out/ignore, while still offering opportunities for those who will benefit is a challenge for the winter/spring.**

"Maybe we could have a share fair. Maybe it could be for K, two or for three, five and just break them up a little bit. Maybe one time do by grade level and then maybe another time do by subject because different sciences teach different things. And, or a content-based share fair. … I just think maybe putting together a whole bunch of different kinds of share fairs would be a cool thing to do. One, that we would get the social, emotional support. Two, we would get to, not steal, but reuse ideas and make them your own. "

- Focus Group Participant

"For me, when I'm teaching this way, what I'm looking for are digital resources, digital activities that I can do with kids that's still project-based or object-based or trying to engage them in something that's tangible or material. If I could get a lesson and photos to go with it or even like a materials list for a kit that I could send out, for me in the virtual world, that's what I'm looking for…"

- Focus Group Participant

"I'm like why do we have to do that? What am I doing? What am I missing? Was I supposed to set up something? Because then I felt like, "Oh my God, I'm not doing something that I was supposed to do." But I don't have time because I have this meeting and this meeting and this meeting and I can't and what am I missing? So, I don't know what I missed or what I was supposed to do."

- Focus Group Participant

TII Supports

Teacher Innovator Institute:

Highlights from Evaluation

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