Converting a CTE Face-to-Face Lesson to Remote/Online Format:

Professional Teaching and Learning Practices, Findings, and Recommendations

Illinois State Board of Education

Illinois State University
Illinois' first public university.

Table of Contents

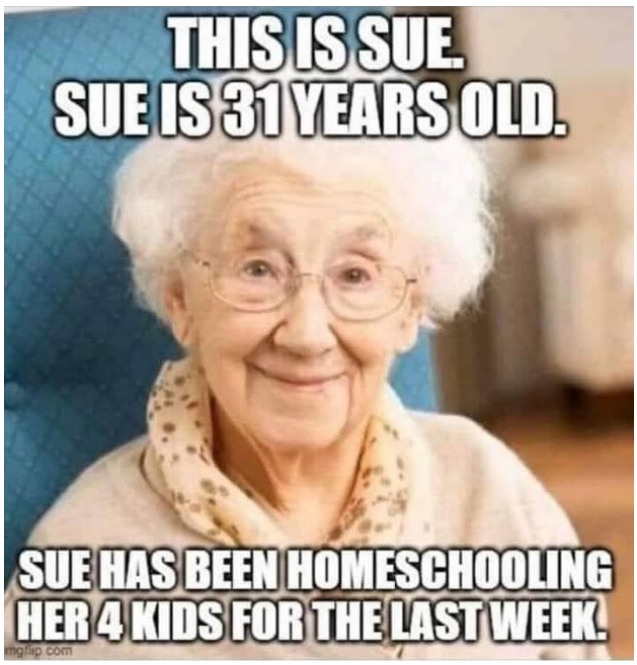
Overview of ILCTE PTL Sessions	**3**
Starting with Memes	**4**
Thoughts on Teaching Remotely Through Menti	**5**
Findings from ILCTE Professional Teaching and Learning Best Practices of Remote/Online Learning	**6**
Remote/Online Issues or Practices to Avoid	**7**
Remote/Online Resources to Implement for Positive Teaching and Learning	**8**
Hands-on Projects During Remote/Online Learning	**9**
Conversion Flowchart for Converting Lessons	**10**
Positives Aspects and Challenges of Hands-on Projects During Remote/Online Learning	**11**
Online Learning Website Resources	**12**

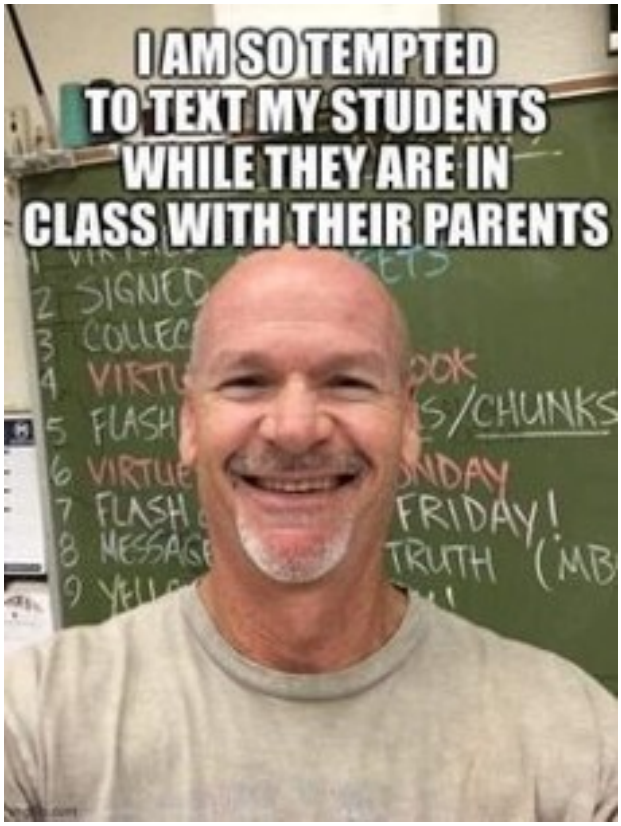
Overview

The Illinois Career and Technical Education Innovative Curriculum Resources Project (ILCTE) conducted several professional teaching and learning sessions during June 2020 with Illinois CTE teachers and school career counselors (N=171) with the ultimate goal of creating or converting face-to-face (F2F) lessons for remote/online learning; June participants represented 103 Illinois communities. The information found in this document represents the research, techniques, and recommendations for creating lessons for online or remote learning. ILCTE Leaders believe this document should never be finished but rather be updated with new, research-based, classroom-tested approaches that work for CTE teachers, students, and career counselors, so please visit this document regularly on our website for new approaches.

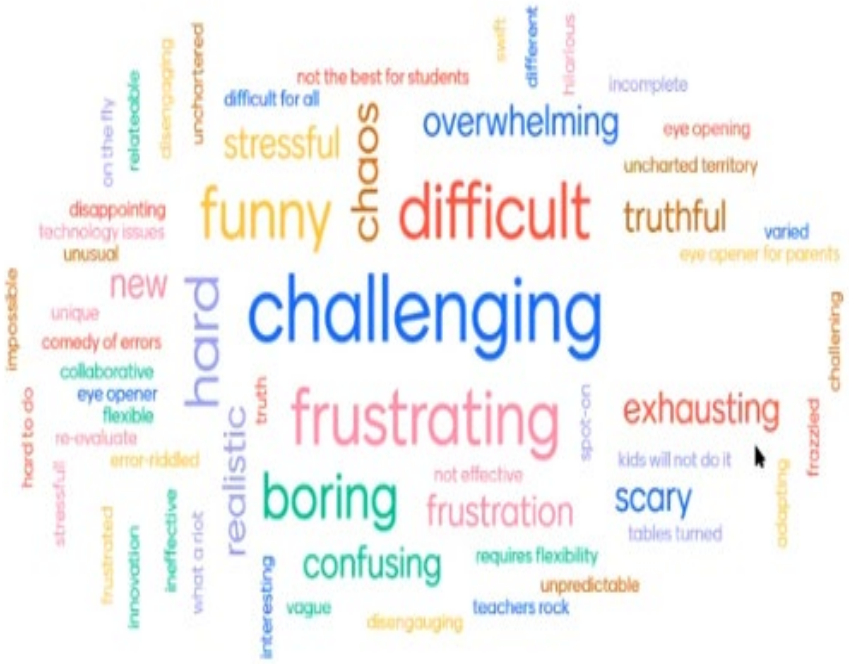
Cumulative Attendance by Content Area*	
Business, Marketing, and Computer Education	26
Family and Consumer Science	59
Health Science Technology	36
School Counselor/Career Counselor	13
Technology and Engineering Education	25
Other: Includes Reported By: Endorsement Area; Two or more content Areas; Counseling Focus; or Specific Courses Taught	12
Total	171

Each professional teaching and learning session started with a fun but serious impression of what teachers and career counselors experienced in CTE during the spring of 2020. Participants were presented with several “Memes” that represented online learning in the public schools.





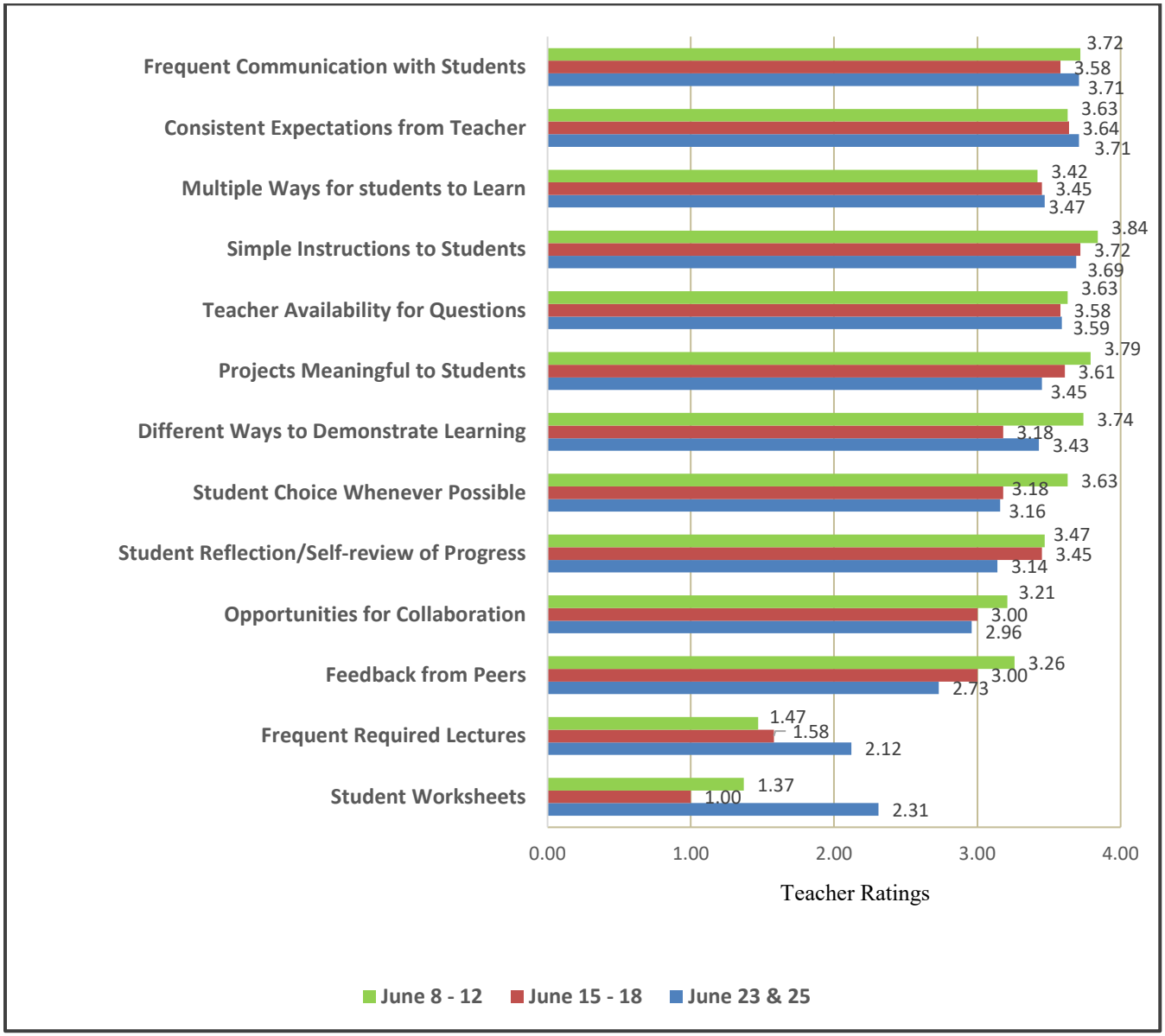
Participants were asked to describe their spring 2020 online teaching experience through an application called mentimeter; the responses from one of our sessions to the “menti” were captured below in the image. As you can see by the image, some words or phrases are larger than others, which means more of the participants in the session stated the same word or phrases.



Findings from ILCTE Professional Teaching and Learning

Best Practices of Remote/Online Learning

Data shown in the figure below indicates the least and most recommended strategies for remote/online learning from the 171 participants.



After learning what Illinois CTE teachers and career counselors thought or experienced during their remote/online learning, we compiled a list of approaches to avoid and those to embrace when converting or developing a F2F lesson for online/remote learning.

Remote/Online Issues or Practices to Avoid

Aspects of particular importance are in **bold font.**

- Student and Teacher technical failure:
  - Logging on, website/password
  - Submitting assignments
  - Incompatible technology
  - Can't see or hear
  - Camera or microphone problems
- Lack of collaboration/people time
- Hard to connect with classmates
- Hard to reach the instructor for personal help
- Assuming students will follow and complete assignments
- Being unaware of every student's home circumstances
- **Busy work (too many confusing assignments)**
- Copying and pasting worksheets
- Dangerous activities
- Hard, fast deadlines as technical issues can limit student punctuality
- Inconsistency
- Long supply lists that students are required to get
- Making it impersonal
- No outline for clear expectations
- Not allowing autonomy
- Not being flexible
- **Not giving feedback**
- Not providing students with enough information
- Same usual classroom assignments just put into an online setting
- Talking too fast
- Talking over a speaker when they are talking
- **Timed activities that rely heavily on technology**
- **Too many videos, especially YouTube videos**
- Too much Facetime
- **Using supplies that are not readily available**
- Very long assignments (more than 30-45 minutes in length)

Remote/Online Resources to Implement for Positive Teaching and Learning

Aspects of particular importance are in **bold font**.

Tools to Enhance Instruction

- **Breakout rooms for more intimate collaboration**
- **Class discussions**
- Computers
- EdPuzzle
- Face-to-Face interactions when able
- Flipgrid
- **Google classroom**
- Interactive Nearpod
- Kahoot
- Learning management systems that create consistent and a reliable foundation for students to feel supported
- Marco Polo for feedback
- **Mentimeter for immediate results**
- Microphone for recording quality
- Movie videos
- Online calculators/tools
- Padlet
- **Pear Deck**
- Powerpoints to provide basic information
- Pre-record lectures and instructions
- Online quiz software like Quizlet, which allows students to work at their own pace
- Remind
- **Screencastify**
- **Small groups/private office hours**
- Think Link
- Video maker
- Videos with questions imbedded
- Virtual tours
- **Zoom**

Positives Aspects of Hands-on Projects During Remote/Online Learning

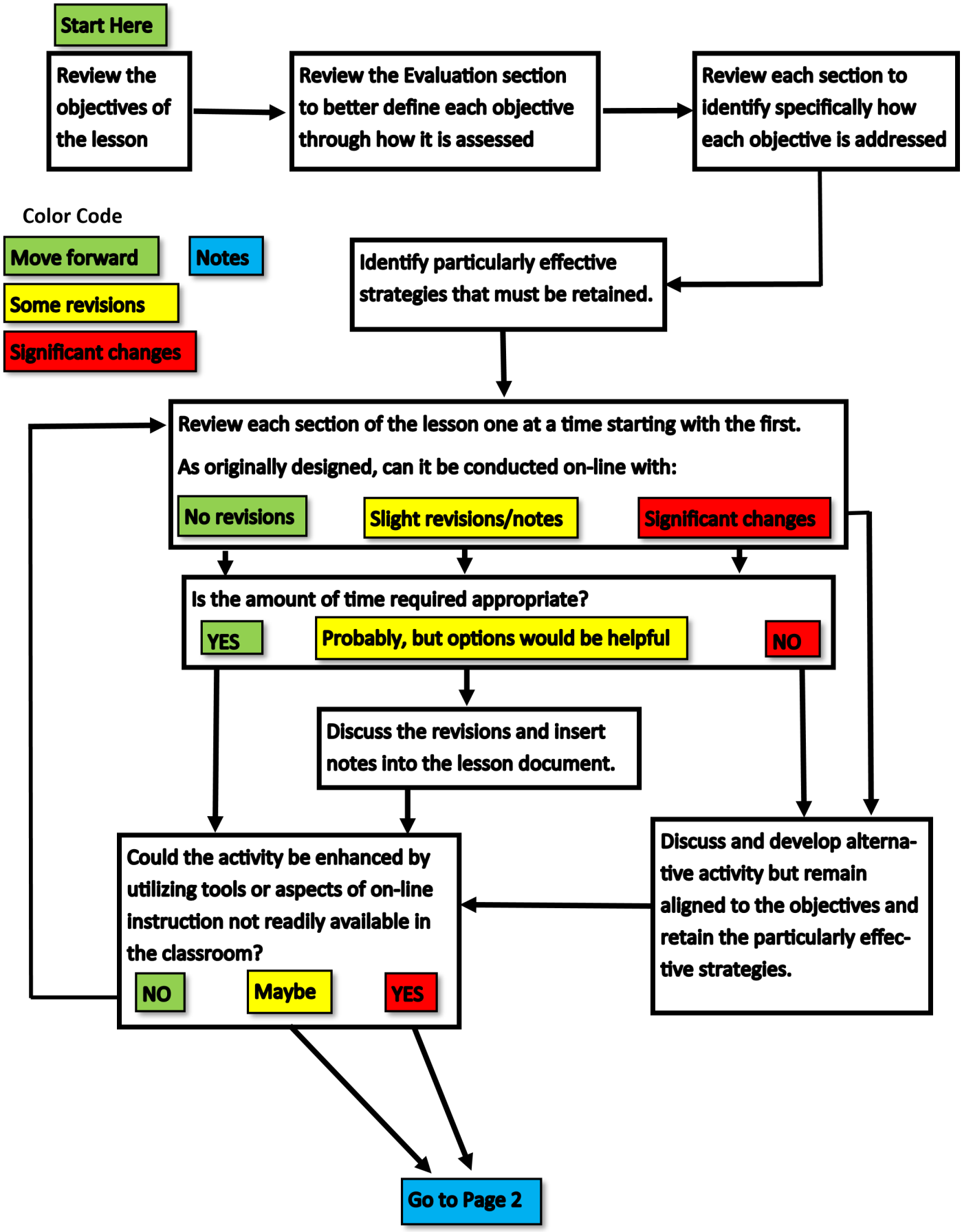
- Family involvement (unintentional)
- Creativity
- Students did not fear doing their work/no peer pressure
- Ability for the teacher to go back to student submissions
- Discussion
- Small group discussion

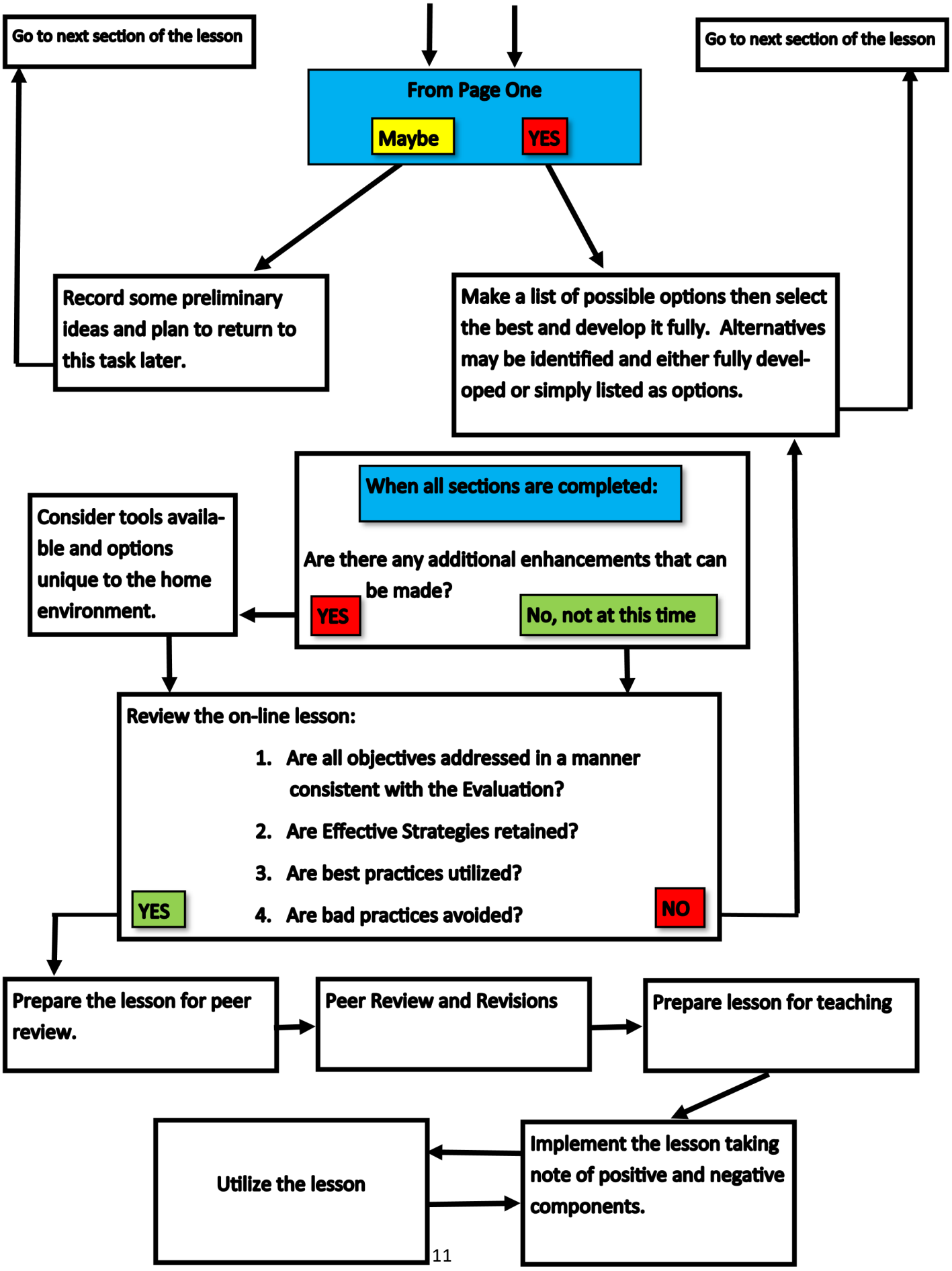
Challenges to Overcome with Hands-on Projects During Remote/Online Learning

- Access to supplies
- Safety
- Visually watching, seeing one person at a time, flipping through screens
- Demonstrating skill
- How to apply feedback
- Working at a different pace, not being able to see if students are following along
- The two-way communication (feedback loop)
- Hard to tell which students need assistance
- Alternative software (replacement for Photoshop as an example)

Through the work that ILCTE accomplished (next two pages), a decision-making flowchart process was developed for teachers and career counselors to convert a F2F lesson to a remote/online learning lesson.

Flowchart: *Converting a F2F Lesson to Online/Remote Format*




Go to next section of the lesson
From Page One
Maybe
YES
Go to next section of the lesson
Record some preliminary ideas and plan to return to this task later.
Make a list of possible options then select the best and develop it fully. Alternatives may be identified and either fully developed or simply listed as options.
When all sections are completed:
Are there any additional enhancements that can be made?
YES
No, not at this time
Consider tools available and options unique to the home environment.
Review the on-line lesson:
1. Are all objectives addressed in a manner consistent with the Evaluation?
2. Are Effective Strategies retained?
3. Are best practices utilized?
4. Are bad practices avoided?
YES
NO
Prepare the lesson for peer review.
Peer Review and Revisions
Prepare lesson for teaching
Utilize the lesson
Implement the lesson taking note of positive and negative components.

Online Learning Website Resources

Adobe Rush App- This tool is available for the PC, IOS, and Android. Gives the user capability to create fantastic videos that have been edited. Free use of the tool with three exports is available. Otherwise it costs $9.99 / month.

https://www.adobe.com/products/premiere-rush.html?red=a

ASVAB- Career Exploration Program includes a validated aptitude test and interest assessment. The results are used to guide career exploration using their career planning tools.

https://www.asvabprogram.com/

Canva - Design anything in minutes with thousands of beautiful templates and images. The "basic" plan is FREE. It offers 250K+ free templates, 200K+ free photos and elements and 1000+ fonts. There are 100+ design types for social media posts, presentations and more! The "pro" plan costs $9.95 per month and offers more templates, photos & elements than the basic plan.

https://www.canva.com/education/

Career Pathways Virtual Trailheads – To support students work based learning experiences during e-learning and while in school, the P-20 Network has created a series of videos which feature people from a wide range of occupations. These videos will allow students to learn different occupations within the various career pathway endorsement areas, gain knowledge about workplace skills, and receive advice from these professionals.

https://www.isbe.net/Documents/Career-Pathways-Virtual-Trailheads.pdf

Career Zones - The place to explore careers related to your strengths, skills and talents. There are 6 career clusters that can be explored. Arts & Humanities, Business & Information Systems, Engineering & Technology Services, Health Services, Nature & Agricultural Sciences, and Human & Public Services.

https://www.careerzone.ny.gov/views/careerzone/index.jsf

Doceri Interactive Whiteboard- Doceri does it all! Control your lesson or presentation live with Airplay or through your Mac, PC or Ipad. Annotate a Keynote or PowerPoint or present your original Doceri project. Great for student projects, too. CREATE hand-written or hand drawn Doceri projects on your iPad, using sophisticated drawing tools and the innovative Doceri Timeline.

https://doceri.com/

Ed Puzzle - EDpuzzle is an incredibly-easy-to-use video platform that helps teachers save time, boost classroom engagement and improve student learning through video lessons. Use videos from YouTube, Khan Academy, Crash Course and more. If you'd rather record and upload your own video, go for it! EDpuzzle also collects data as students watch and interact with the video. Best of all, it's completely FREE!

https://edpuzzle.com/

Electude – Welcome to the future of technical education! Our e-learning platform reimagines the ways technical students learn and retain information. Electude's learning modules utilize gamification principles and highly interactive resources, including animations and simulations, to create a discovery-based environment that keeps students engaged throughout their training. With programs in light vehicles, heavy vehicles and systems technologies, Electude offers a highly adaptable platform that performs equally well in the classroom, in the shop or at home.

https://www.electude.com/

Enneagram - Is a free Enneagram personality test will show you which of the 9 personality types suit you best. See how you score for all 9 Enneagram types, and understand where you fit in the Enneagram personality system. It only takes 10 minutes online and is FREE. The report is immediate.

https://www.truity.com/test/enneagram-personality-test

Everfi - Everfi is a platform for creating community impact that's customizable, measurable, inspiring, and easy. It offers Workplace Training, Financial Education, Higher Education and Community Engagement modules.

https://everfi.com/

Flipgrid - Flipgrid is an easy-to-use social learning, video making website that allows educators and students to make video clips. A teacher can create a grid or a series of grids that asks students to discuss topics or questions. The teacher can set the requirements of the responses to the subject, which could include time limits, attachments, video, pictures, and several other settings. For educators it's FREE!

https://info.flipgrid.com/

Google Classroom - Google Classroom is a FREE web service developed by Google for schools that aim to simplify creating, distributing and grading assignments in a paperless way. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students.

Google Classroom Cheat Sheet for Students - If you plan to implement Google Classroom as a distant learning platform, this is a great resource for your students that provides basic information on the various tools Google Classroom provides.
https://www.ilcte.org/images/OnlineLearningResources/Google_Classroom_Cheat_Sheet_for_Students_by_Shake_Up_Learning.pdf

Google Classroom Cheat Sheet for Teachers - This document is a great resource for teachers that would like to learn the basics of Google Classroom for distant learning.
https://www.ilcte.org/images/OnlineLearningResources/Google_Classroom_Cheat_Sheet_for_Teachers_by_Shake_Up_Learning.pdf

Google Meet and Livestream Directions - real-time meetings by Google. Using your browser (you will need to use Google Chrome), share your video, desktop, and presentations with students. The linked document is a great step-by-step direction sheet for students learning how to do Google Meet Livestream for school.
https://www.ilcte.org/images/OnlineLearningResources/Google_Meet_Live_Stream_Directions.pdf

HSFPP-- High School Financial Planning Program offers FREE comprehensive personal finance curriculum.

https://www.hsfpp.org/

HyperDocs - HyperDocs are Google Docs that are self-contained lessons or units. The idea has taken hold in modern education. They contain questions, with links to videos, infographics, websites, or other resources to help the students discover new information. Other uses for hyperdocs can be building an extended lesson or unit. HyperDocs can also be used for substitute teacher plans, video or podcast playlists, and learning centers or stations.

IDEA – IDEA is dedicated to being the leader in supporting and promoting innovative **education** for all. We strive to offer and promote innovative practices to the **educational community**. We believe learning can be enhanced using technology.

https://ideaillinois.org

ISAC -- Resources are available to assist you in offering Claim Your Future® to your students. It has games for students.

https://isac.claimyourfuture.com/game/

Kahoot! - Kahoot! is a game-based learning platform that makes it easy to create, share and play learning games or trivia quizzes in minutes. Unleash the fun in classrooms! Sign up for FREE for the basic plan or $36 per year for the pro plan.

https://kahoot.com/what-is-kahoot/

Know it All - **Know it all** features a wide assortment of over **8,600 media assets**, for pre K-12. The content has been optimized for tablets and mobile devices for one-to-one learning. As of May 15, 2020, you will find approximately: 4821 videos, 1333 audio files, 286 photo galleries and 1781 photos, 79 interactives, 62 teacher resources, and much more! It covers career education, English Language Arts, Health Education, Math, Science, Social Studies, Technology, Visual & Performing Arts and World Languages.

https://www.knowitall.org/collections/about-knowitall

Loom – Say it with video! The expressiveness of video with the convenience of messaging and it's FREE. Communicate more effectively wherever you work with Loom.

https://www.loom.com/

Make - Make is an online community of people all across the globe that "make" things. This site would be a good resource for students and teachers who are looking for makerspace-type of projects. Some existing projects could be completed at home with minimal tools and materials, while others require sophisticated technology.

https://make.co/

Menti - Mentimeter is a cloud-based solution that allows you to engage and interact with your students in real-time. It is a polling tool wherein you can set the questions and your students can give their input using a mobile phone or any other device connected to the internet.

https://www.mentimeter.com/

Minecraft Education Edition - Educators visiting the Minecraft: Education Edition community site will find existing lesson plans on pixel art, grid paper to plan student

work, and even a Minecraft world set up as a blank canvas for students to engage in creative expression. These materials are distributed to the students, and the crafting begins. There is a cost for this education edition.

https://education.minecraft.net/login

MyCAERT - MYcaert provides teachers with an integrated online system to Plan, Document, Deliver, and Assess Career & Technical Education instruction. It not only allows access to a complete selection of instructional components, but also serves as a classroom organizational and management tool. Once on the MyCAERT website, in the upper right-hand corner will be a YELLOW box labeled questions. Enter your information into the question box to request access.

https://www.mycaert.com/

Nearpod - Nearpod is an instructional platform that merges formative assessment and dynamic media for collaborative learning experiences. You can upload tech-enhanced materials or customize over 7,500 pre-made, standards-aligned lessons for all K-12 subjects. Students complete assignments independently while you gain insights into students' understanding with post-session reports. Easily integrates with your LMS (i.e. Google Classroom, Canvas, Schoology and more).

https://nearpod.com/

NEFE -- The National Endowment for Financial Education (NEFE) champions effective financial education. NEFE encourages better understanding of personal finance by identifying and promoting in-depth exploration of financial issues of concern to the public.

https://www.nefe.org/

Ngpf.org - Next Generation Personal Finance - this site is free. It contains 9 wk, semester, and full year curriculum for middle and high school.

https://www.ngpf.org/

Padlet.com - A tool that sets up accounts for students that are private. Cost for a teacher $12 /month. Teachers may post assignments and students can create work and post their assignment work back to the teacher. Teacher is in full control of the student and parent access.

https://padlet.com/

Pear Deck - this is a sidebar to add to Google Slides. It allows a teacher to be in presentation mode and then be able to communicate with students by giving a formative assessment, creating custom questions, adding audio to a slide, and active dashboard to

watch each student's reaction to material presented. Pricing free, $150/yr, custom for district. Web site has the options available for pricing listed.

https://www.peardeck.com/administrators-domain

Perusall - this tool indicates it wants to change the mindset of reading from a solitary task to a more group oriented task. It wants to make reading fun and make sure students come to class prepared. This site does have some free options.

https://perusall.com/about

QFT- The Question Formulation Technique (QFT), created by the Right Question Institute, helps all people create, work with, and use their own questions — building skills for lifelong learning, self-advocacy, and democratic action.

https://rightquestion.org/what-is-the-qft/

Quizizz.com - Free quiz tool. Can be used on any device. For in class and online uses. Never grade a quiz again. Web site even has quizzes built for different subject areas, even CTE.

https://quizizz.com/

Quizlet - Allows teachers to create or use existing study material. The tool tracks students progress through the material. Great online tool and also classroom tool. 30 day free trial, otherwise $35.99 /year

https://quizlet.com/

Reality Store - The is a simulation to help students understand the cost of living. By understanding what costs they incur may help them decide what type of career to pursue. A manual for $35 or a CD for $50, or both for $75 is available.

https://www.infbpw.org/reality-store/

Adobe Rush App - this tool is available for the PC, IOS, and Android. Gives the user capability to create fantastic videos that have been edited. Free use of the tool with three exports is available. Otherwise it costs $9.99 / month.

https://www.adobe.com/products/premiere-rush.html?red=a

Schoology - a complete Learning Management System (LMS) that integrates with many other educational tools. A free one teacher offer is available. For a district wide package more investigation would be required for pricing.

https://www.schoology.com/k-12

Screencastify - Google Chrome extension. Allows teachers to record their voice, screen, and even has drawing tools. Teachers can record lessons, assignment solutions, and verbal

student feedback. Free version allows up to a 5 minute video. Premium version is $29 per person. Can get a special school quote.

https://www.screencastify.com/

Screencast-o-matic - Video recording service that allows teachers to record their screen and webcam simultaneously. User-friendly. No download required. Video can be published immediately. Free version. Premium versions for schools available with many price variations.

https://screencast-o-matic.com/home

SketchUp – Visualize your ideas for FREE. The joy of drawing by hand. The ease of super-smart 3D modeling software. Hundreds of professionally developed at your fingertips.

sketchup.com

SkillsUSA – Skills USA (a CTSO) is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. We provide educational programs, events and competitions that support career and technical education in the nation's classrooms.

https://www.skillsusa.org/programs/career-essentials/

Socrative - An instant student-response tool that allows teachers to engage students with simple polls and quizzes. Free for one classroom group. Paid plans available.

https://www.socrative.com/

Spin the Wheel random picker - Interactive tool that allows the teacher to make a decision at random. It has three modes: random picking, random, accumulation. Free.

https://pickerwheel.com/

Survey Monkey- Create surveys online for free. Unlimited online surveys. It is an easy & powerful tool.

https://www.surveymonkey.com/?ut_source=sem_lp&ut_source2=sem&ut_source3=header

Teaching21st - Many free resources to support the Common Core and to meet 21st Century Skills, including assessment and rubrics, virtual field trips, and internet safety.

http://teaching21st.com/

tinkercad.com- Free, cloud-based simulation tool. It has all the equipment of an electronic workbench. Meters, Oscilloscope, Function Generator, Power Supplies, Batteries, etc,. This tool is very helpful in understanding how to wire circuits (analog and digital) on a breadboard. This tool also allows building circuits to interface to Arduino and coding the Arduino to perform a simulation.

https://www.tinkercad.com/

Truity – Understand who you really are! Powerful, scientifically validated personality tests to help you group and find you way in life. Also includes a career profiler.
https://www.truity.com/

Virtual Box - Allows users to run other types of platforms other than what is on their computer. Ideal when teaching different operating systems.
https://www.virtualbox.org/

Vocabtest- Vocab Test.com offers the eager student ready to learn, free vocabulary tests, which are the best way to boost your verbal skills
https://www.vocabtest.com/

Wheel of Names – you can make your own wheel of names. It can be a fun way to assign group projects. Spinning the wheel can identify the group's members!
wheelofnames.com

YouTube - Large library of videos that can be used as supplemental instruction. Can also upload their own videos. Free.
https://www.youtube.com/

Zoom - Online platform to host meetings, webinars, conference rooms, chat, and phone system. Free version.
https://zoom.us/

Zoom Etiquette - If you are using Zoom for classroom meetings, this is a useful resource for everyone to review before partaking in an online meeting.
https://www.ilcte.org/images/OnlineLearningResources/Zoom_Meeting_Etiquette.pdf

ZyBooks - Interactive textbook for STEM classes. Must contact company for prices. Can get free demo.
https://www.zybooks.com/

10 Tips for Teaching Online: Practical Advice from Instructors - With the right tools, some creativity and a healthy dose of patience, you can master the move online.
https://www.ilcte.org/images/OnlineLearningResources/Online_Teaching_Tips.pdf