ENGAGING INSTRUCTION

High-quality CTE is perhaps most unique for its applied, contextual nature. Programs must have at their core instructional strategies that engage students and support student attainment of relevant knowledge and skills within a student-centered learning environment. Developing students' hands-on technical skills and fulfilling lab hours was the number one area of concern for CTE educators in ACTE's May 2020 survey, as this is perhaps the most difficult, but also one of the most critical, aspects of CTE to reconceptualize in a modified learning environment. In addition, regardless of the instructional model chosen, learners will benefit from instructor efforts to build a positive classroom culture that acknowledges their social-emotional needs and provides, as much as possible, personalized instruction.

Key Issues to Address

- Modifying project-based, hands-on and collaborative learning for social distancing or remote learning
- Developing easy-to-navigate and accessible remote content and activities
- Keeping students engaged remotely
- Creating a positive and respectful classroom culture that supports students' social-emotional needs

In-person Considerations

If learners return to campus, hands-on and project-based learning can continue in person, with social distancing. Projects and lab work will need to be designed with this distancing in mind, so in-person small group collaboration may be less common. One option that instructors have suggested for small group work during social distancing is for students to collaborate virtually using learning management system (LMS) tools or other software and apps, even when they are physically in the same classroom. This would also allow students who remain at home owing to health concerns to participate in real-time group work with learners who are on campus. Similarly, instructors could use video to minimize contact in the classroom; for instance, instead of automotive technology students gathering around a car to look inside, the instructor could use a portable video camera to show the inside of the vehicle, while students remain in their seats.

To further accommodate learners who remain at home, instructors may need to simultaneously livestream classroom activities to those learners while teaching the majority of students in person. This is a learned skill that can take some practice. Additional tips are included in the Remote Considerations section below.

Creating a positive classroom culture of learning and respect, and offering flexibility and differentiation to students will also be critical as students return to in-person instruction. Each learner has experienced the effects of the COVID-19 pandemic in different ways, and the return to in-person education may present additional challenges or fears to many. Social-emotional supports and understanding in the classroom will be more important than ever, and different students may also need different academic supports or additional hours in the lab to recapture learning time lost or address other skill deficiencies.

Remote Considerations

If instruction will take place all or mostly remotely, instructors will need access to evidence-based online learning strategies and the space for trial-and-error. Tools like the California Department of Education's Distance Learning Adaptation Document can help instructors translate in-person lesson plans to the online environment. Fundamental strategies for engaging instruction online include chunking each course, course unit and lesson, and providing clear navigation throughout, with frequent check-ins that require students to respond and engage.

Instructors will need to communicate clear norms and expectations to learners about using appropriate language, sharing speaking time online, responding constructively in discussion boards, when and how to use different media channels (e.g., when it's more appropriate to email the teacher versus starting a class discussion), and what to do in the event of cyberbullying or harassment. Guidelines for the amount of time students should spend engaged in remote course content can also be helpful. LMS and other virtual tools enable instructors to track the amount of time that a student is engaged online each day or class period, and can help instructors to monitor learner effort.

Video demonstrations are an important instructional strategy for remote CTE instructors, and one that many

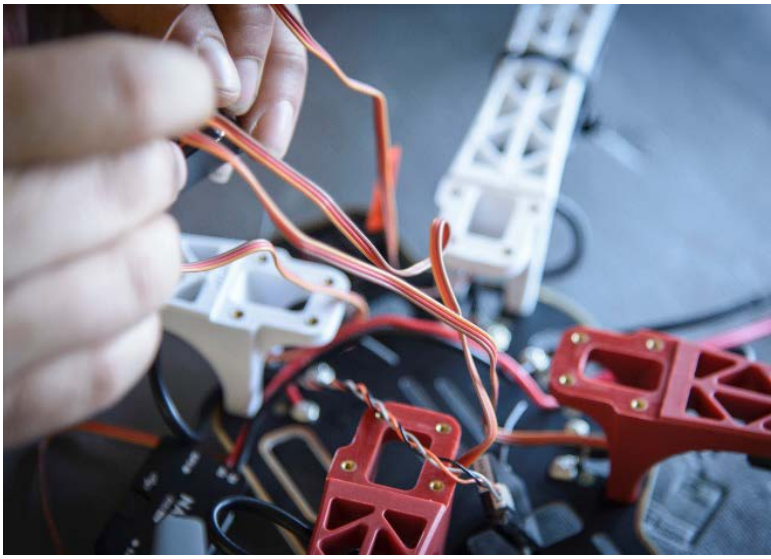
embraced this spring. CTE educators have recorded themselves doing everything from checking vital signs to making a meal to repairing the plumbing in their own house. These videos can be delivered synchronously or asynchronously, and paired with interactive features like Q&A or discussion sessions, chats and polls.

CTE educators will also need clear guidance on the use of synchronous instruction, which can help to build the classroom community but is fraught with challenges, such as student privacy and scheduling issues. Even when synchronous instruction is available, the most critical content and information should be communicated in both synchronous and asynchronous formats for learners who may struggle to be online at a certain day and time.

A number of strategies can facilitate synchronous instruction and enable group work, discussion and reflection. Techniques used in the physical classroom, such as bell ringers and exit tickets, can easily translate to online courses. However, even synchronous instruction needs to be carefully planned to engage students — multitasking, distraction and technology issues can all reduce student participation and effective learning. The techniques below can help keep students engaged in this type of remote learning, and additional resources can be found in the Resources, Tools and Examples section:

- Limit class/meeting size, where possible, by splitting the class into smaller groups. Offering content at multiple times can also help learners who struggle to attend class remotely because of other responsibilities or connectivity issues.
- Consider leaving audio on for small groups rather than muting all participants. This can reduce distractions if students know everyone can hear them. However, be prepared to mute all participants if there is too much background noise.
- Include video of participants during introductions or questions, but when presenting content display only the speaker to reduce distractions.
- Offer the equivalent of bell ringers through polls, quizzes or questions in the chat as students enter.
- Prepare students to be called on, and use this strategy throughout. Adding different voices to the conversation breaks up the monotony.
- Stop and take questions frequently and send visual signals of appropriate times for questions.
- Check your lighting, framing and video angles and look into the camera rather than at the video stream.
- Consider how instruction will appear on a mobile screen.
- Consider accessibility (more details on this subject can be found in the Access and Equity section).

Project-based learning will also have to be redesigned, with more attention focused on projects that can be completed remotely. For instance, students could develop their own mock businesses with a budget and marketing plan. Instructors may also be able to send home the supplies needed for students to complete projects, or use computer-based simulations to engage students remotely and allow for skills practice. Both options are described more in the Facilities, Equipment, Technology and Materials section.



These types of projects and activities can help to address one of the biggest challenges in remote CTE learning: the ability for students to demonstrate knowledge and skills required in their career area through real-world application. Collaborative projects can be facilitated through virtual breakouts and other remote collaboration tools.

If many learners cannot access the internet or have limited access, then instructional materials will need to be physical media: textbooks, paper packets and at-home kits for hands-on practice that can be safely used at home. This topic is further addressed in the Facilities, Equipment, Technology and Materials section.

Blended Considerations

In a blended scenario, CTE instructors will need to consider all of the above. And while learners in this model will have some time for in-person, on-campus instruction, it will be less time than normal. To maximize students' limited time on site, instructors may consider demonstrating techniques over video, reducing in-class time needed for demonstration.

In addition, certain aspects of skill practice can be shifted to the remote setting. Simulation packages that include both virtual and in-person modules may work in the blended scenario. For instance, some virtual patient care simulations can be completed at home, while students practice with mannequins on campus. State nursing boards in several states, such as Oregon, granted accommodations this spring to allow simulated and virtual clinicals.

Access and Equity Implications

When you are considering how to offer engaging instruction in these scenarios, remember the importance of accessible design and that learners with disabilities, English learners and other special populations may need extra help navigating remote and blended content and may need to be engaged in different, personalized ways. Instructor flexibility will be key. In addition, remember that online spaces can be sites of bullying and harassment for young women, students of color, LGBTQ+ learners and other students. Finally, medically vulnerable learners who remain at home and quarantined students may feel very disconnected from the classroom; check-ins from instructors and peers can help to alleviate this loneliness.

Resources, Tools and Examples

- The Distance Learning Adaptation Document from the California Department of Education is a template to support teachers in the design and adaptation of weekly lessons for distance learning implementation.
- The University of Central Florida's (UCF) Teaching Online Pedagogical Repository describes pedagogical practice related to course content, interaction and assessment. UCF also offers the BlendKit Course of subject-matter-neutral, open educational resources related to blended learning and available for self-study or for group use.
- The Vanderbilt University Center for Teaching Blended and Online Learning Guide includes online pedagogical practices.
- Griffith Institute for Higher Education in Australia has produced a Getting Started with Blending Learning Guide for instructors.
- The Community of Inquiry Framework is a social constructivist model of learning processes in online and blended environments.
- The VOCAL (Visible, Organized, Compassionate, Analytical and Leader-by-example) approach for effective online teaching is described in this journal article.
- This Edutopia blog post describes one instructor's plans for bringing distance learning strategies back to the classroom, while this Inside Higher Ed article discusses the challenges and potential solutions for active learning in a socially distanced classroom.
- For tips on improving videos and presentations, check out this article from IDEAedu.org and resources from The Goodman Center that can be adapted to online teaching.
- The Gamification Guide is a free resource on game-based learning in the classroom.
- This resource from the U.S. Department of Education has tips and resources for cyber safety and digital citizenship.

This is an excerpt from High-quality CTE: Planning for a COVID-19-impacted School Year. Access the complete guide for additional content about providing high-quality CTE programs in a COVID-19-impacted school year. **Last Update:** June 22, 2020

This document is not legal advice, nor is it an exhaustive list of every consideration or action that CTE educators may need to take for the 2020–21 school year. Readers should defer to federal, state, local and/or institution requirements and guidance. The instructional models, ideas, resources, tools and examples shared do not constitute endorsements of any products, services or strategies, as different products, services and strategies will work in different contexts. As knowledge is gained, this guide may be updated to incorporate new ideas and resources and emerging issues.

Engaging Instruction: Key Questions to Consider

Cross-cutting Questions

- How will you work to rebuild a classroom community and support learners' social-emotional needs?

In-person Questions

- How can you design projects and group work with social distancing in mind? Will learners and instructors have devices in the classroom so they can collaborate remotely and maintain distancing, even when they're in the same physical space?
- If you have learners who remain at home, how will you engage them in instruction and collaboration?

Remote Questions

- Which instructional strategies have been most effective this spring in the remote environment and should continue to be used?
- What instructional techniques that work for you in the face-to-face classroom can be modified to the online space?
- How can you clearly organize learning to help students navigate online instruction?
- How can you clearly communicate remote classroom norms and expectations to learners? How will you address negative behavior in the online space?
- How will you support students to collaborate, discuss and reflect on course content online?
- How can learning be personalized in the remote space? How will you have periodic one-on-one interactions with learners?
- How will you apply project-based learning to the remote environment?
- What practical skills can you demonstrate over video?
- If you send home textbooks or paper packets, how will you help learners engage with these materials? How frequently will materials be exchanged between students and instructors?
- If you send home kits of materials, how will you promote safe usage? What instructions will you include? How will students get completed kits back to you?

Blended Questions

- How can you maximize in-person time by moving instruction and at least some demonstration to the remote space?