



 -Clay

Connecting and
Learning

A Best Practices Guide for
Teachers and Guilds/Studios
to Create an Interactive
Classroom



This guide includes a series of coloured boxes on the left of the page:

When a box looks like this, it contains a direct quote from one of the participants in the pilot project. It may be a student, a teacher or a guild/studio representative.



When a box looks like this, it is labeled a tip and contains a helpful hint from participants involved in the development of the guide. These may have been taken from workshops, the pilot project or personal communication.

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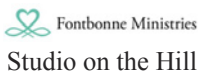


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1

Introduction

This Guide is a toolkit for teachers and guilds/not-for-profit studios¹ to help them succeed when offering and teaching e-Clay online courses.

e-Clay refers to teaching and learning online interactively and in real time. Students see and talk with each other and the teacher is able to see the student's work and offer immediate feedback.

The content of the Guide is based on extensive research which includes:

- Over 100 hours of teaching time with 5 to 8 students in each course in 8 different guilds/studios across the province.
- Expertise brought to the project by teachers and administrators.
- Analysis of evaluation results from teachers, their students and local guild representatives who participated in the pilot project.
- Published results from the 2020-2021 project "e-Clay Learning and Teaching Research".

The Guide is a resource that allows ceramic teachers and guilds/studios to select what will work best for them.

This project sought to answer the question **"How do we adapt our clay course program and teaching methods to teach interactively online?"**

The content of this Guide reflects the experiences with the pilot courses, the workshops, and discussions with teachers and guilds/studios. It covers a broad range of topics that support the best outcomes for teaching ceramics online.

The Guide includes:

- Important considerations for guilds/studios and teachers to discuss.
- Detailed guidance and tips to ensure proper technology setup and learning.

¹ For the remainder of this document, the term guild/studio will be used with an understanding that this guide was designed by and for not-for-profit guilds and studios.

- Ideas for how best to demonstrate the craft and art of ceramics when the student and the teacher are not in the same room.
- Information about communicating tactile concepts in a virtual environment.
- Many more best practices for administering, facilitating and managing the delivery of a successful interactive online course.

The Guide may also be helpful to artists working in other mediums that are teaching interactively online. Both teachers and guilds/studios involved in the project believe that having access to this Guide is very useful in many realms - so, read on.

Class evaluations from students, teachers and guilds showed that teaching and learning interactively online in real time was a positive experience for all. This section covers topics that guilds/studios and teachers agreed were essential considerations when planning an e-Clay course.

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2

Getting Started

2.1 Deciding to Teach e-Clay

■ 2.1.1 e-Clay Business Model Options

The project piloted four different e-Clay Business models for teaching hand building and/or wheel throwing. Below is a summary of the models and feedback.

Your guild/studio objectives, student and community needs, and your demographics and teacher availability and interest should inform your choice of a model(s). Promotion is basically the same as for in-person classes. For some models, registration can be open beyond your geographic area.

In total, the project ran six pilot courses and tested the following business models:

1. Home/Home: teacher and students are all at home.
2. Home/Studio: teacher is at home and students are in the studio.
3. Studio/Home: teacher is at the studio and students are at home.
4. Hybrid: teacher is at the studio and some students are at home and some in the studio.

Of these four piloted models, teachers preferred models 1 and 2 as these require less setup and take-down work for them - and requires no travel.

Model 1 is the simplest to administer for the guild/studio and most efficient for the teacher as this model allows teachers to have a setup that is ready and well-tested.

- Leaving a setup in place allows a teacher to tweak and improve their setup rather than assembling it from scratch each week.
- For the guild education administrators, the class planning and set-up was the same as any in-person class.

Model 2 with students in-person and instructor teaching remotely appealed to those wanting to offer an in-person learning space taught by a teacher outside their geographic area.



"It's easy when you are at home, and you can keep an eye on things... prepare before and manage in between."



"Virtual teaching was fantastic. However, I needed to set up every single class... because I don't have a studio at home."

- Video technologies provided excellent angles on the teacher's work when projected to a large screen.
- Students observed demos² on a large screen with more than one camera angle at the same time.
- Success with this model depends on a good audio and video setup and a technical assistant to help manage it and troubleshoot any issues arising for students.
- Microphones need to be chosen carefully, as a microphone that picks up background sound can broadcast a lot of distracting sounds.
- Initially, class planning and setup for this model was more complicated than an in-person course as it involved new considerations. You will find these noted in section 3.4 Hardware for Students in a Guild/Studio (page 20).

Model 3 with students at home and the teacher in the studio appealed to teachers who did not have their own studio or a reliable internet connection at home.

- This option requires negotiating the use of the space, repeated set up and take down of equipment, and equipment storage on or offsite.

Model 4 involves the teacher at the guild/studio with some students in the studio and some at home. This model is more challenging.

- Students' experiences and pace vary more widely. For example, students at home can continue to work on their projects while those who come to the studio cannot. This makes it more challenging for the teacher to manage at the beginning of the class.
- Teachers face an additional demand of attending to students via different communication modes and may feel overstretched by this.
- As with Model 2, success with this model depends on a good setup, and an assistant to troubleshoot any technology issues arising for students in the studio and at home.

■ 2.1.2 Planning for the Course

Teachers and guilds/studios need to work together to develop the course plan.

- Connect early in the planning process to establish an open and effective working relationship for developing a plan together.
- Clear communication is essential. Take the time upfront to avoid pitfalls later.

² Demo is short for teacher demonstrations and will be used throughout this document.

- A detailed *Checklist for Discussions Between Guild/Studio and Teacher* is provided under Resources 2 on page 30. See also Section 2.8 *Reducing Barrier to Participation* (page 15) for ideas on equity and inclusion.

Key Course Planning Topics

- Business model for each course. See section 2.1.1 on page 7.
- Course structure including length, number and level of classes, number of students.
- Additional costs and teaching fees specific to e-Clay courses.
- Firing and glazing arrangements, including options for students not in your geographic area.
- Intellectual property for any recordings produced. See section 2.4 on page 11.
- Software and hardware requirements for teacher, students, and guild/studio. See section 3.2 on page 18.
- Health and safety teaching plans and materials. See under Resources 1 on page 29.
- Student registration information offered and collected and any needed waivers.
- Strategies for promotion and good communication.

■ 2.1.3 e-Clay Course Requirements

There are some operating requirements that are specific to e-Clay online courses:

- High speed internet.
- Licensed Zoom³ subscription for the guild/studio and teacher.
- Learning how to train and assist teachers with set-up.
- An IT assistant for Business Models 2 and 4.
- Firing and Glazing, if offered, options for students outside geographic area.
- Communication with students to prepare them for their e-Clay course learning experience.
- Additional paid time for each class for IT set-up in Models 3 and 4.
- Paid time for pre-recording or editing demo videos.

Teachers who teach from their own home studio should consider their own technology investments (see section 3 Setup and Technology Requirements, page 17).

³ Zoom was the conferencing software recommended in the research project as it was most easily available and cost efficient at the time. Over time, new software(s) may emerge that may be preferable.

Try to borrow or make use of the equipment you already have. Use the Guide for research before purchasing outright. Consider having a guild/studio technology budget for e-Clay teaching and learning.

The initial learning curve to teach e-Clay courses online requires course planning, promotions, and IT prep. There are some upfront investments which are common for any new business model. These costs, however, may be quickly recouped as the guild/studio offers more classes without expanding studio space. After the initial learning curve, e-Clay online courses can become part of routine education offerings.

2.2 Learning to Teach e-Clay Online Courses

Teaching online is just like learning a new technique in ceramics. It takes time and practice before you become comfortable. Over time, as you become more proficient, e-Clay online teaching may require less or the same time and effort as teaching an in-person class.

■ 2.2.1 Learning to Use e-Clay Technologies



"[With] more know-how to manage the technology apps, I felt more confident... [I could] offer a better service and a better experience for everyone."



Tip! Avoid using chat during class, unless there is an assistant to monitor it. Chat can work well for presentations or workshops and longer demos during classes

- Schedule time to get comfortable and efficient with the required computer/laptop, Zoom, studio camera and lighting set ups for online teaching. The length of time needed to set up equipment will vary, and it needs to be complete before a class starts.
- Tips to Navigate Zoom while Teaching:
 - Know how to quickly mute participants if/when they have two microphones on (since this will generate audio feedback problems)
 - Learn and practise the difference between pinning and spotlighting. Note that only hosts can spotlight, since this changes the view for everyone, and for recordings.
 - Get familiar with how to share demos and other videos in Zoom. To share videos with sound, a teacher does not use simple 'screen sharing' but must also share computer sound to ensure clear audio for their students.
- There is an ever-increasing amount of inspiration for teaching online on the world wide web. Identifying relevant resources and being familiar with the content is an important part of preparing to teach an e-Clay online course.
- Invest the time to role play with a peer or guild/studio administrator to test camera angle setup and facilitation/communication techniques.
- Login with additional devices (extra cell phones, old computers) to check what a student's viewpoint may look like.



"Guild members and teachers met a couple of times in the studio, to do a test run – setting up cell phone stands on each wheel and figuring out the projector and microphone. We also tested the bandwidth."

■ 2.2.2 Class Prep and Management

- Depending on your model, schedule additional time for studio set up and prep time such as clay or demo pieces.
- Some time may be needed to manage student engagement activities such as checking in and commenting on students' work on social media or preparing and sharing slide decks or links to online images. Consider setting boundaries if you need to protect your time.
- Consider developing a virtual teaching toolkit:
 - Teacher demo recordings
 - Inspirational images
 - Student hand-outs.

2.3 Intellectual Property

Teachers and guilds/studios should confirm their understanding in advance as to what belongs to teachers vs the guild/studio. Generally, any video created in a classroom and during paid time, belongs to the guild/studio.

If a guild/studio wants to contract with a teacher to prepare specific demos, details and compensation should be clarified in the contract.

2.4 Recordings

There are three categories of recordings: 1) pre-recorded demos; 2) recording of individual classes, or parts of a class; and 3) promotional recordings or photography.

Generally, it is up to a teacher to decide:

- the combination of recordings and live demos that will be used for teaching,
- how these might be stored and shared, and
- for how long these will be stored and available to students.

Keep in mind file size limits when deciding on storage of recordings.

Teachers and guilds/studios will need to decide on recordings or demos (if any) that will or can be used for promoting the course.

Pre-Recorded Teacher Demos

- Consider using one pre-recorded demonstration (demo) video for each class.
- Demo videos can be reused over time.
- Demo recordings offer advantages and flexibility including:
 - Speed up a video (e.g., to 4x) for a rapid overview at the start of a class. When using this technique, turn off the recording sound and provide live commentary instead.



"The afternoon before class, I would make the piece at home with an overhead shot of me doing the piece. I made it in just one take, showing the tools used and the steps."



Tip! Keep all options in mind. In addition to pre-recorded demos, teachers can use a slide show or screen a publicly available video (with or without sound) to outline a project.



"People liked seeing a quick snapshot of the whole project at the beginning. This engaged them."



"I quickly learned how to take the Zoom demo that I had spot-lighted, and cut out my 'ums' and 'ahs', and put in some titles - so it was pretty obvious if you wanted to jump from one section to the other."



Tip! Only use pictures of hands, and torso (not neck and head area), to protect students' anonymity.

- Play a demo video at regular speed during class and/or invite students to view demo recordings between classes.
- Slow down the speed to review the demo with some or all students, e.g., to discuss specific challenges and techniques.
- Be clear how long videos will be available to students using a private online space such as a Facebook group, Google drive or YouTube channel. Teachers or studios may choose to brand the recordings so that all viewers can identify and contact the teacher.
- Occasionally sharing someone else's demo video can introduce variety or fill a gap. When using others' work, be sure to acknowledge appropriately.

Class Recording or Photography for Student Use

- If a teacher chooses to record part or all of a class and uses the recording in different ways, be aware that recording or photographing a class, other than the teacher's own demos, requires clear parameters and student permissions if recording identifies the specific student (e.g., shows their face or name)
- Guild/studio can seek consent in advance through the class registration process, or teachers can obtain release signatures from each participant who agrees to participate before taking any photos/video.
- Record only what is necessary for teaching. Students may or may not be in noticeably vulnerable situations so err on the side of caution.
- Those who don't consent to be recorded in any way, may choose to turn off their webcam and rename their webcam label.
- Students who consent to being recorded can be spotlighted in Zoom alongside the teacher (up to 9 participants can be spotlighted at once). Without spotlighting, only the video of the current or last person speaking will show up in a recording. At minimum, the teacher's webcam should be spotlighted while recording.
- Model 2 and 4 where students are in a shared studio with a wide-view camera, tape off a 'safe area' outside the camera angle from which students who don't want to be in videos can still participate.
- Set expectations regarding student access, viewing, and sharing.
- Be clear about the purpose, storage and distribution of these recordings and follow up with written materials regarding use of the recordings.
- Decide in advance what will be recorded e.g. entire class, specific discussion or demos only.



Tip! When recording a demo during a class (vs alone) be sure to spotlight the teacher's stream/ camera(s) before starting the recording - this will ensure that other student webcams do not show.

- Note that recording long videos or the entire class demands significant drive/cloud space. Editing or viewing long videos can take time and effort.

Promotional Photos/Videos

- A promotional photo/video can be with the teacher only, or with teacher and students.
- If involving students, select one day and let students know in advance, i.e., "this date is the day we will take promo photos/video". Creating promo videos close to the end of a course is advisable when everything is running smoothly. Written consent is required from all participants to share recordings online.

2.5 IT Roles During e-Clay Online Classes

There are many tasks during an e-Clay online class, including chat moderation, shifting between screens/streams, spotlighting webcams, as well as IT troubleshooting such as helping students find the best position for their cameras so the teacher can see them to monitor progress and provide feedback.



"A previous student wanted to join my class, but it was full, so I invited her to join as my assistant. She monitored the chat and let me know when I missed something. She helped identify and troubleshoot tech issues. And she was quite outgoing, so she just jumped in when I asked students 'how are things?' and there was radio silence... she would instantly be up and say, 'I did this... what did others do?' It was invaluable to get people sharing and build a community feel!"

In Model 2 and 4 where there are students in the studio, success depends upon having dedicated technical assistance to help with setup and to troubleshoot any issues arising during class for students.

Models 1 and 3, teacher and guild/studio should agree on compensation for IT-related time requirements and state these in the teaching agreement.

IT assistance to support and troubleshoot:

- Shares any resources for troubleshooting microphone sound, setting up optimal camera angles, and sharing a video with sound, through Zoom.
- Login early and co-hosts with the teacher
- Tests/troubleshoots teacher sound, screen shares, video shares (with computer sound sharing if sound is needed)
- Supports or leads chat moderation, screen/stream sharing, spotlighting of student webcams, set up and 1-1 troubleshooting supports, if and, as needed.

In-Studio IT Tasks

- An in-studio IT to support for teacher and/or students can:
 - Help with setup and functioning of the in-studio students' IT.
 - Ensure students' mics and cameras remain at optimal angles.
 - Support the teacher's setup and functioning and help with spotlighting appropriate webcams.

- Move around during class as a “roving news reporter”. Since a moving camera can get choppy, it is recommended to use a Gimbal that steadies the hold on a camera or phone.
- Help students gain the teacher’s attention when needed.

Tasks for Teachers Without Additional IT Support Person

In situations where there is no IT support (volunteer or staff) during classes:

- The teacher should learn the hosting roles in a Zoom environment such as screen sharing, sound sharing, muting others, pinning, and spotlighting. The teacher should also be able to help students resolve such issues as audio feedback and camera angles.
- Teacher compensation should provide paid time for the teacher to offer:
 - A 60-minute pre-course IT review and troubleshooting session with students.
- Students join in the Zoom meeting 15 to 30 minutes before class to ensure that their set up is working.
- Guilds/studios should consider how much teaching e-Clay online experience a teacher has had. Ensuring teachers are resourced for the demands of hosting and teaching an e-Clay online class should create a positive student experience.



Tip! Many students prefer seeing the teacher’s video in large format at all times. While ‘spotlighting’ is ideal during demos, a teacher may prefer to use ‘gallery view’ when students are working. The “pin” function allows students to watch anyone’s video in large format without impacting what others see...



Tip! Start course promotions early. Before final details are confirmed, guilds/studios can build interest in e-clay online learning through their social media and newsletter.

2.6 Course Marketing and Registration

- Ensure there is agreement between the guild/studio and the teacher on the course prerequisites outlined in promotions.
- Post, alongside course listings, a short ‘student guide’ for tech setup and clay/tool requirements.
- Communicate clearly about minimum requirements (skill level and tech requirements) in the course listing. Ask students to identify what their skill level is so that teachers can prepare. Teachers prefer all students to be at a similar skill level, that is, that intermediate/advanced classes don’t include beginners. See under Resources 2, page 31 for suggested descriptions of different experience levels.
- Promoting the teacher specifically may be helpful in promoting intermediate/advanced courses.
- Make upfront plans for class recordings and any required student consent.
- Share information and ask for agreement about sharing, downloading, or posting any recordings or images from the classes if needed.
- Confirm with students, well in advance of the first class, what they will need for home set up including: space, tools and



Tip! Allow adequate time to review, test, and market the course, since the e-Clay learning experience may be new for students.

materials, technology, and camera setup. For Model 2 and 4, advise students if and what hardware and software they will need to bring to classes.

- Provide students with an opportunity to clarify questions they may have (by email, phone, and/or Q&A session).
- Consider asking about the student's goals for the course during registration or through an email from the teacher a week or so before the first class, especially for intermediate/advanced courses. See under Resources 2, on page 30.
- Consider inviting students to submit 1-2 photos of their previous work as part 2 of the registration process. More information in advance allows e-Clay online teachers to grasp students' experience and potential gaps more quickly.

2.7 Policies for Missed Classes

One advantage of e-Clay online teaching is that a student can log in and "stay connected" from anywhere, even if they can't work on their own project that week.

Have a plan in place for missed classes and sharing of any recordings or demos. Guilds/Studios and teachers should agree on the approach for missed classes.

Options for missed classes include:

- Provide demo recordings that the student can review between classes. This allows the student to keep up on teaching content.
- Invite a student to show up early or stay after class, to outline any missed content.
- Offer some 1-1 time during class to outline any missed content.
- Remind students that a missed class is a missed class.

2.8 Reducing Barriers to Participation

e-Clay creates opportunities for teachers and students to connect. This can reduce certain barriers, especially geographic and transportation, and allows students to learn from teachers outside their community. Wi-Fi and technology requirements, lack of comfort with Zoom, or issues like eye strain, however, may limit access to e-Clay learning for some students. The following provides some options for reducing such barriers.

- During the registration process, and/or at the first class, invite students to advise if they need any accommodation to address barriers to participation in class. Work with them to explore what accommodations can be provided by the

guild/studio/teacher. Clarify expectations for which accommodations can and cannot be possible.

- If students lack space or technology access from home, consider if a hand building course can be provided through a library or community centre that has workspace, Wi-Fi bandwidth /Zoom and support.
- Use documents that include pictures (e.g., of tools, equipment) to reduce barriers for ESL learners, or others with literacy challenges. This can help everyone.
- If needed, teach students how to use the live captioning option in Zoom, while recognizing that it doesn't pick up different accents very accurately.
- When students face engagement and learning barriers, encourage a buddy (mother, friend, sibling, caregiver) or a learning specialist to work alongside the student.
- For students that do not have a computer or tablet, you may be able to partner with companies to acquire and share tablets with SIM cards and lend these to students for the duration of each course.

3

Setup and Technology Requirements



"My setup at home was permanent. So, I just made sure to send a weekly email to my students - with what to expect for the next class, tools needed, etc. ... I would prefer to teach from home any day."

This section provides highlights and best practices of the hardware and software requirements for the teacher, the student, and the guild/studio.

At the end of this Guide, Resources 3 - Technology Considerations (page 33) provide further details on Internet speeds (page 33), software options for teachers (page 35), and both student and teacher hardware setup diagrams (pages 36 and 37, respectively). For a deeper understanding of IT options, please refer to the extensive IT Report from phase I of the e-Clay Learning and Teaching project available at <https://www.e-Claylearning.ca/>.

The hardware and software needed, and its setup, depend on: the business model, who is assigned to roles and tasks (teacher/other staff/volunteer), as well as guild/studio and class preferences.



Tip! If upload speed is less than what is required, you can set video resolution lower at 720p30fps.

3.1 Getting Connected: Teachers, Studios, and Students

3.1.1 Internet Connection

- Ensure a reliable, stable Internet connection and adequate bandwidth. While a Wi-Fi connection will work, an Ethernet cable connection is better and more reliable.
- Note bandwidth criteria to meet or exceed Zoom specs:
 - Teachers upload speed 10Mbps.
 - Student upload speed 5Mbps
- Test the bandwidth connection speed at home and during the class time slot since evening bandwidths are often lower than they are during the day (due to a higher volume of users). See under Resources 3, page 34 for instructions on how to test for bandwidth.
 - When several students join Zoom from one location (e.g., in Model 2 on their cell phones), bandwidth is critical and needs to be confirmed in advance, preferably with a trial run.
- To mitigate lags between images and sound, plan to connect additional cameras into the one computer hosting the Zoom meeting.



Tip! In remote areas where internet connection may be spotty or the bandwidth is not sufficient you can get Speedify software. It bands together multiple connections to make one connection (i.e., Rogers and Bell plans combined and/or connections can swap out if one goes down).

3.2 Hardware and Software: Teachers, Studios, and Students



Tip! “If you have good lighting, you will have a good video”. As soon as things get dim, the video gets grainy. A bit of backlight helps add depth to the teacher’s face.



Tip! If the earphones seal, this helps block outside distractions.



Tip! Put two boards under any laptop that sits on a table, to keep it higher in case of any water spills.



Tip! Buy an adapter to expand the number of USB ports available.

■ 3.2.1 Computer/Laptop Accessories

Recommended here are specific hardware options which optimize an e-Clay online course set-up. Note, teacher preferences may vary according to their initial hardware (laptop/phone) setup as well as cost and space considerations. Since IT innovations never stop, the type and number of accessory options will likely change and expand over time.

- Cameras
 - A camera may be the laptop, an external webcam, a cell phone, a touch pad with camera, a DSLR camera, camcorder, or a GO Pro.
 - The teacher’s camera quality and focus are critical to facilitating student learning and engagement. The student’s camera quality and focus impact a teacher’s ability to assess and provide feedback on student work.
- Lights
 - Preferably, use a softbox with lights or clamp lights. Alternatively, a light shining at the wall can reflect light back onto the person on camera.

Use the same type of light bulbs - all LEDs or all fluorescents. When type of light (including natural light) mixes, white balance on the camera struggles to make a clean picture (e.g., light halos appear).

- Tripods, Clamps, and other Mounting Mechanisms
 - These mechanisms secure (and some allow for stable movement of) cameras and lights. You can use a combination of store-bought, for disassembly between classes and/or for stable movement, and home-made mechanisms, for fixed locations.
 - Aim to achieve 2 - 3 different camera angles of the workspace.
- Microphone and Speakers
 - Best is a wireless headset, with a microphone close to the teacher’s head.

A boom mic can work well because hands are free.

■ 3.2.2 Additional Hardware for Teachers

- A second monitor is strongly recommended.
 - The second monitor can be dedicated to a ‘gallery’ (grid) view of all student webcams.
- Three (3) cameras are recommended, to capture at least 2 angles of live demonstrations, alongside with one angle on



Tip! Clay hands are messy on technology. Use cellophane wrap over camera housing, keyboards, mouse, anything.



Tip! If your computer does not have a webcam, or the webcam quality is low, or you only have one camera, you can download the NDI app and the associated driver on your computer and use your phone as a camera.



Tip! Don't forget to budget for the time it will take to learn about, setup and practice using new technologies. Most teachers spend 15-20 hours 'getting ready' with their new tech. This includes reviewing time on YouTube to understand technology options and review 'how-to' guides.

the teacher's face when speaking. This also allows for lip reading for those who may benefit and can.

- Focus on really good lighting to maintain the highest quality of video.
- Invest in tripods and mounting systems that make your set up as easy to use as possible.
- Purchase power bars or docking hardware as required, so that all equipment can be plugged in at once. Given the length of classes and the energy draw of videos, batteries will not be enough.
- Focus on streamlining technology such as a wireless headset for ease of movement, and Stream Deck to create one-touch commands to ease screen switching during class.
- See under Resources 3, page 37 for more details on teacher specific technology options.

■ 3.2.3 Optional Camera Software: Teachers and Students

- NDI app (New Tek) downloaded on smartphone or tablet.
 - The NDI app makes the camera on a smartphone identifiable as a webcam on your computer.

■ 3.2.4 Conferencing Software

Zoom Meeting

- Zoom was the recommended platform from e-Clay Phase 1 based on its functionality and accessibility.
- Teachers and students should download the most recent version of Zoom.
- Teachers will need a licensed Zoom account.

3.3 Technology Setup

- Look under Resources 3, pages 35 to 37 for detailed diagrams of student and teacher IT setups.
- The goal is to get multiple cameras into the computer's system in the most seamless way possible.
- It's helpful for viewers when the video stream doesn't jump often.
 - Blend 2-3 views into one view by either 'spotlighting' two (or more) separate webcams in Zoom, or
 - use OBS streaming software to combine views before they upload through Zoom. This economizes bandwidth.
- It is recommended to use the same internet data connection for the computer, webcam and/or cell phone so that there is no lag between the two video streams, making it difficult to follow a demo.



"Camera angles are hugely important. And more is better - 3 for sure. To switch easily between them, OBS [Open Broadcast Software] and Stream Deck [a switchboard software] were integral."



Tip! Testing the set-up is key to smooth classes and to get best results from technology.



"Logging into Zoom with a separate phone, vs through the OBS, allowed for a backup device with camera if needed."



"My OBS learning curve was with the connections - when to turn on the camera, deactivate, start stream, stop stream.... Finding the sweet spot... trying to work through glitches."

- Camera angles are key.
- Once you establish the best locations for good camera angles, document these for quick and accurate set-up in future.
 - It's ideal to mark exact locations with masking tape (like the practice used for set changes in theatres). If taping will not last, take location measurements and pictures.
 - If possible, keep stands and clamps setup between classes.
- The following set of camera angles (see image at right) is a familiar standard among YouTubers and recommended setup for a teacher's three cameras:
 - Camera showing the entire wheel head and hands, pointed down for a wide view from an off-centre angle (2 o'clock for right-handed teachers, 10 o'clock for left-handed teachers).
 - Camera above teacher's head pointing down into the pot, as much straight above as possible without having the teacher's head cover the pot when they are working.
 - Laptop with webcam at side (3 o'clock or 9 o'clock) for a screen view where the teacher can turn to watch, talk, and make eye contact.
- Keep in mind that the view on a cell phone or tablet may be different from what shows up on the computer screen. Check all camera views to ensure these are centred for its desired projection to others.
- Ensure all devices can plug into a power source as most batteries will not last the duration of a class.
- Recognize that everyone's computer is unique. This can lead to more questions when downloading and setting up new software, so prepare well in advance.
- While choosing and testing technologies, keep a list of questions and challenges.
- Work with an IT knowledgeable person to figure things out.

3.4 Hardware for Students in a Guild/Studio (Models 2 and 4)

- Establish a secure place to store all in-studio equipment when not in use. See section 3.5 on the next page.
- To project from the studio to a teacher who is remote (Model 2):
 - Connect the computer/laptop to a large TV or a projector screening on a wall/curtain so that all the students in the class can easily watch the teacher's live stream.
 - Use two (2) cameras (one on wide angle, and one moveable camera); OR
 - Setup stands for students to attach their cell phones and use these as workstation cameras.



Students view of teacher's three camera angles set up using OBS to show all three camera views simultaneously on the screen. Image courtesy of the North Bay Potters' Guild.



Camera above teacher's head pointing down at the pot. Image courtesy of Chris Snedden.



“Our final setup was: a digital projector screening the laptop onto a tablecloth we had hung from a wall shelf; a separate speaker to hear the teacher better – just above the students on another shelf; a separate microphone set in the middle of all the wheels through which students would speak to the teacher; and articulating phone stands that hung over each wheel so that students used their own phones as cameras, always on mute to avoid feedback! Our tech assistant would move around (with clean hands) and adjust phone cameras as needed.”



Student studio setup at the North Bay Guild piloting business model 2: teacher at home, students in the studio. Image courtesy of the North Bay Potters' Guild.

- A moveable camera may still be useful if there is an in-class IT assistant who can move around.
- A cell phone works well as the moveable camera - for someone going around as a “roving news reporter”.
- Since a moving camera can get choppy, purchase a ‘gimbal’ which holds the DSLR camera/phone.
- Don’t turn on the cell camera until in place next to a student.
- Setup 1-2 lights at EACH workstation
- Preferably, use a softbox with lights, but any good lighting will work.



Tip! Many examples can be found online of diy carts with articulating arms and clamps. some use galvanized piping made into a tree, on which you can clamp equipment. Roll the cart into a closet where it can be secured from dust and locked.

3.5 IT Storage and Care

- IT equipment needs to be stored away from any studio dust and kept well covered.
- With frequent setup and tear-down work, equipment and cords will wear out faster. Purchase power bars or docking hardware to allow for unplugging from a wall socket without pulling on the plugs of expensive equipment.
- The more that can be left setup, the better so consider using a cart with wheels to gather and move equipment as needed without disassembling everything.
- In studios, ensure good locks, good keys, and a clear key storage system.

4

Key Aspects of Teaching e-Clay Online



Tip! It helps to establish a pattern of class flow and facilitation, so students can feel oriented and engage more easily.



"I wish I had been more formal on the first day, as it was harder to go back later. Maybe more formal in the first class for setup - I wish I had talked about camera angles for students." (handbuilding class instructor)

4.1 Facilitation Tips

This section outlines best practices for teaching an e-Clay course online.

Teaching approach varies and depends on the teacher's style and preferences, course outline and objectives, course skill level, business model.

As for an in-person class, teaching a successful e-Clay online course requires a balance between the social connection and creativity aspects of a classroom. In an e-Clay online context, students and teachers should clearly state expectations in order to develop a common understanding of how classes will operate.

■ 4.1.1 Class Guidelines

Communicate with students about the class guidelines after the registration to set clear expectations. Choose the channel that best suits your situation and will most likely be viewed easily by students. A pre-recorded video can offer greater learning potential.

Teachers should review and confirm their expectations in the first class and invite students to share what will support them to engage, hear, and learn.

Guidelines specific to e-Clay online classes should include getting everyone to participate as much as they can. Guidelines should help students appreciate that everyone is a valued member of the class and that the class is for their learning and enjoyment.

- Student webcam/cameras should stay on throughout the class unless the student's video streaming disrupts the class (e.g., too much movement).
- When not speaking or watching a demo, students should focus their camera angle on their work. This allows the teacher to observe and coach students while they are working.
- Teachers and students should face the camera when speaking. Facing the camera helps connect people and can

make the class more inclusive. It also supports any participants that use speech reading.

- During teacher demos, or other presentations, it is good practice for everyone else to mute their microphone. Muting removes background noise from multiple student locations.
- Everyone should be aware of and agree to rules regarding the viewing and sharing, if any, of class recordings and demo videos. This should be done at the beginning of the course.
- Tell students what techniques you will use to facilitate participation from all students. See suggested methods under Resources 4, page 38. Advise students that they can always opt to 'pass' on sharing activities.
- Tell students how to gain your attention during class.
- Remind students that they need to take care of their personal wellness needs. They can do so at any time and let you know when they will be back.
- Discuss how to support an inclusive learning space:
 - one person speaking at a time,
 - minimize interrupting when someone else is speaking,
 - frame questions with a spirit of curiosity.



I was working on something, and about to pull it off the wheel, and I heard the teacher say 'No. Don't do that! It's a learning opportunity...'. And it was! It was the cat's meow. It was like our teacher was right there watching what I was doing - it felt truly interactive."



Tip! Keep a paper or e-note listing possible questions and activities. Evaluate these as you use them until clear favourites emerge. Teachers noticed the value of having extra backup notes and ideas on hand when they were new to e-clay online teaching, just in case!

■ 4.1.2 Student Engagement in Class

Engaging together online is an important part of e-Clay online teaching and learning. In this learning environment, camera angles, structured directions, and specific online facilitation techniques help cultivate and maximize student comfort and participation.

Live demos, interactive activities, and group discussions are foundational to a high-quality learning experience.

- Choose camera angles and closeups to focus on the skill being taught.
- Speak with your eyes to your camera lens versus to student video images or your image during a group discussion. While person-to-person eye contact is never clear in this situation, looking at the camera gives more of a familiar 'closeness' of eye contact.
- Encourage students to stay connected to their physical space, body, and project work, while cultivating the shared space across the virtual divide. For example:
 - Invite students to play with a small ball of clay or a fidget toy during presentations and demos.
 - Encourage students to jot down notes or doodle in a notebook.
 - Look for small, informal opportunities to be encouraging about where the student is at within their project work on that specific day.



"I used a lot of Pinterest in class. We would scroll through the Pinterest board, and then click into a rabbit hole 'oh look at this'... and I did have feedback where people said they really liked this side content (for example, campfire raku)."



"I opened a Facebook group and posted some pictures after the first class. It got occasional responses to pictures students posted. I would do this again as the time investment was not a lot. Having this space for posting on clay and personal topics (e.g., a student's trip) supported the spirit of the group."

- As appropriate, say hello to any pets or family members who show up on screen.
- Reach through the two-dimensional screen by sharing objects, evocative images, and body movement such as class shoulder rolls and hand stretches.
- Create a pattern of class 'opening' conversations and 'closing' exchanges to provoke students out of 'watch' mode and into shared questions, laughter, and dialogue. Some ideas include:
 - Start each class with a light icebreaker. Look under Resources 4, page 38 for ideas. Icebreakers can be as simple as an opening question at each class. Over time, these can focus more and more on students' class projects.
 - Open with slide sharing and a discussion of images collected via email from students, or from a class social media group, or from the teacher's own collections.
 - Propose a quick reflection or feedback question at the end of class.
- Take extra time for a team-building activity at the first class.
 - Set up a speed challenge with clay. Encourage laughter and appreciation when students share their work.
 - Consider a multi-step activity to help students get to know each other while establishing a positive and collaborative learning dynamic. For ideas, see teacher quotes on this page, and following pages.
- If a discussion is needed that is not appropriate with others listening, a teacher may create and use a breakout room. Or, arrangements can be made to speak with the student on the phone between classes or during break.
- Take advantage of how seamlessly image scrolling and video viewing can be integrated into e-Clay online courses. This can be used during class demonstrations and presentations and for individual coaching while other students are working.

■ 4.1.3 Student Engagement Between Classes

e-Clay online class learning easily connects with virtual group exchange opportunities between weekly classes. There are many online platforms where students can connect, talk, or share images and where the teacher can share recordings with students, as appropriate, and agreed.

- Consider having a private online space for the class to share between classes to:
 - Post and comment on images of cool pots/projects.
 - Encourage students to show their own work.
 - Create an inspiration board.



"For team building at the first [intermediate wheel throwing] class, we began with everyone preparing roughly 2lb balls of clay and throwing 5 pieces in 30 minutes. Then everyone came together, and people took turns sharing their pieces with the group deciding which of their 5 pieces the group liked best – keeping the language positive, light, and upbeat. Next, a challenge was set for each person to replicate someone else's piece (one they loved), with the same 2lb ball. Then I had people talk about how they felt getting from 'where they started' to 'where they ended!'"



Tip! Recording a video in advance is a great life-saver. For students who didn't fully understand a demo the first time, teachers can play it again, slowing down and stopping the action as needed to elaborate.

- Share demo videos and any recordings.
- Set a pattern of announcing the focus of "next class" either at the closing of each class, and/or shortly after through an email to all students. This stimulates each student's independent reflections and allows them to research and prepare for the next class.

■ 4.1.4 Troubleshooting Class Dynamics

- Addressing class dynamics directly:
- Warmly remind participants of class protocols.
- Provide clear verbal directions, given that other physical options are less effective online (standing, gesturing, and moving around the class).
- Add extra emphasis on key skills such as how to properly clean pot bottoms.
- In Model 2, a more clearly structured class can help minimize challenges.
- Every class dynamic is different.
- Managing background noise from homes and studios:
 - Muting depends on the business model, phase of a class and the type of activity that is happening. Demonstration time and student work time are different. To facilitate easy muting and unmuting, advise students to learn where the controls are on their device and to put cellophane/plastic over their sound control and keyboard.

■ 4.1.5 Effective Feedback for Students

Be structured when you review students' work:

- Advise students to point their camera at their work and hands when they are sharing.
- Use a go-around evaluation and discussion.
- Invite them to talk about what they like and don't like about their work and what they would like to change.
- Be prepared to offer positive critique and direction.
- Set a positive tone for feedback.

■ 4.1.6 Homework

In some of the Models, homework assignments can be used to enhance students' learning progress. For example, students working in a studio may not have access to a studio in between classes, but those working at home may have time to work on something between classes.



"My students were new [to clay] and wanted to look up ahead of time on Google to have an idea of what the project will be. In my classes, people were welcome to do their own spin on things... so knowing in advance lets them consider options, and through their own research learn more about clay."



"She learned our names and ran a very structured class. She always started on time. We put the phone cameras up to our faces at the start of each class. She always began with 'this is what we are going to do today.' If we were goofing, she would say 'OK everyone...' and draw us back in." (student)



"Our teacher asked each student to share a picture of previous work. And at the first class, she shared the picture and facilitated a discussion with the group, asking each student, 'what would you do differently?'. This took only the first 20 minutes." [student wheel throwing class]

Examples of homework assignments include:

- Ask students to post pictures of different types of things made of clay, for example "5 pictures from the internet of pots you love."
- Encourage students to research and watch videos related to the focus of their next class.

In business models with students at home (Models 1 and 3):

- Students can prepare slabs in advance or make something and share pictures of this in advance of class.
- Students can work on their trimming or practise other specific skills.

4.2 Communicating Tactile Concepts Online

Effective e-Clay online teaching combines good camera focus and angles, thoughtful choice of words and analogies, and conversations between students and teachers that build students' understanding of tactile concepts and strengthen their ceramics practice.

- Prepare reference documents in advance.
- A glossary of common clay terms and pictures for tools, equipment, and clay pieces can help everyone to build shared understanding, and in particular students with ESL or communications challenges.
- Develop your own glossary of concepts to support choosing the right words when teaching online.
 - Use analogies that resonate with your demographic to talk about textures.
 - Identify common household items and use these as reference points.
- Prepare examples to demonstrate.
- Take different strips of clay and hold each up to the camera while bending it and talking about its tactile qualities.

Consider building a database of demos - from how to centre, how to open, how to pull, all the way up to complete projects.

Choose your words carefully and encourage student-teacher dialogue to confirm understanding.

- Basic language: tacky vs firm (e.g., using that with paper, or slip decorating).
- To communicate trimming timing, explain based on clay colour.
- For leather hard, show how a damp sponge, or fingerprints show on the clay.
- While demonstrating or showing a video, discuss with students where the hands should be, where your fingers are,

what kind of pressure you are applying and what tools you prefer to use for this.

- Emphasize details such as weight and length, thickness.
- Use a measuring tape for length and height, a micrometre for thickness, and a scale for weight.

4.3 Teaching the Firing and Glazing Process

- If firing and glazing is part of the course outline, and you do not have access to supplies or equipment for this, use a slide show or demo video to teach it.
- Take a photo of the glaze containers and the kiln at the guild/studio and share it with students.
- Use the analogy of an oven for beginners when explaining firing. Note that there is an art and science to the firing process.
- Talk about how the kiln is set to heat up to a specific temperature which transforms the glaze into molten glass, and matures as it cools.
- For advanced students, share resources or a website like digital fire <https://digitalfire.com/> to explain the various relevant aspects of glazing and firing.



"I would throw a series of pots (pot with one pull, pot with two pulls), then slice them and show the thickness progression. The visual was very impactful - people really understood the visual."



"I would show them my hand to screen, and they would see where the clay is, which would visually show where I am applying pressure, where the clay is"



Tip! Have a measuring tape or small carpenter's square nearby - to put beside a piece and say, "oh yes, it's # x # inches".

4.4 Packing Work to Take it Somewhere for Firing

- If the student is transporting their work to be fired, discuss how to minimize breakage.
 - Show students how to wrap their vessel so it can't move.
 - Advise students to not stack their work, to handle pieces from the bottom, and to avoid using or touching handles.
- Emphasize the importance of proper labelling that identifies all pieces to avoid confusion or loss.
- Share with students any specific guidelines or protocols for firing at the guild/studio.

5

Resources

This section provides resources for teachers and guild/studios to use when they are teaching online interactive courses. They can be shared with students.

Resources 1 - Health and Safety

Health and Safety (applies to both guilds/studios and teachers)

- Short-term goal is to keep everyone healthy and safe during class.
- Long-term goal is to teach skills for setting up and working in one's own studio/space.
- e-Clay online learners working from home will need to set up their studio space even before class begins.
- Provide any videos, presentations, or written materials.
- Set aside time in the first class for a discussion about health and safety.
 - Show live demos "in the moment" to reinforce messaging (e.g., move/direct camera to show "this is the way to clean the floor to avoid spreading dirt").
 - The teacher should demonstrate how practising cleaning is a health and safety discipline.

Here is a sample of a pre-recorded video
<https://vimeo.com/585583680> (9 min)

Clay Health and Safety at Home

Teachers need to communicate and demonstrate:

- Clay sludge management - Using a Slop bucket instead of using sink.
- Dust mitigation - No sanding greenware (damp sponge or silicone rib works fine).
- Tools and area maintenance - No carpet / or apply drop sheet.
- Body positioning - Discuss table and chair heights.
- Stretching - Demonstrate and practice by leading 5 min stretching at beginning and end of each class - hands and arm/back stretches.

Resources 2 - Getting Started

■ Checklist for Discussions Between Guild/Studio and Teacher

Teachers and guilds/studios can use this checklist when they are discussing how an e-Clay online course will be structured.

- Business Model for the course.
- Number of classes in the course.
- Number of hours per class.
- The time of day and dates for classes. (Note: check calendars for statutory holidays and School Holidays that might interfere).
- Course Schedule including glazing and firing, if any.
- Use of outside commercial glazes.
- Course level and what level of experience students should have. As much as possible, avoid mixing different levels of students as mixed levels make classes more challenging.
- Minimum and maximum number of students in the course.
- Who provides and maintains the hardware and software for (1) teacher, (2) guild/studio and for (3) the students.
- Health and safety teaching materials (PDF and/or video) and distribution method. Course promotion plan:
 - Course description
 - deadline for registration
 - photos/videos
 - how the course will be promoted (e.g., website, social media, posters)
 - who is responsible (or contributing) for each promotional activity.
- Information to be gathered on class registration forms.
- Consent process (waiver) and plans for any class recordings.
- Compensation and intellectual property for any new demo recordings, or other recordings that are produced.
- A main contact person at the studio for the teacher.
- A meeting schedule if required.
- Compensation and payment terms for teachers.
- Protocols for handling student complaints or issues.
- Clarification of any accessibility accommodations.

■ Getting to Know Your Students

Getting to know students virtually often takes more time and can benefit from different approaches than it would take in person.

Experience with clay and goals for the course

- Include questions in the registration process about students' clay experiences, skills and goals.
- Ask students to bring examples of what they have made, or something they like to make to the first class. Include this request with information confirming the course and what to bring or set up.

Invite students to share a picture of something they would like to make.

- Create a slideshow from all student's ideas to share and discuss. Invite each student to speak to their submission.

Ask questions that encourage students to share their expectations for the course. Even if students wrote down their objectives during registration, these may evolve.

- What does the student want to learn?
- What is the student's preferred learning style?
- Looking at a pot you have made, is there something you would like to improve?
- What would success look like, feel like, for them at the end of the course?

■ Level of Experience Needed to Participate

e-Clay online hand building classes are a good fit for beginners. e-Clay online wheel throwing classes are not recommended for beginners.

These are guidelines of skill levels that can help students choose the best course for them:

An intermediate hand building student will:

- Understand different types of hand building (pinch, coil, slab).
- Know how to join pieces of clay.
- Have made slump projects.
- Know how to structure projects.
- Be experienced with the drying process.
- Know how to make darts.

An advanced beginner wheel throwing student (level 1.5) will be:

- Comfortable centering up to 2 lbs. of clay.
- Know how to throw bowl and cylinder shapes.
- Ready to throw bigger, make more complex pieces (e.g., with lids, handles, spouts) throw more consistently.
- Understand drying and basic trimming skills.

- Prepared to make something planned vs “seeing what happens”.

An intermediate wheel throwing student (level 2) will be:

- Able to centre and throw cylinders 4” taller, bowls.
- Experienced with trimming.
- Ready to refine their skills further.

■ Required Space, Tools, and Materials

When students are starting to learn from their home, offer them some guidance about what they should have in place for the first class. This will vary depending upon the type of course.

Hand building

- Dedicated space is not necessary. A place to work such as a kitchen table or other tabletop provides adequate space. Minimum is 2 feet by 2 feet, except when using a rolling pin.
- No carpeting. Or cover a carpet with a tarp.
- Protecting and moving work (e.g., between sessions):
- A board (a MDF piece from any hardware store or piece of drywall with duct tape around the edges). Wareboards can also be a piece of wood with painter’s canvas, foam sheets or marine vinyl.
- Choose clay to match the types of clay fired at the guild/studio. Follow the guild/studio protocols for firing and glazing. Basic hand building tools are a rolling pin and texture tools.
- Repurpose household items as tools, but not food utensils.
- Some guilds may lend tools to students with ‘bring it back’ rules.

Suggested Tool List

- work surface
- clay
- rolling pin
- paper and scissors
- pin tool
- clay knife
- ruler
- wooden tools
- silicone rib
- serrated rib
- sponge
- brushes

- circle shapes (cookie cutters or different sizes lids)
- plastic box with sealing lid or clean plastic to keep work from drying in between classes.

Wheel Throwing

- Students can get by with a space of 4 feet by 4 feet, but 6 x6 would be ideal.
- Ensure no carpeting or cover a carpet with a tarp.

Suggested Tool List

- wheel
- sink, water, and ability to clean up from a throwing session
- wire tool
- sponge
- bowl/bucket
- trimming tools
- plastic to cover pots
- knife, needle tool, ribs (metal and rubber), callipers
- wareboard
- sketchbook and pencils
- apron and towel
- bucket system for slop and disposal of clay or a clay trap
- clay to match the guild/studio's firing
- Repurpose household items as tools, but not food utensils
- Rice spoon for a paddle.
- metal trimming tool (s)
- optional: ruler, calipers, chamois cloth, bats, and bat pins, bamboo stick, rasp.

Resources 3 - Technology Considerations

■ Internet Speed/Bandwidth Requirements

Simply put, the faster your internet connection is, the better your video and audio will be and ultimately the better your e-Clay online experience will be. Your internet connection speed for delivering an e-Clay online class is the most important component of a successful course.

An e-Clay online course is considered a synchronous event using video conferencing. Course participants share their video and audio from their computers simultaneously.

Zoom posts its bandwidth requirements on its website. e-Clay online course participants require this bandwidth rate to achieve HD quality video.

Video Resolution (HD)	Upload Speed	Download Speed
720p30fps	2.6 Mbps	1.8 Mbps
1080p30fps	3.8 Mbps	3.0 Mbps

(For receiving gallery view: 2.0Mbps (25 views), 4.0Mbps (49 views))

Conversely, upload bandwidth requirements for live streaming (YouTube) are typically higher and have better quality video than a video conference. A higher upload speed for teachers is also recommended. However, video conference platforms do not support 60 frames per second, so e-Clay teachers should keep video resolutions (HD) at 1080p30fps or 720p30fps.

Video Resolution (HD)	Upload Speed
1080p60fps*	6 to 8 Mbps
1080p30fps	4.5 Mbps
720p60fps*	4.5 Mbps
720p30fps	3.0 Mbps

*NOTE: video conference platforms do not support 60 frames per second.

How fast is your internet? The easiest way to test this is at <https://www.speedtest.net> - click the GO button. The website will measure the upload and download speeds of your connection.



Sample Results from a Speed Test

For e-Clay, these are the minimum recommended video conferencing connection speeds.

Teachers	10 Mbps upload
Students	4 Mbps upload

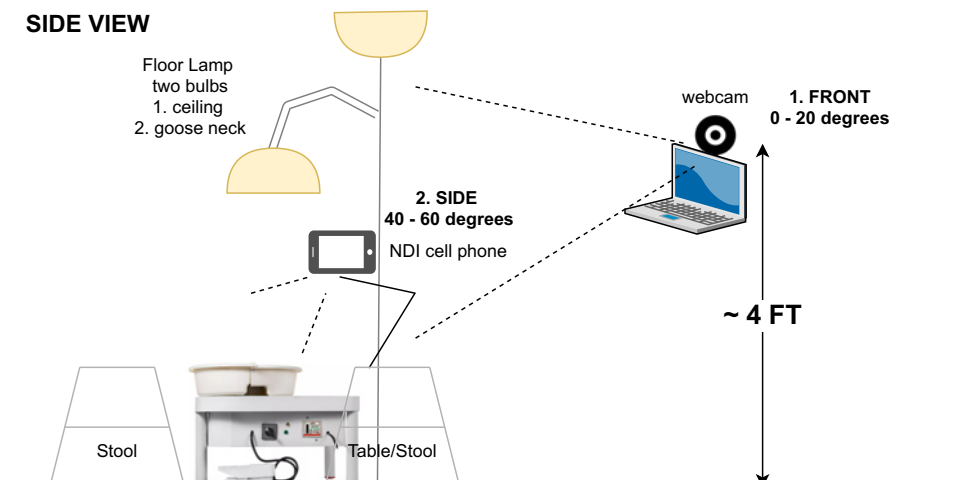
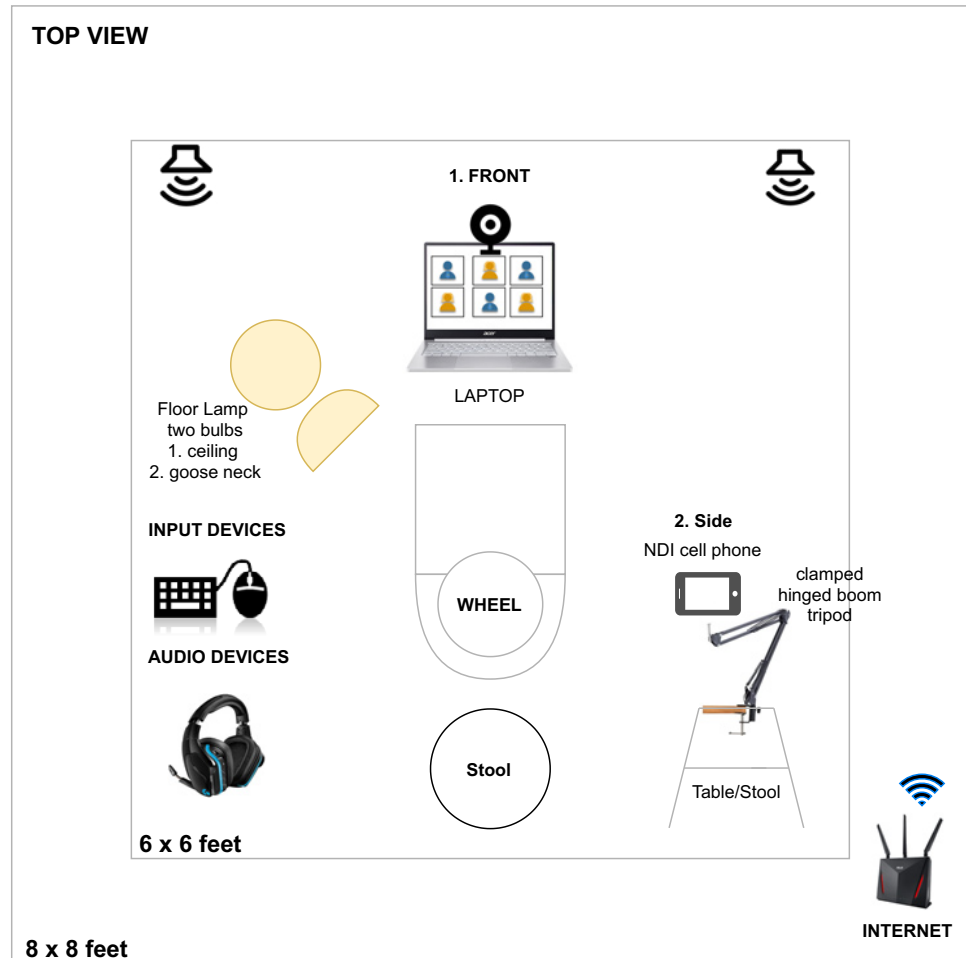
■ Software for Teachers

- Licensed Zoom Meeting software is recommended for e-Clay online teaching.
 - Zoom has good functionality, and it is an exceptional choice because of being so familiar to the majority of students.
- OBS (Open Broadcaster Software) is free and open source software for video recording and live streaming. Installing OBS is strongly recommended to improve video streaming ease and quality of virtual teaching. (On its own, Zoom doesn't integrate one camera/screen view and another camera/screen view together.) Once OBS is on, and once Zoom is open, teachers can select "obs virtual camera" from Zoom's camera options menu.
 - OBS allows teachers to bring multiple video and media sources into their one computer, then switch between different cameras, saved or online videos, and even 'scenes'.
 - An OBS 'scene' is preset. A scene can have one only camera/screen/video image or it may have combined images (e.g., multiple camera angles during a teacher demo).
 - OBS allows a teacher to switch between preset 'scenes' with a single keyboard hotkey (e.g., Ctrl #), or with separate hardware offering a physical set of keys (e.g., Stream Deck). This is very helpful when a teacher has clay-covered hands!
 - OBS does not require a powerful computer when only used for switching between cameras.
 - Like all technology, there is a learning curve for OBS but since the app is free, a teacher can download it to "mess around with it" - and then make their own decision.
- NDI is a free software app that turns the camera on your smartphone into a webcam for your live production. Students can also use this to set up a second camera focused on their work.
 - This video describes NDI setup:
<https://www.youtube.com/watch?v=cEbJgDxrm9Y>.
 - There are several free NDI apps which work well. Here is one <https://iriun.com/>.

■ Student's Technology Setup Diagram

Technologies for e-Clay online learning and teaching will continuously evolve. The diagram below reflects best options in 2023 for a 'minimum budget' setup for virtual learning.

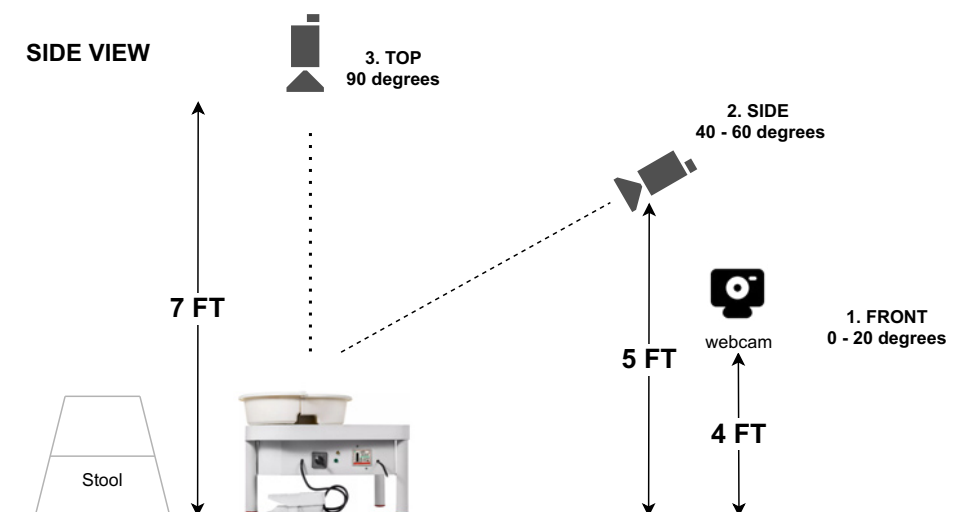
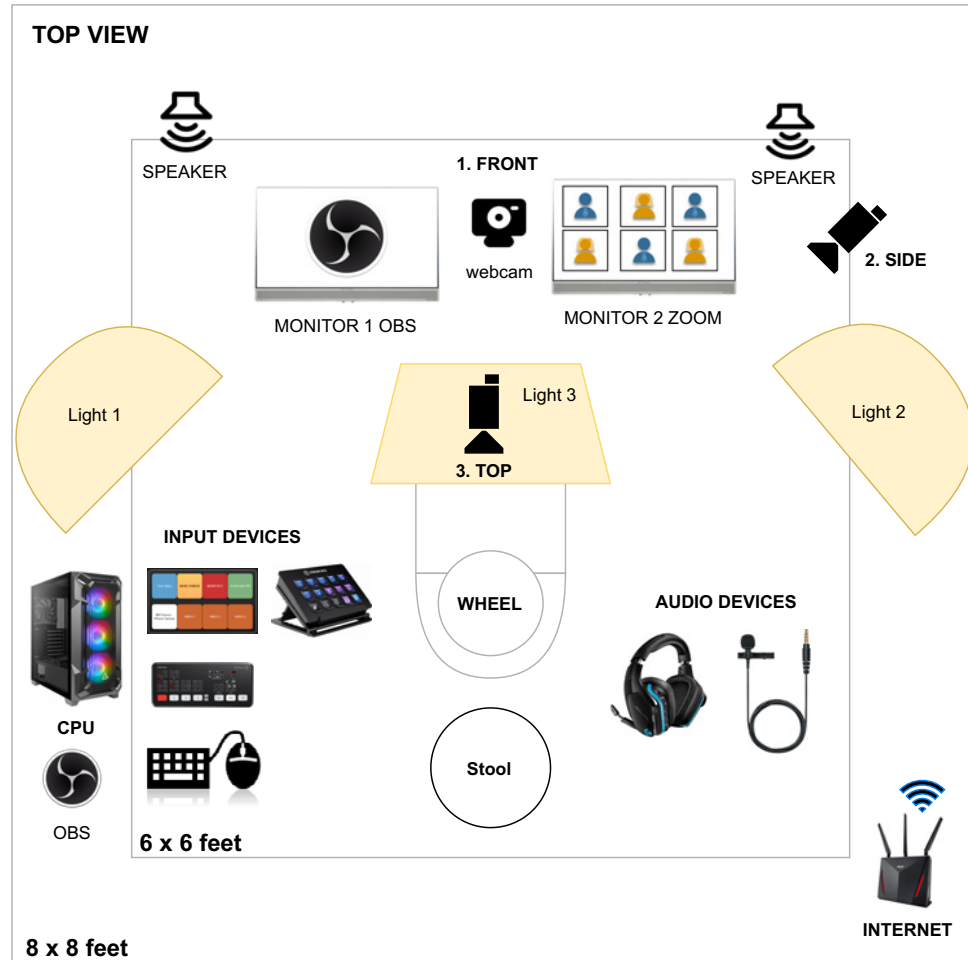
Student Setup Tier 1 - Minimum Budget



■ Teacher's Technology Setup Diagram

e-Clay technologies will continuously evolve. The diagram below reflects best options in 2023 for a 'medium budget' setup for virtual teaching. Diagrams describing 2023 minimum and advanced budget options can be found in the IT Report, found here: www.eclaylearning.ca.

Teacher Setup Tier 2 - Medium Budget



Resources 4 - Teaching Content

■ Facilitation Methods for Structured Dialogue

These structured dialogue methods offer different ways to clarify 'turn taking' and energize group conversations:

1) Group go-around

- The teacher (or a co-host/IT support) calls on people to speak in a pre-set order, e.g., alphabetically by name or by clothing colour (across the colour spectrum)

2) Pass the mic!

- Call on one student to speak first, after which the first speaker calls on a second student, 'passing the mic'; the second speaker will then 'pass the mic' to a third student, and so on.
- Near the end, invite students not yet called upon to raise their hand to ensure everyone gets invited.
- While students always have the option to 'pass' on sharing, when called upon they should still 'pass the mic' to a fellow student.
- An advantage of this method is that the students will self-facilitate, and the teacher can focus their eyes elsewhere (e.g., prepare for a demo, while listening in on the dialogue).

3) Crosstalk

- Anyone can speak (unstructured conversation).
- With this method, 2-3 people will speak much more often and some not at all, so use it in combination with the methods above.

■ Icebreaker Ideas

1. Have the guild/studio ask students to bring an example of what they have made, or something they like, to the opening class. Facilitate a go-around show and tell.
2. In intermediate/advanced classes, invite practice reflections with questions such as: Why are you here? What challenges do you want to accomplish?
3. Set a speed challenge (in beginner classes, precede this with a speed demo).
 - Students start with a set amount of clay (e.g., 100g). In a set number of minutes (e.g., 2 minutes) they must make something within a set category (e.g., "a pinch pot animal"). Set a timer and go!
 - Set a 30 second time limit and ask students to quickly present before the timer goes off.

Ask students any of the following:

- What is the funniest thing that happened, or that you saw today?
- Why did you take this course? What do you hope to learn by the end of this course?
- What do you hope to learn/practice today? What do you wish you could do better?
- If you were to be petrified into a ceramic vessel, what would it be?

Ask students to share a one-word feeling through a quick go-around.

For more involved reflection or feedback questions, when time permits, have students respond by drawing a quick image or symbol and then explaining their drawing to the class.

■ Activity Options for the First Class

When planning what may be a student's first experience with an e-Clay online learning and/or with clay, keep in mind what the student will see on their screen. Note this in relation to each planned activity, e.g., teacher talking, screenshare, camera on demo, speaker view (teacher/student who is talking).

Class 1 Ideas

- Start with activities to help students get comfortable talking to each other.
- Orient and gather the class:
- Provide a course overview.
- Cover health and safety content/review.
- Talk about caring for the clay (e.g., managing moisture).
- Make sure everyone has their tools.
- Talk about and troubleshoot technology.
- Review the need to mute and turn off sound to manage feedback when connecting with multiple devices from one site.
- Discuss the optimal setup of camera angles and why these are important to the teacher's ability to provide feedback and guidance to students.
- Remind students about the value of cleanliness and ventilation.
- Combine a slideshow/demo and student sharing activities.
- Reflect on pictures of ceramic pieces that students submitted to the teacher in advance.
- Review and discuss the cultural significance of clay and ceramics in different parts of the world.
- Talk about uses of clay in homes, art, and in industry.

- Cut a pot in half and invite observations and discussion.
- Play 'sculptionary'.
- Encourage students "Start working. I want to see you working..."
- Start with something fun and simple (e.g., a pinch pot)
- Have students set goals.
- Bring a list of backup activities (when new to virtual teaching, and with a new class, most teachers feel it's essential to have extra ideas in their back pocket).

■ Describing Tactile Concepts in e-Clay Online Teaching

Leather Hard

Stage during the drying process when the clay becomes stiff and no longer pliable but is still damp. It can be easily handled while retaining its shape and additions can be made to it. It is soft enough to mark easily with a thumbnail but too hard to make a thumbprint.

Soft Slab

Should have some flexibility but cannot support itself. Soft enough to make impressions for texture.

Wedging

Methods of preparing clay by hand to form a homogeneous mix. It mixes clay of uneven textures and removes air packets. Spiral wedging arranges the platelets in an advantageous way for throwing.

Greenware

Unfired pottery that is finished and waiting for firing. Lighter in weight than when first trimmed. It becomes paler as it dries. When touched, fingers do not make impressions. If it feels cold to the touch, then it is not dry enough to be fired.

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