



CHIA SẺ MỘT SỐ KINH NGHIỆM VỀ GIẢNG DẠY TRỰC TUYẾN TỪ IN-COUNTRY WORKSHOP

TRÌNH BÀY:

PGS. TS. PHẠM QUỐC TRUNG,
TS. NGUYỄN THỊ ĐỨC NGUYỄN,
ThS. ĐẬU XUÂN TRƯỜNG,
ThS. ĐOÀN PHƯƠNG NHI

**SEMINAR KHOA QUẢN LÝ CÔNG NGHIỆP – ĐHBK TP.HCM
18/09/2020**

NỘI DUNG CHÍNH

- Chiến lược e-Learning (T. Trung)
- Cải tiến trải nghiệm học tập trực tuyến (T. Trung)
- Môi trường cộng tác trong thế giới số (C. Nguyễn)
- Tạo ra hiện diện trực tuyến của GV (C. Nguyễn)
- Giới thiệu 1 số công cụ hỗ trợ (T. Trường)
- Tạo ra các bài giảng video hấp dẫn (C. Nhi)
- Hỏi & Đáp



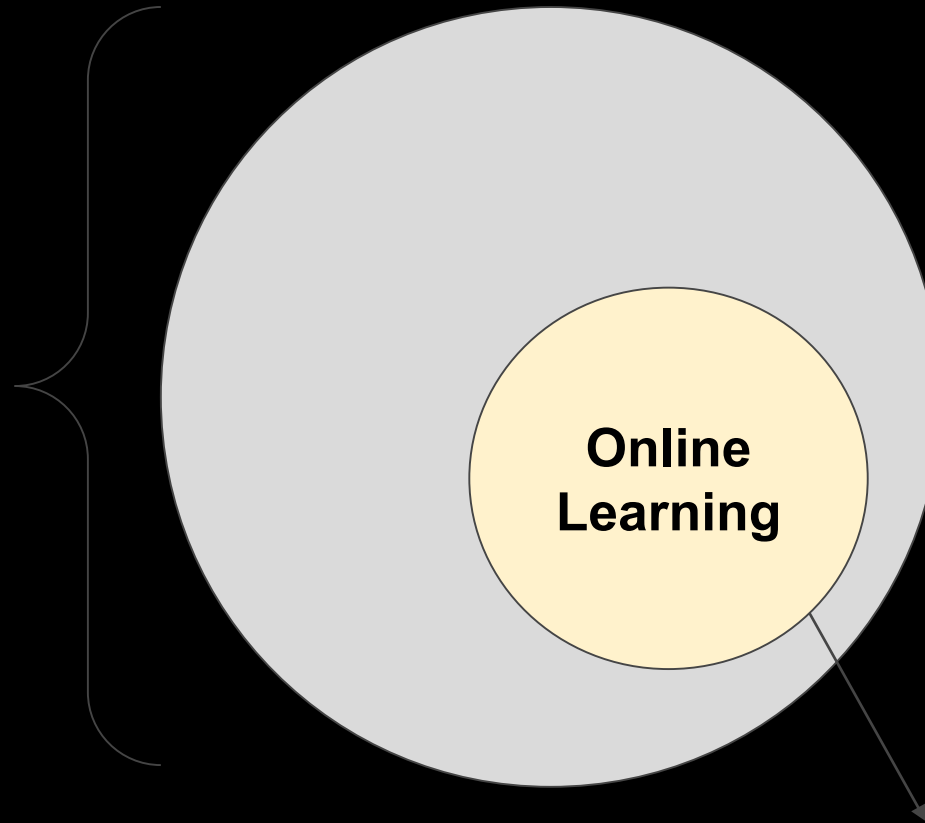
Defining Strategy and How to Start Building Our Ecosystem



WORKING DEFINITIONS

- **Distance Learning vs Online Learning**
- **Distance & Online Learning Spectrum**
 - Web Enhanced Course
 - Blended or Hybrid
 - Online or Fully Online Course

Distance Learning vs Online Learning



WEB ENHANCED COURSE

- A course that has an online component but the online component **DOES NOT supplant** any time as student spends in a traditional, physical classroom.

Blended or Hybrid Course

Traditional
Classroom
Instruction



Online
Instruction

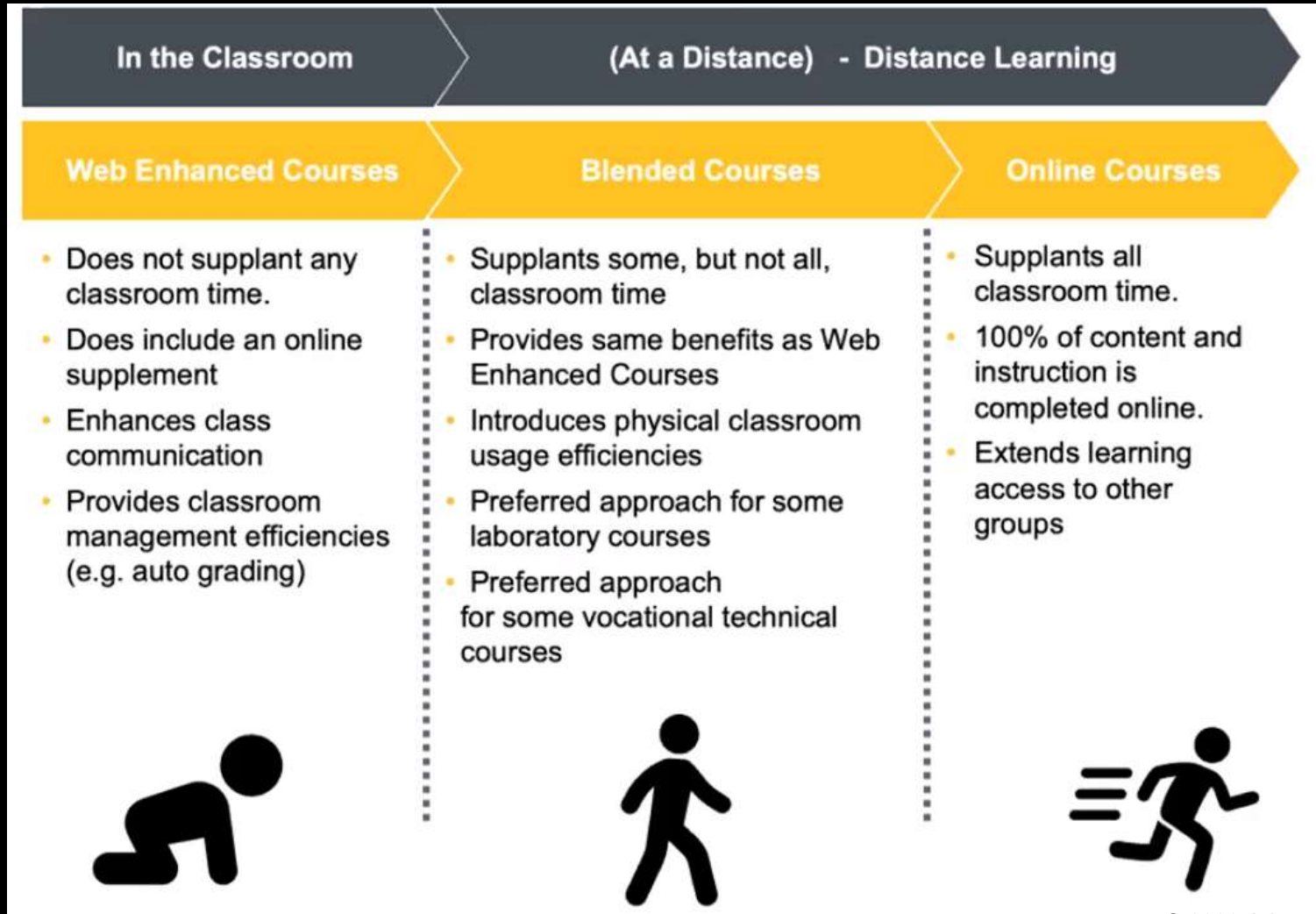


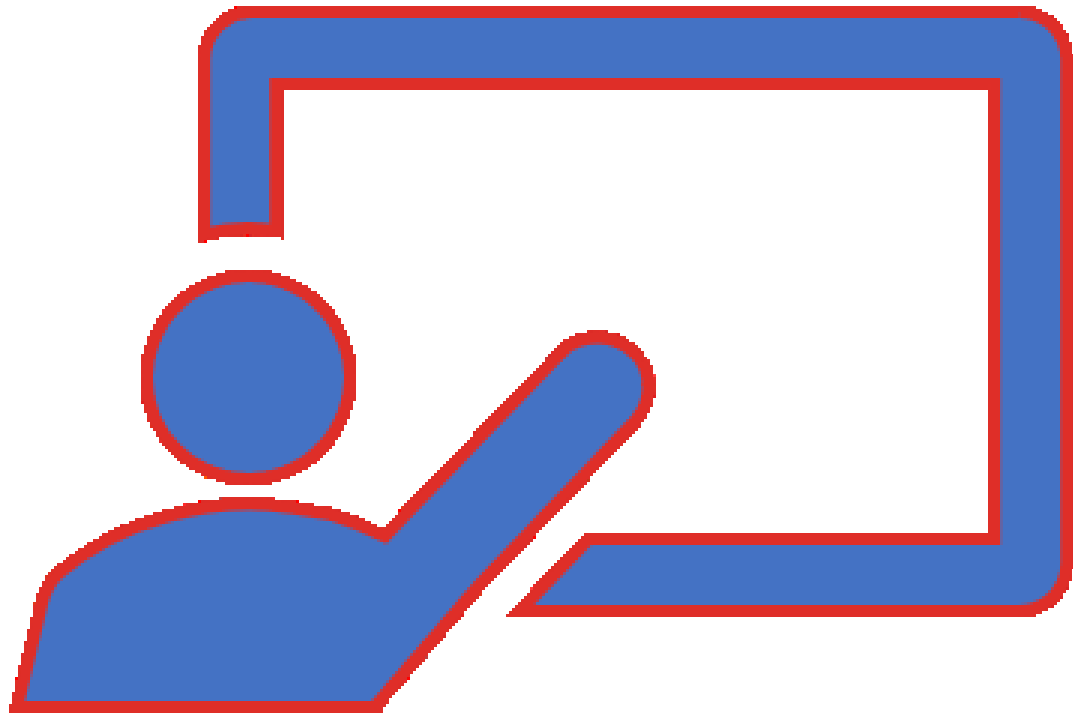
Blended
Instruction

FULLY ONLINE COURSE

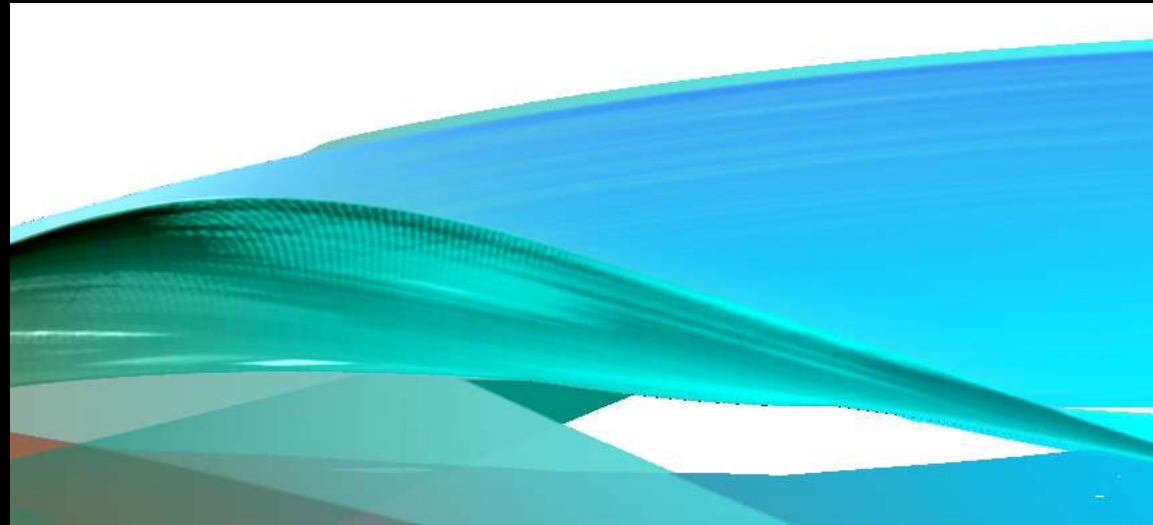
- Any course offered completely, 100% over the internet.
This mode of instruction supplants all traditional classroom time.

Distance & Online Learning Spectrum





DEVELOPING OUR E-LEARNING STRATEGY



READINESS ASSESSMENT

- **Business processes discussed and**
- **documented – Course Creation, Student**
- **Enrollment and Student communication**
- **Efficiency, Scale, Sustainability**
- **LMS Administration & Support**

ADMINISTRATOR CONVERSATIONS & TRAINING

- **Ensure initiative has support of administration**
- **Identify Project Leads**
- **Document eLearning plan, goals and KPS**
- **Technology Infrastructure assessment**

FACULTY TRAINING



Face-to-face
training
becomes
Online training



Train the
Trainer to
achieve scale



Begin Small:
Small group of
lecturers

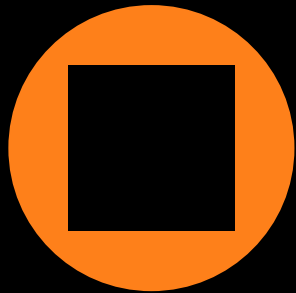


Provide
Course
Quality
Checklist

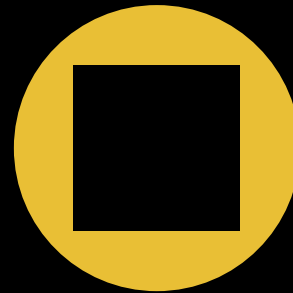


Provide
Momentum
Coaching

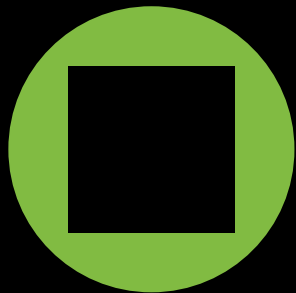
CONTINUOUS ASSESSMENT AND IMPROVEMENT



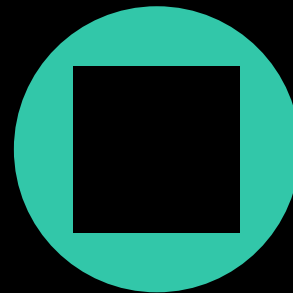
Share good practices
in course
development and
course evaluation



On-going training



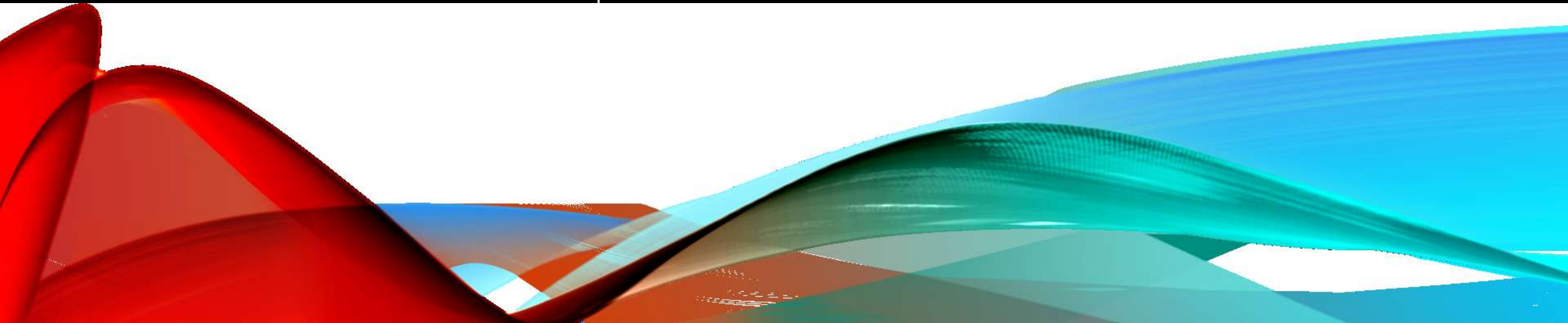
Provide momentum
coaching



Assess course
development and
evaluation checklists

What do we have; What
do we need.

ORGANIZATION CHART CHECKLIST



LEADERSHIP



- Defines strategic objectives and vision



- Manages and removes obstacles for success

ACADEMIC OPERATIONS



- Curriculum Management



- Instructional Design / Technology

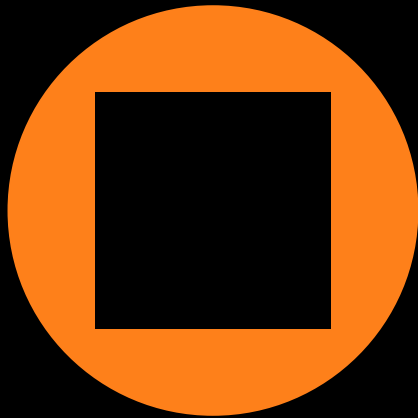


- Faculty Recruitment, Training and Development

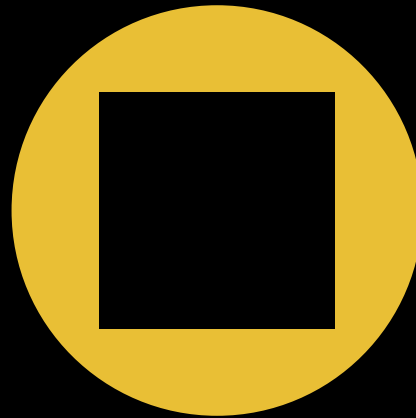


- Academic Records

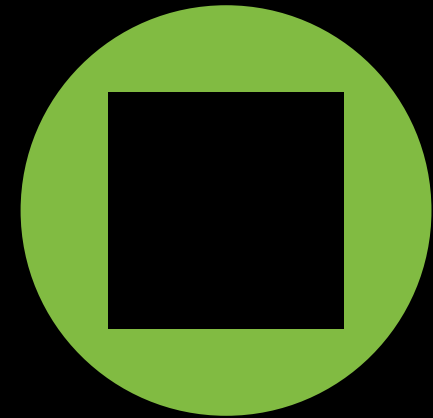
ADMINISTRATIVE OPERATIONS



- ACADEMIC RECORDS



- STUDENT SERVICES



- STUDENT FINANCE

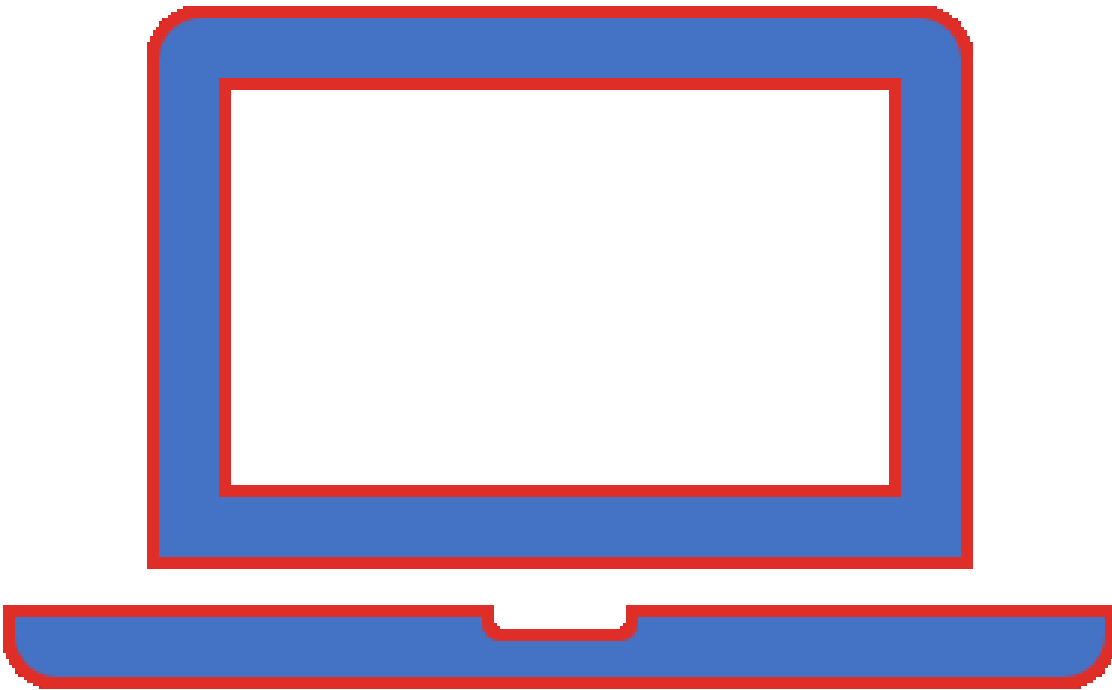
ENROLLMENT MANAGEMENT

- **Marketing and promotion**

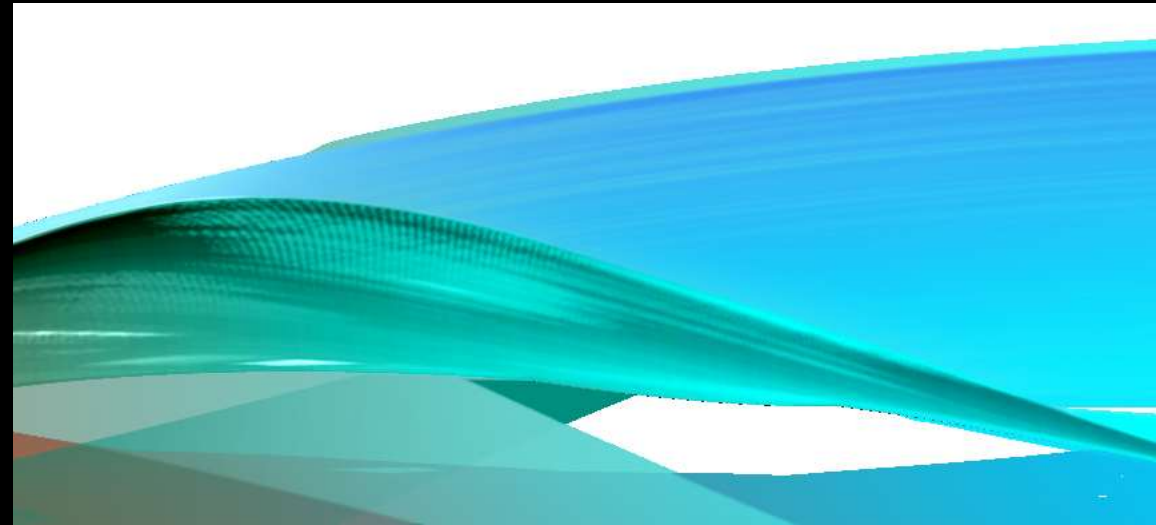


IT/SUPPORT SERVICES

- **Supports strategic technology needs to support eLearning strategy**



CREATING A
BETTER ONLINE
LEARNING
EXPERIENCE FOR
YOUR STUDENTS



Module Layout

- **Include starting and ending points to modules**

Give weekly objectives - “By the end of this week, you will be able to....”

Give them outcomes/goals - “What you can now do”

Helps them self assess

- **Keep module layouts identical**

- **Don't change in the middle of the semester (unless something isn't working).**

SETTING OBJECTIVES FOR USING YOUR LMS



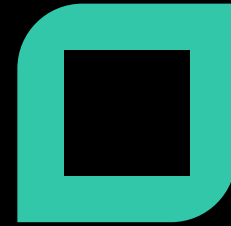
WHAT ARE
YOUR GOALS
FOR USING
THIS LMS?



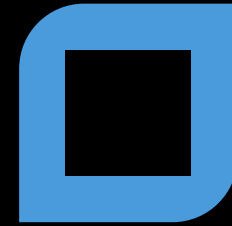
HOW WILL
THIS
ENHANCE
YOUR
LEARNING
OBJECTIVES?



HOW WILL
YOU
MEASURE
SUCCESS?



HOW CAN
AN LMS
ENHANCE
YOUR
EXISTING
COURSE
PROCESSES
AND
METHODS?



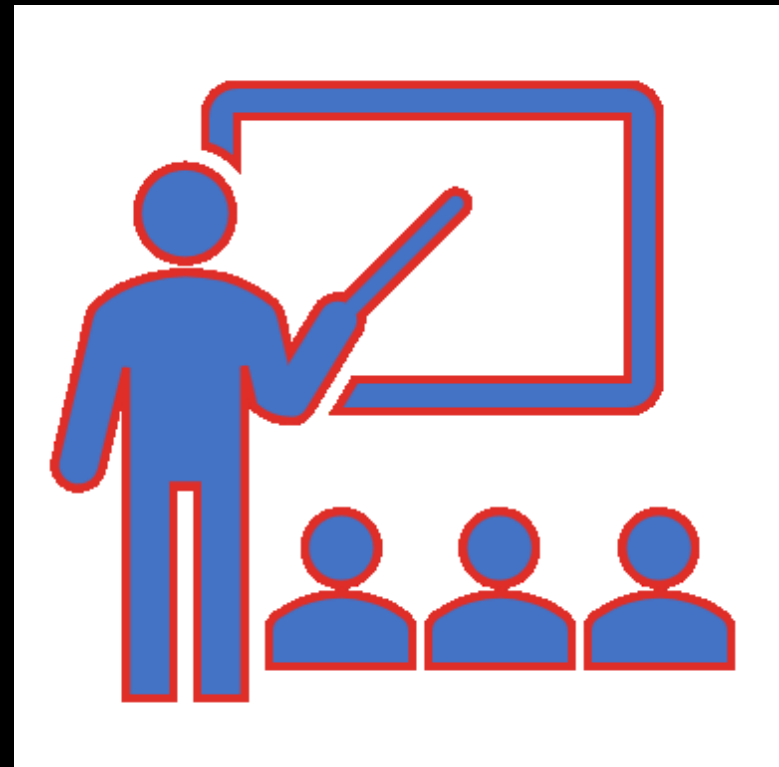
HOW DOES
AN LMS'S
AVAILABLE
FEATURES
COMPARE
WITH YOUR
ESSENTIAL
FEATURES?

DELIVERING CONTENT

For the purposes of this Workshop we want to concentrate on the frontend, forward-facing features of the LMS.

For instructional purposes, we want to remember that an LMS system is a tool. It should enable students to interact with content, faculty, and each other.

Think about how this tool can assist you in achieving your daily, weekly, monthly objectives.



LIMITING LMS CONTACT TIME

learning
in your
lessons:

Students do not fare as well
when they need to engage
for a long period of time

Design your modules to be
in short bursts rather than
long, intense periods

Target 5-10 minutes at a
time for video content

CONCENTRATE ON FEATURES USEFUL TO YOU



Your LMS has many features and functions



You DO NOT need to use each one



Which ones are most valuable to your teaching and your student learning?



Engaging Learners:
Padlet vs. the LMS
discussion board?



CREATING AN ATTRACTIVE LEARNER EXPERIENCE

functions of the LMS

“lock-step” vs. “free-flowing”

Use media to keep your students engaged

Integrate digital tools for engagement

Provide opportunities for your students to be creative with media to express thoughts, ideas, opinions

Check comprehension and understanding throughout the learning process

GETTING THE STUDENTS ENGAGED

- **Instructor Presence is Key**
 - If you aren't involved, why would they be?
- **Don't have students just regurgitate information**
- **Use action verbs that DEMONSTRATE "understanding"**
- **Content Knowledge => Real World Application**
- **Reinforce Learning**
- **Promote IBL - Inquiry-Based Learning**
 - Explore unfamiliar ideas in own time and space
 - What is a good activity for this?

COURSE FEEL

- **Course should look inviting to students**
 - Use a “hook”
 - Don’t cram information all in one place
 - Create “Cohesion”
- **Course structure and appearance**
 - Keep organization consistent throughout
 - Modules
 - Location
 - Format

PART 2:
CREATING INSTRUCTOR
PRESENCE IN AN ONLINE
ENVIRONMENT

COLLABORATIVE
ENVIRONMENTS IN A

ED



WHAT ARE THE BEST PRACTICES FOR TEACHING



INSTRUCTOR PRESENCE

Establish teaching presence early & often:

- Post announcements, appear on video, & participate in discussions
- Show your personality, passion & expertise

CLEAR EXPECTATIONS

Help students dive straight into the content by providing them with:

- Detailed syllabus
- Due dates & schedule
- Clear assignment directions

LEARNING OBJECTIVES

Alignment matters! Be sure that:

- Course content aligns with objectives & assessments
- Extra content not directly supporting the learning objectives is removed or made optional

REAL WORLD APPLICATIONS

Motivate students by making a real world connection:

- Show students how they will apply what they are learning

TEACH FOR ONLINE STUDENTS

Orient students to the online course:

- Break learning into smaller chunks. Establish a pattern of activity & due dates
- Describe expectations for online participation, communication & netiquette
- Provide technical support information

PROMPT FEEDBACK

Provide feedback to improve student outcomes:

- Reinforce important materials, concepts, and skills
- Provide timely feedback students can apply during the course

ENGAGE STUDENTS

Quality interaction between students is a sign of a successful class:

- Create educational experiences for students that are challenging, enriching and that extend their academic abilities
- Provide students with opportunities to interact with peers, such as through discussions & group work





CREATING INSTRUCTOR PRESENCE ONLINE

This is imperative!

Transparency

**We Need to Be
Transparent**



Who are you?

Show Them Who You Are



If we don't humanize ourselves, how do we spark passion and enthusiasm to learn?

INVOLVEMENT

- Welcome letter or video
- Make your syllabus more interactive
- Post regular announcements
- Facilitate online discussions (discussion board and web conference)
- Provide timely and in-depth feedback
- Make connections to the real world
- Reach out to students who are struggling

Be an Active Part of the Learning Process



Be Clear!

Ensure students clearly understand how they can engage with you throughout the semester.

- **Method**
- **Timeframe**
- **Desired information**



Ways to Communicate with Your Students

- **Phone**
- **Email**
- **F2F office hours**
- **Virtual office hours**
- **Instant Message (IM)**
- **Social Media posts or DM**



Which of these would work best for you in an online environment?

Funnel Your Communication

Synchronously:

Set virtual office hours so your students have the option to speak with you in a synchronous environment.

Asynchronously:

Have students label the subject line by course title and number.

Helps with sorting courses and topics.

Group your emails by course type to help manage time.

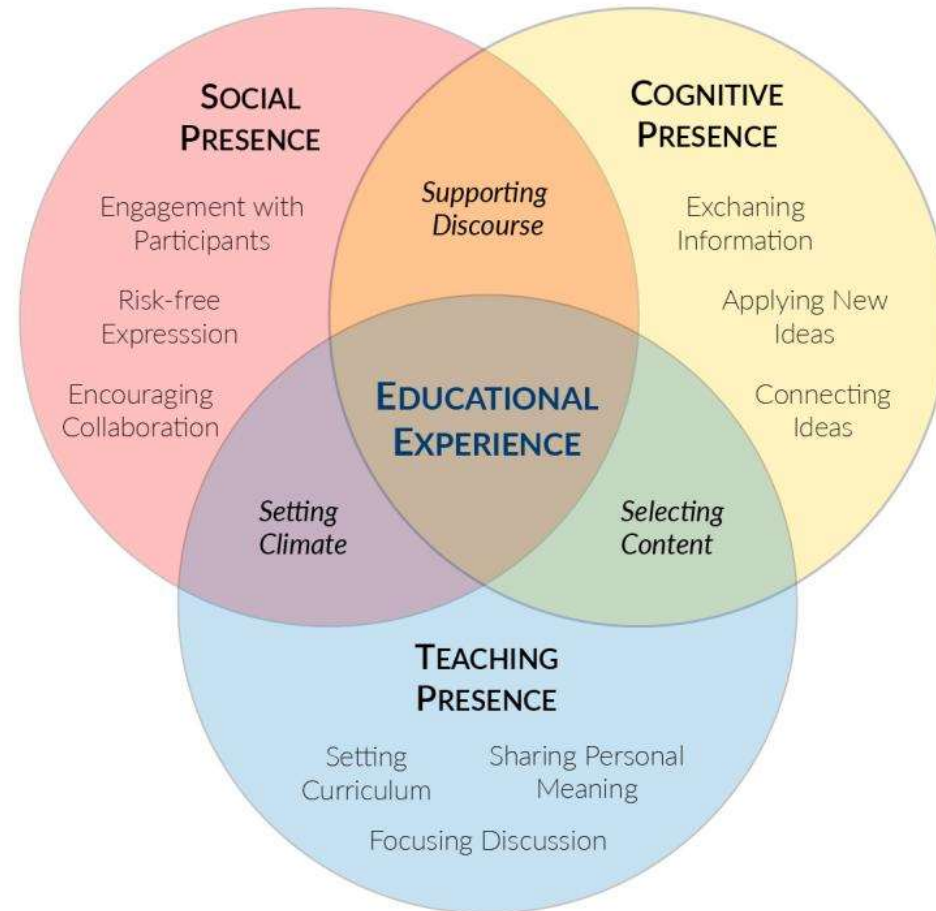
Be Active in Discussion Boards

DS

- It is important to show a presence but not to dominate.
- Lets students know you're involved and active in their learning.
- Do not need to reply to all posts.
- Help to clarify misconceptions or share overlooked points.
- Helps cut down on email.



The Community of Inquiry Model



Adapted from Garrison, D.R., Anderson, T., Archer, W. (1999) Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education* 2(2), 87-105

**COLLABORATION
ENVIRONMENT
A DIGITAL WORLD**



ENVIRONMENT

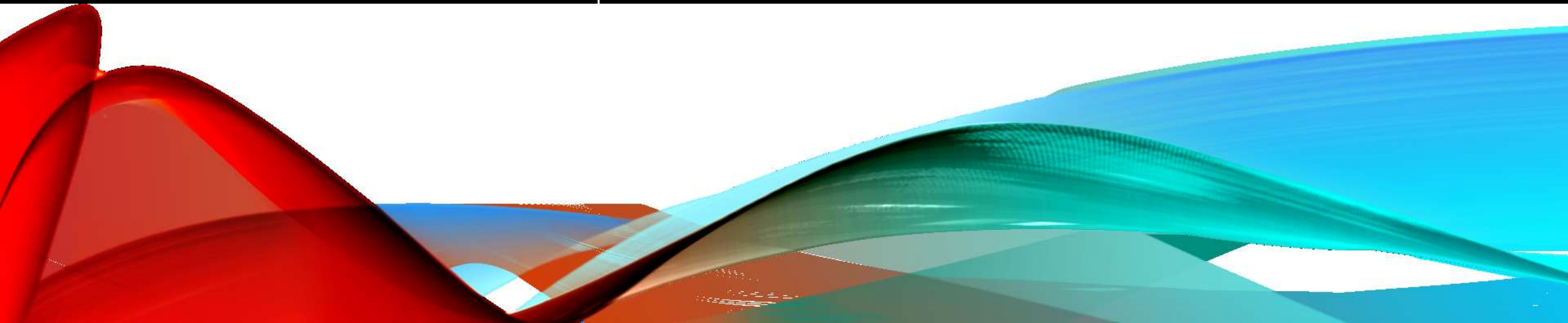
Fostering a Collaborative environment can be difficult regardless of modality.

Create Communities of Learning

- Course-long, project-centric
- Assign roles
- Give clear instructions, objectives, and expectations
- Should be applied along with other learning opportunities

Cooperation vs.
Collaboration: Which
model works best for my
class

**WHAT DO I WANT
MY STUDENTS TO
ACHIEVE?**



Cooperative Learning

Definition: Cooperative learning is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement.

each person is responsible for a portion of the work

many times the teacher already knows the problem and solution students will be working towards

Collaborative Learning

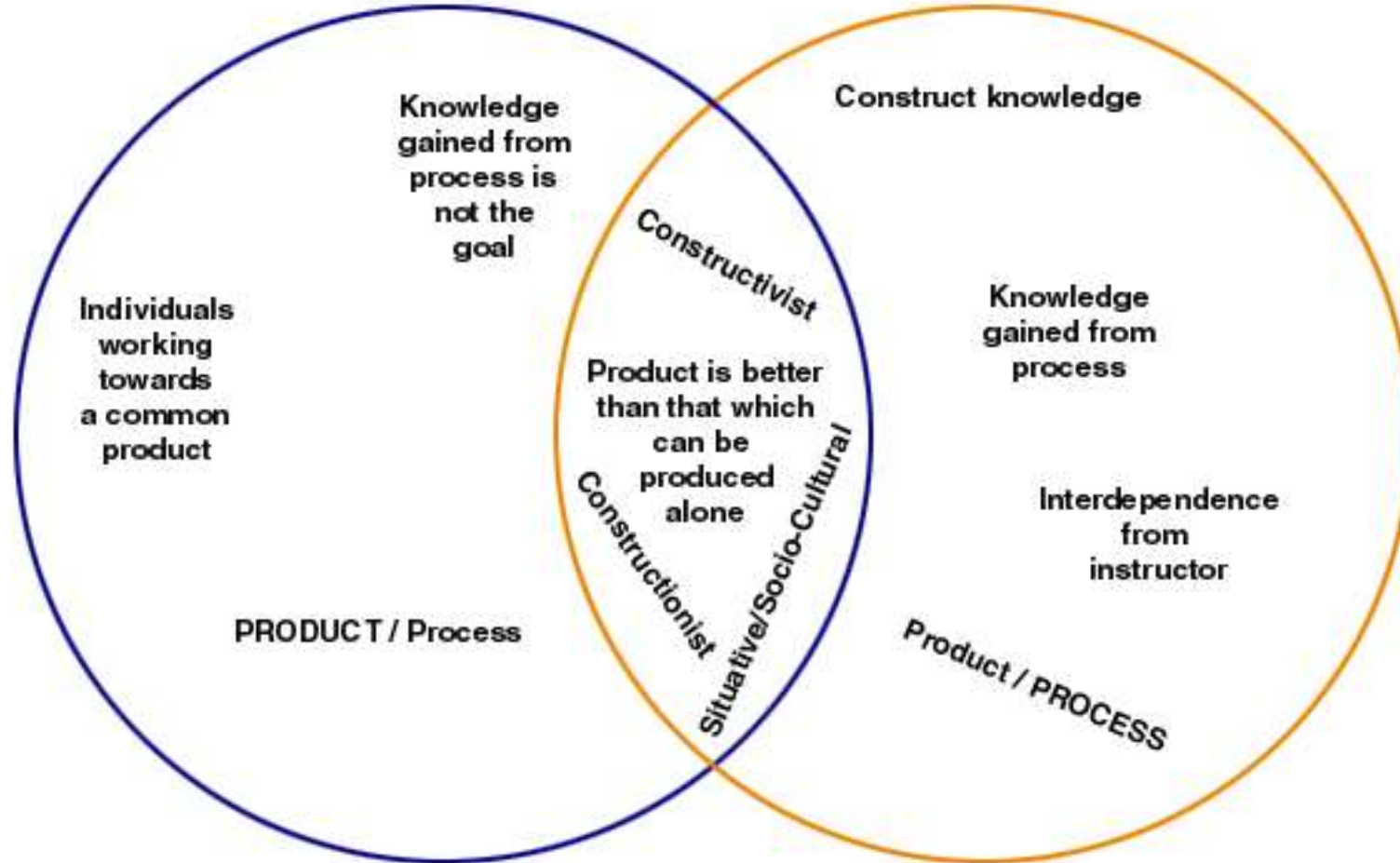
Definition: "Collaborative learning is based on the idea that learning is a naturally social act in which the participants talk among themselves (Gerlach, 1994). It is through the talk that learning occurs."

participants work together to solve a problem

many times teacher does not have a pre-set notion of the problem or solution that students will be researching

Cooperation

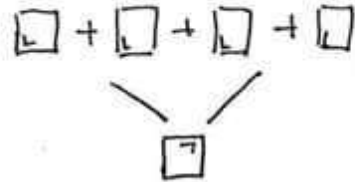
Collaboration



Scott Schopieray, 2003

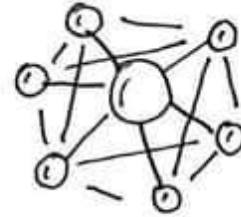
COOPERATIVE V. COLLABORATIVE

By John Spencer @spencerideas



COOPERATION

- Mutual respect
- Transparency
- Shared goals
- Independent and dependent
- Loose network
- Short-term
- Sharing of ideas as a group
- Engagement



COLLABORATION

- Mutual trust
- Vulnerability
- Shared vision and values
- Constant state of interdependence
- Tight culture
- Long-term
- Generation of new ideas as a group
- Empowerment

What Does a Cooperative Model Look Like?

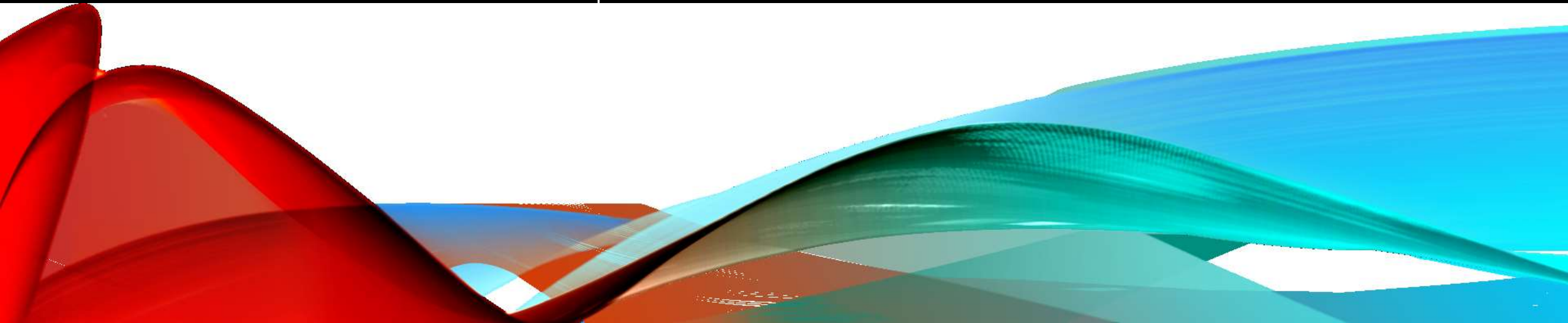


- Students work cooperatively compared with traditional models where individuals are only looking out for themselves.
- Team members are responsible for their own individual learning as well as for their teammates learning.
- Teams are made up of high, medium and low academic achieving students.
- Teams are heterogeneous in gender, race, culture and socioeconomic status.
- Team members contribute their knowledge, experience, skills and resources to the group.
- Team members cooperate and collaborate.
- Team members benefit from the contributions of the individual team members.
- Team members acquire new skills and knowledge.
- Rewards are oriented towards individual and group.



What to consider...?

STUDENT INTERACTION IN A DIGITAL FORMAT

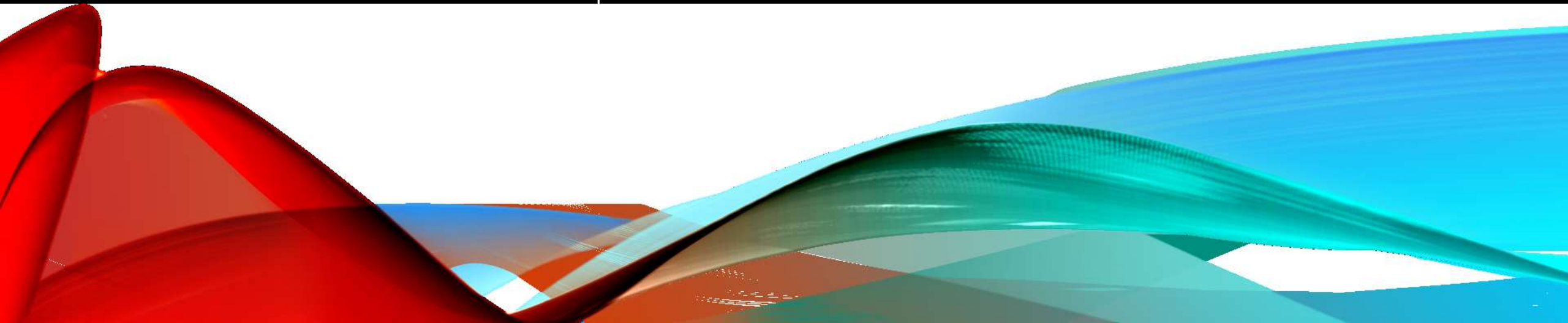


INTERACTION

- How do you want the students to interact?
 - Communication Medium- What do you need to monitor?
 - Email
 - LMS
 - Social Media
 - **Task Requirements**
 - Summarizing
 - Clarifying
 - Extended Learning
 - Reaching Consensus?

What can I use?

**TOOLS TOOLS
TOOLS**





SOME USEFUL
WEBSITES/APPLICATIONS

WEBSITES & APPS

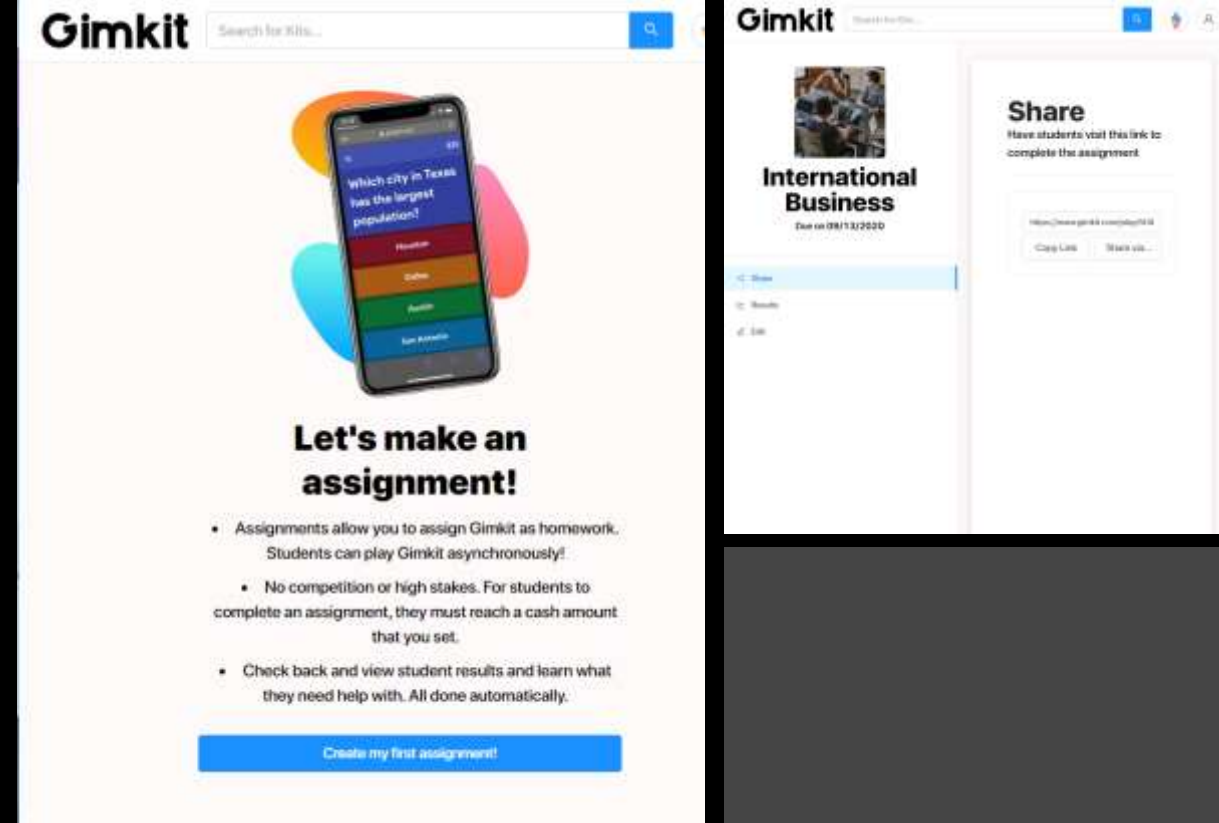
- [List of 82 recommended Tools :](https://tutorful.co.uk/blog/the-82-hottest-edtech-tools-of-2017-according-to-education-experts)
<https://tutorful.co.uk/blog/the-82-hottest-edtech-tools-of-2017-according-to-education-experts>
- Our suggestions of some easy-to-use websites and apps:
 - Gimkit: } Creating (live) Assignments, Quizzes, Games, Flashcards
 - Quizizz: }
 - Quizlet: }
 - Padlet: Creating attractive model, schedule, etc
 - Zipgrade: useful and easy-to-use application for grading multiple choice exam
 - Animaker: creating attractive animated video
 - Google sites: creating simple website

- Pros:

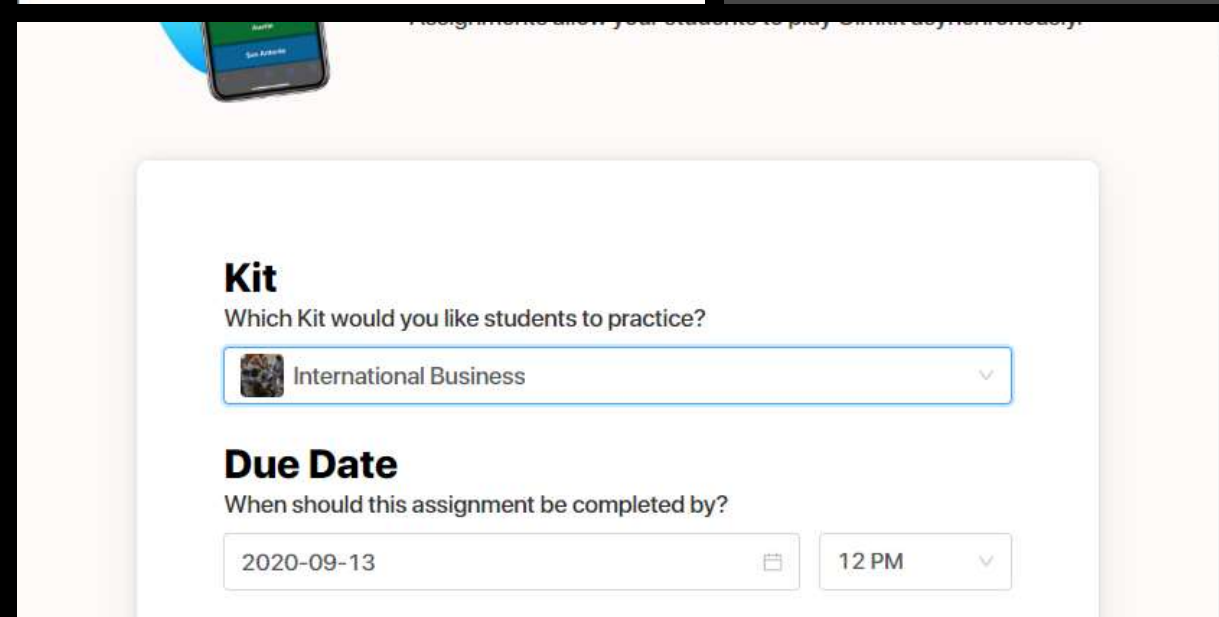
- Very easy to use
- Simple interface
- Multiple of sample quizzes
- Able to assign quizzes as Homework
- Easy to arrange questions into different classes

- Cons:

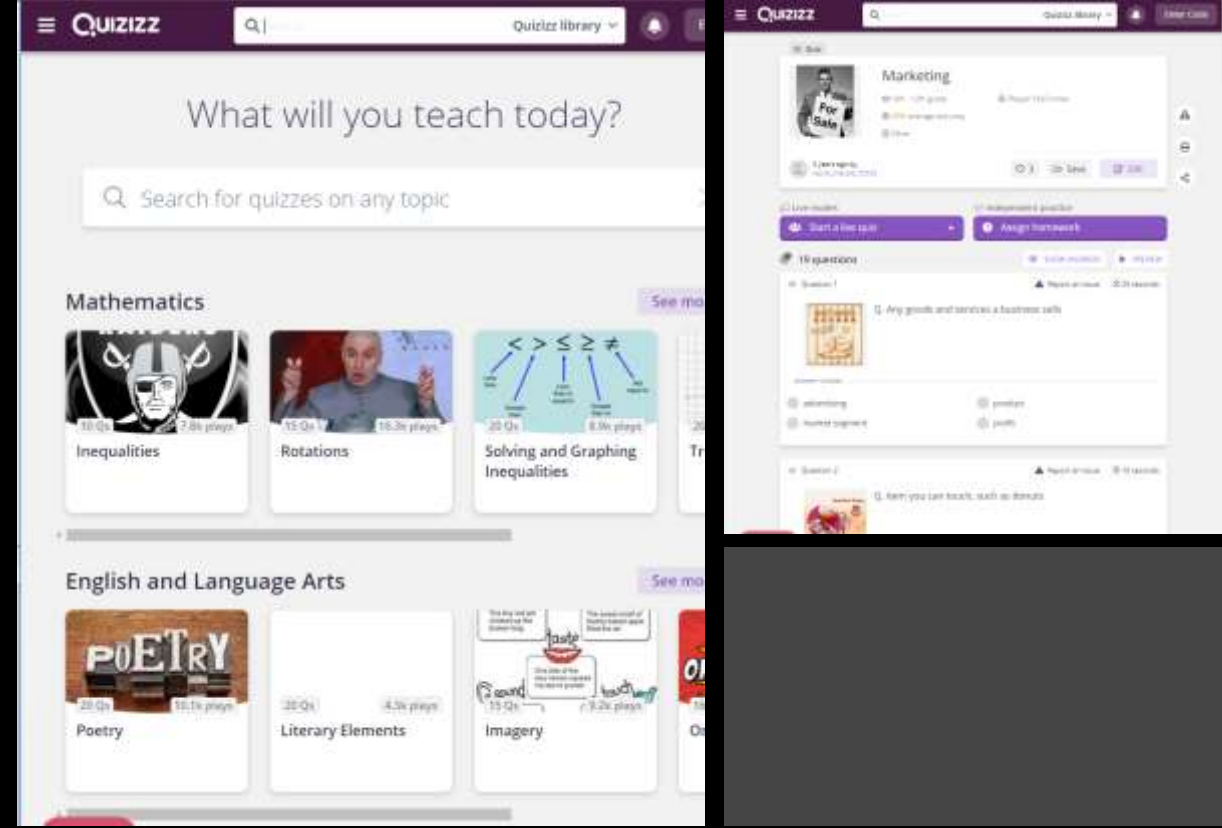
- Need to pay for more premium benefits
- Lack of sample quizzes in some fields
- No mobile app in Appstore Vietnam



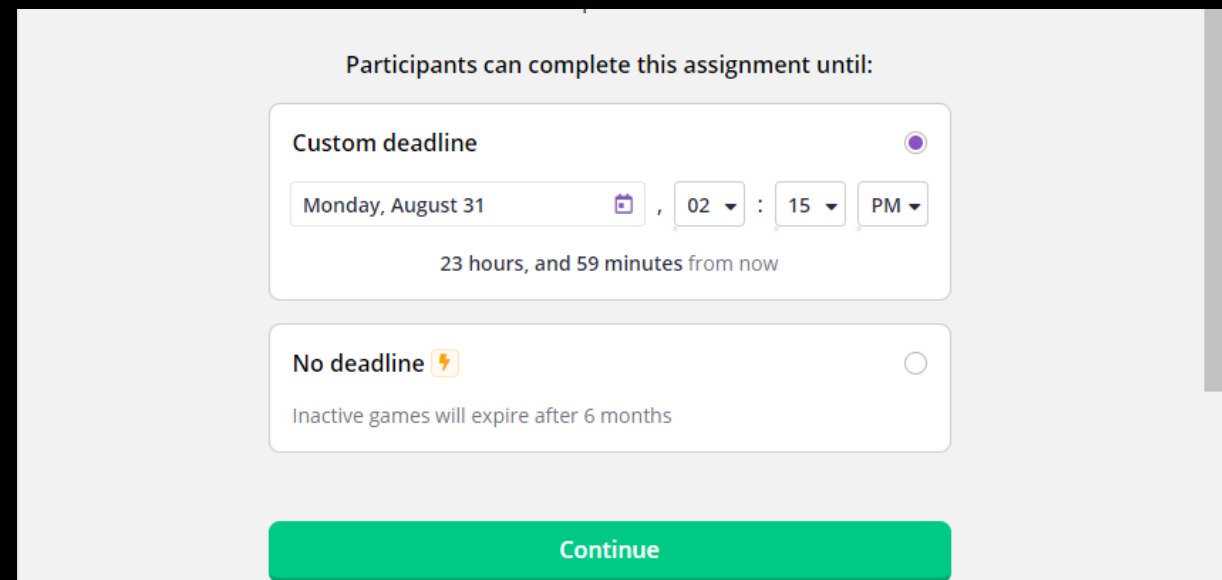
The screenshot shows the Gimkit website interface. At the top, there is a search bar for kits. Below it, a smartphone displays a quiz question: "Which city in Texas has the largest population?" with options: Houston, Dallas, Austin, and San Antonio. The main heading reads "Let's make an assignment!". Below this, there are three bullet points describing the assignment features: 1. Assignments allow you to assign Gimkit as homework. Students can play Gimkit asynchronously! 2. No competition or high stakes. For students to complete an assignment, they must reach a cash amount that you set. 3. Check back and view student results and learn what they need help with. All done automatically. A blue button at the bottom says "Create my first assignment!".



This screenshot shows the assignment creation form. It includes a "Kit" section with a dropdown menu currently set to "International Business". Below that is the "Due Date" section, which has a date input field set to "2020-09-13" and a time input field set to "12 PM".



- Pros:
 - Plenty of sample quizzes in different fields
 - Can set deadline to assign as homework
 - Simple Interface
 - Available in Appstore
 - Attractive background music
 - Better Grade Reports
 - Free
 - Do not need to project the questions on the screen
- Cons:
 - Limit in types of questions
 - Problems about finding and using the Meme



QUIZLET



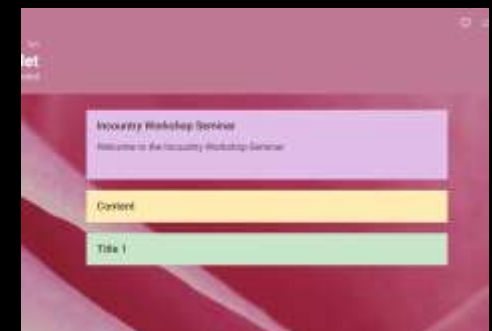
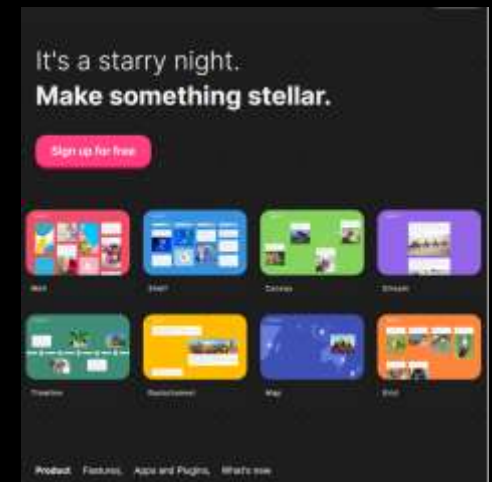
Useful app for memorizing
Variety of learning modes
(flashcards, speller, test, scatter
game, etc.)
Easy to share amongst students
Free
Mobile Apps
Variety of sample works



Misleading information
Ownership

TABLET

- Easy to use
- Customizable interface
- Excellent support
- Mobile app availability
- Scan QR code
- Support every file types
- Private and secure



ZIPGRADE



Tool for grading multiple choice exam



Easy to use



Able to use on phone

ANIMAKER

- Pros:
 - Create excellent, attractive videos
 - Easy to use
- Cons:
 - Takes time
 - Lagging



GOOGLE SITE



Creates an website including every tools for a class

Fast and easy to connect

Attractive for users

Easy to design and edit

Able to upload many resources

More attractive interface compared to traditional E-learning interface (Moodle)

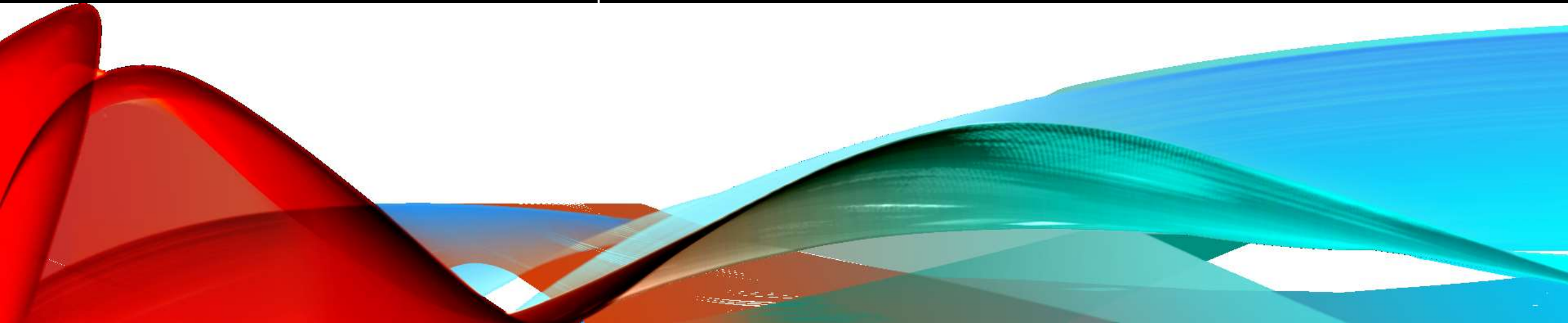


Still need to use alongside with other app for assignment submission

Privacy problem

**Essential Tips to Make
Your Videos More
Engaging**

CREATING COURSE VIDEOS



VIDEO CONTENT

Your goal should be to try and reuse these videos semester after semester

- Don't use times
- Don't use days/dates
- Stick to critical content
- Try to stay under 15 minutes (Students can always rewind or watch 2X)

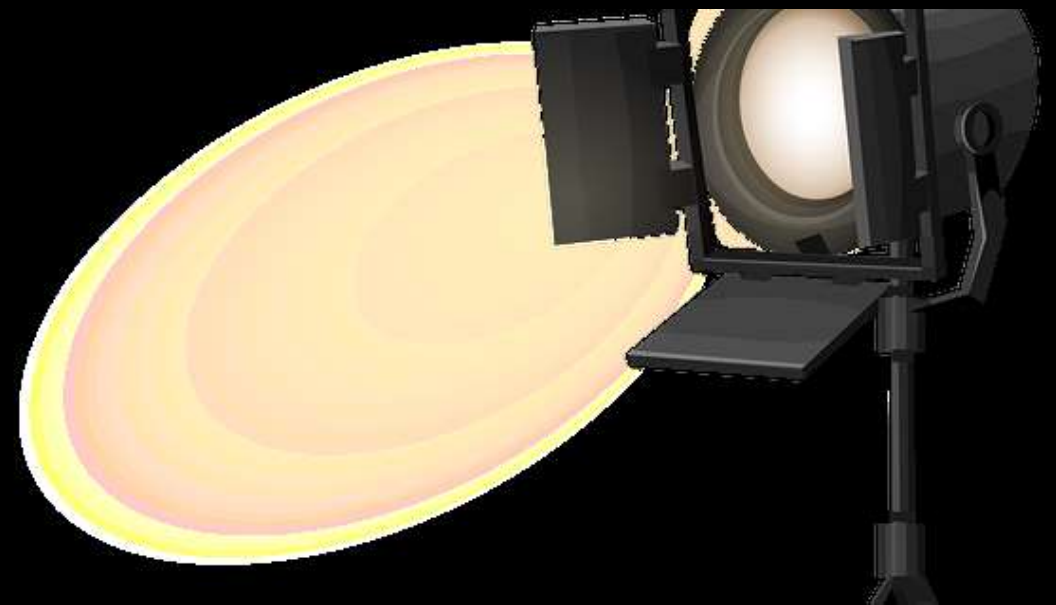
Before you create your video write a script or an outline

Instructor Introduction Video could be used for all your courses.

Find a quiet place to record.

WHAT DO I NEED?

- You don't need fancy, expensive equipment.
- Smartphones these days are more than capable of producing a high enough quality video.
- External Smartphone Microphone \$16
- External Light \$14
- Smartphone Tripod \$17





What's More
Important?
Good Video
or Good
Audio

BOTTOM LINE:
AUDIO WILL
MAKE OR
BREAK YOUR
VIDEOS



Microphones

	Microphone (Self)	Microphone (Studio)	Placement
--	-------------------	---------------------	-----------

Good



Pointed at instructor, but at a distance

Better



Mic placed closer to mouth

Best



Mic as close as possible to mouth

CAMERAS: WEBCAMS



Microsoft Lifecam
Studio

Logitech Brio



Position and Lighting is Key



BACKGROUND TIPS

Green Screen/Chroma Key



Kinematic Models

Differential Drive

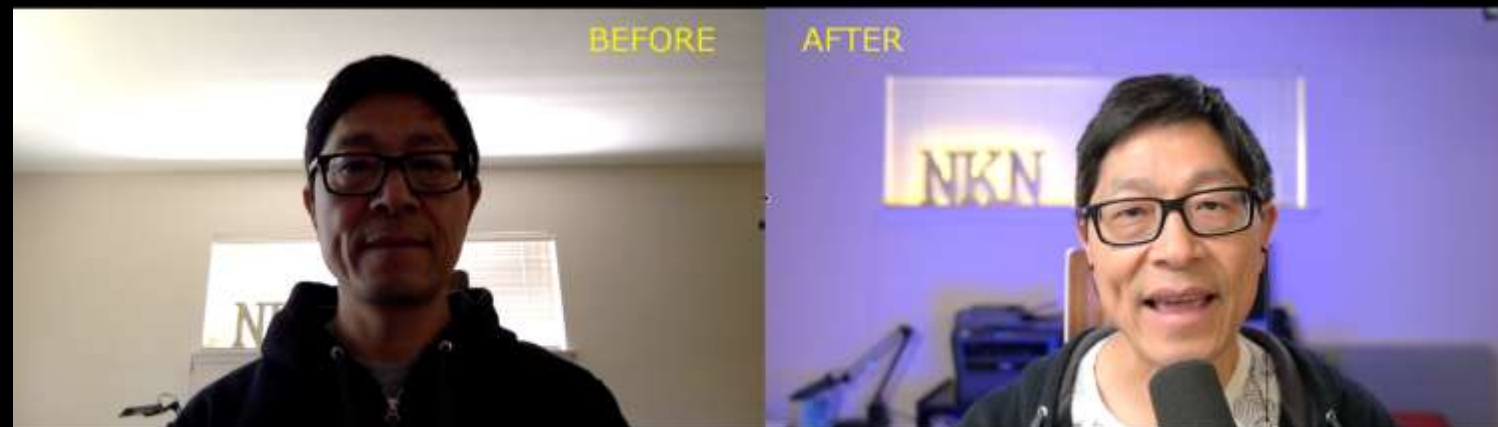
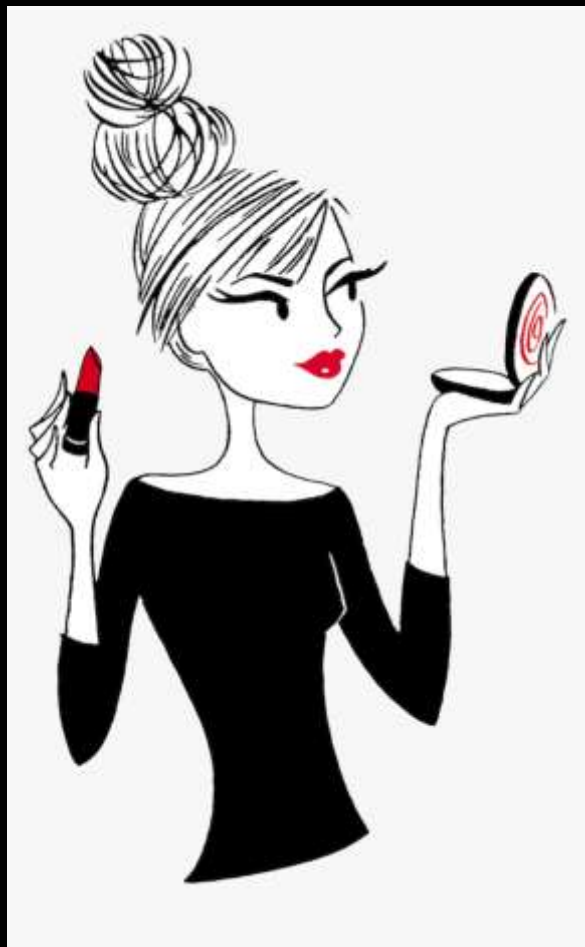
Simple Car (Ackermann)

Omni-Drive

LIGHTING BASICS: SOFT VS HARD



How to Look Your Best on a Webcam





Tips for Building Your First Course

**Start in
the
Middle!**

**Do the
Course
Intro/
Overview
Video Last**

**Create a
Video
about
Yourself
(Biography)**

Serialize Each Video!

Working Title	Record Date	Video Length	Record... By	Module	Lecture	Version	Lecture Title	Edited By	Video Status
S01V01	04/29/19	5:41	Dustin				Course Introduction for EEE 334	Brook	Uploaded/Available
S01V02	04/29/19		Dustin				Pickup Shot for S01V01		Reshoot Planned
S02V01	08/05/19	5:55	Myke	1	1		Introduction	Brook	Uploaded/Available
S02V02	08/05/19	42:36	Myke	1	A1		Computational Electronics	Brook	Uploaded/Available
S02V03	08/05/19	22:32	Myke	2	A1		Basics of Crystallography and Bandstructure	Brook	Uploaded/Available
S03V01	08/07/19	33:10	Brook	2	A2		Reciprocal Lattices	Myke	Uploaded/Available
S03V02	08/07/19	14:02	Brook	2	A3		Crystallography - Miller Indices	Myke	Uploaded/Available
S03V03	08/07/19	23:15	Brook	2	B1		Bonds and Bands	Myke	Uploaded/Available
S03V04	08/07/19	31:41	Brook	2	B2	2	Tools on nanoHUB	Myke/Brook/Myke	Uploaded/Available
S04V01	08/08/19	17:23	Brook	2	B3a		Introduction to Bandstructure Calculation	Brook	Uploaded/Available
S04V02	08/08/19	17:10	Brook	2	B3b		Empirical Pseudopotential Method Derivation	Brook	Uploaded/Available
S04V03	08/08/19		Brook	2	B3e		EPM Implementation and DOS Function Calculation	Brook	Reshoot Planned
S05V01	08/09/19	38:07	Brook	3	A1		Introduction to Boltzmann Transport Equation	Brook	Uploaded/Available
S05V02	08/09/19	16:30	Brook	3	A2		Drift Diffusion Modeling	Brook	Uploaded/Available
S05V03	08/09/19	27:53	Brook	2	B3c		EPM Implementation and DOS Function Calculation	Brook	Uploaded/Available



$$\frac{dC_0}{dt} = D_{2T} \frac{\partial^2 C_0}{\partial z^2}$$

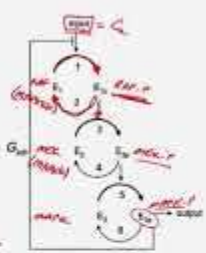
$$\text{B.C. @ } z=0 \quad C_0 = 0 \text{ mm/L}$$

$$\text{B.C. @ } z=2.0 \quad \frac{\partial C_0}{\partial z} = 0$$

$$\text{I.C. @ } t=0 \quad C_0 = 50 \text{ mm/L}$$



Fig. 4.2 reaction network in the model of the MASH muscle. The rate (v) for each of the 6 reactions of the muscle is given by the following equation: $v = V_{max} \frac{a}{K_m + a}$, where a is the concentration of the particular substrate and V_{max} and K_m are Michaelis-Menten constants. A steady input output behavior is exhibited for several values for gain of the negative feedback. The transition behavior is treated as a more gradual response as strength of the negative feedback is increased. Parameters are as follows: $K_{m1} = 0.2$, $V_{11} = 0.5$, $V_{12} = 0.15$, $V_{21} = 0.15$, $V_{22} = 0.15$, $V_{23} = 0.15$, and $V_{24} = 0.15$. The flow is given: $Q_{in} = 0.2$, $Q_{out} = 0.2$, and $Q_{in} = 0.2$ in the integrated model.



$$\frac{dC_0}{dt} = \frac{V_{max} C_0 C_{in}}{K_m + C_0} - \frac{V_{out} C_0}{C_{out} + C_0}$$



Interactive Learning During Homework

Interaction between students enhances learning gains when these interactions involve constructive inferences and each student participates by making constructive inferences (Chi, 2017).

When students are outside of the classroom, achieving that quality of interaction is challenging, but doing so would greatly enhance the students' preparation for class or follow-through after class.

In this study we seek to use dialogue videos to foster interaction between pairs of students outside of the classroom while working on homework in a flipped bio-transport class (fluid dynamics, heat transport, and mass transport).

Our research question is: Do dialogue videos enhance learning and foster interaction between students outside of the classroom?



Videos and Assigned Homework

In each dialogue video, a student/tutor works an example problem while the instructor/tutor assists the tutee and ensures that the tutee thinks out loud.

Monologue videos, instructor only, were also recorded for some of the examples – keeping as much of the content the same as possible with the corresponding dialogue videos.

The homework problems assigned to students share deep features with the example shown in the video, but differ in surface features so that students cannot simply copy the work done in the example video and instead need to construct new knowledge (their homework answers) not shown exactly in the video.

The pair (two homework partners) have in one collaborative homework solution; thus, the method encourages collaboration between the homework partners.

Process for Students

Students in a bio-transport class were assigned into pairs (dyads). Each week, the following sequence was conducted:

- (1) Each student took a pre-quiz consisting of 4 questions.
- (2) Dyads worked collaboratively on a homework assignment that shared deep features (but differed in surface features) with an example video that the dyad watched while working together on their homework. Dyads video recorded themselves during this process.
- (3) Student teams submitted their completed homework and video file on the due-date of the homework.
- (4) Each student took a post-quiz consisting of 4 questions closely related to the questions asked on the pre-quiz.

Assessment

Pre and post quizzes were scored on a 5-point rubric yielding total scores between 0 and 16 for each. Cohen's d (effect size) was calculated (Cohen, 1988: [d]-p.23), and average post-quiz scores were compared by paired t-test or repeated-measures ANOVA.

Students' self-recorded videos were coded for the quality of their interactions as described by Chi et al. (2017).



Chi et al. (2017) *J Learning Sciences*, 26(1): 18-58.
DOI: 10.1080/1850046.2016.1284546

Study Design

Two factors were varied:

- (1) the scaffolding (instructions) given to the students and
- (2) whether students watched a dialogue video or monologue video.

Survey data (Intrinsic Motivation Instrument (Ryan, 1982) was collected to assess motivation and also asked for students to state their preferences for dialogue vs. monologue video format.

Learning Gains (pre-quiz to post-quiz)

Table 1. Pre-quiz and post-quiz scores on assessments for 5 trials.

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Pre (n=)	33.2% (87)	32.7% (80)	31.9% (86)	29.7% (74)	8.8% (74)
Post (n=)	73.2% (88)	64.0% (87)	72.2% (85)	65.0% (84)	67.1% (82)

Post-quiz scores on all five trials (shown in Table 1) averaged 68.4% vs. an average of 23.8% on pre-quiz scores (unaided learning gain of 58.5% on average).

This was all accomplished prior to any in-class instruction on the topic covered in the homework.

There are two commonly used metrics that we can use to compare this with other standard teaching methods:

- (1) **Cohen's d (effect size):** The effect size for our method of collaborative homework while watching a dialogue example video is $d = 2.54$ (categorized as a "huge" effect), indicating that 99% of students doing homework this way exhibited greater learning gains than students prior to this learning. This is much better than standard graded homework ($d = 0.80$), and it even compares favorably to one-on-one tutoring ($d = 2.08$) (Walberg (1984) and Bloom (1984))
- (2) **Absolute learning as demonstrated by a post-quiz:** The mean post-quiz score using dialogue videos is 68.4%. This is not quite as good as one-on-one tutoring by a teacher can achieve (approximately 80% according to Van Lehn et al (2011)). However, the students have not even sat first in the classroom by the time they have achieved 68.4% of those learning gains.

Dialogue vs. Monologue



Monologue video (instructor absent) Dialogue video (tutee doing the problem with instructor)

The mean post-quiz results for students watching dialogue videos (67.1%) were 2.1% greater than the mean post-quiz results for students watching monologue videos (65.0%), $p=0.13$ in paired t-test of each student in each condition, suggestive of a small effect size (d=0.2).

However more students prefer monologue video (46%) than prefer dialogue video (29%).

Students Prefer to Choose Partners

The biggest complaint expressed by students was the need to work with a homework partner. Since interacting with a partner is an integral reason why this method likely works as well as it does, students' aversion to completing homework with a partner is a challenge to implementation. A 2017 study by Pociak and co-workers (Pociak, J. Scholarship of Teaching and Learning, 2017, 17: 197) indicates that over half of students prefer to self-select their teammates, and many others would prefer to work alone.

Students indicate that their desire to work alone is mostly due to busy schedules interfering working quickly (which students perceive can best be done working alone) and to a desire to not be dependent on teammates who may not pull their weight.

But allowing students to choose their own teammate may have adverse effects on the learning of students who do not enter the class knowing a study partner.

Acknowledgments

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Intrinsic Motivation Survey

We surveyed the students using the Intrinsic Motivation Instrument. We hypothesized: (1) that students would be more motivated learning from a student tutee in a dialogue video than from the instructor in the monologue video and (2) that working examples and homework based on real-world biomedical problems would enhance the students' intrinsic motivation to learn transport.

The scores for the value/importance of transport phenomena (5.8) indicate that students do see the real-world significance of the content.

However, students believed that the effort they expended on the homework (6.3) was too much to consider the homework method valuable (2.9).

Value/Importance of value	Mean (1 to 7)	Standard Deviation
Value/Importance of value	3.7	1.8 (n=83)
Value/Importance of homework format	2.9	1.8 (n=83)
Effort/Importance of homework format	4.4	1.8 (n=83)
Perceived Competence in homework format	4.5	1.5 (n=83)
Effort/Importance of transport phenomena	6.3	0.9 (n=21)
Value/Importance of transport phenomena	5.8	1.2 (n=21)

Benefit to Lower Prior Knowledge

One interesting result that is not yet fully analyzed is the possible disproportionate benefit to students who enter the course with lower prior knowledge.

Freyman and co-workers (Freyman, PNAS, 2014, 111: 8410) found a likely benefit of active learning for under-experiented minorities, so this result would not be unexpected.

We did not explicitly study the ethnic status of our students, but we did categorize students into "higher" prior knowledge and "lower" prior knowledge based on their pre-assessment scores for each assignment.

Although it is not statistically significant at this time, our approach is trending toward having greater benefit for dyads of two lower prior knowledge students than for mixed dyads (one higher and one lower prior knowledge) or for dyads of higher prior knowledge students.

Additional data and better control for this variable may allow us to make this conclusion in a future publication.

Ongoing Studies

In Spring 2018, we studied using these videos again with 47 students. Study design consisted of five trials.

- Trial 1: All students used dialogue videos with feedback
- Trial 2&3: Control: dialogue videos with feedback
Experimental: dialogue videos with feedback and students instructed to work alone before working collaboratively
- Trial 4&5: Control: dialogue videos with feedback
Experimental: monologue videos with feedback

Assessments and videos will be analyzed as described here.



Most Students prefer monologue videos to
dialogue videos (46% to 28%)
Dialogue video watchers gain better result
(2.1% greater)



Tips for Communication Strategies in Your Classes

The Dos and Don'ts

COMMUNICATION & TOOL EXPECTATIONS

- Clearly identify in syllabus which tools you would prefer students use and **WHEN** you want them using them.
- **Examples:**
 - **Email** - personal questions, expect at least 24 hour turnaround
 - **LMS Discussion Board** - ask questions about homework, students should try to help one another or contact technology help desk before reaching out to instructor
 - **Zoom** - virtual office hours, group project collaboration

Remember - you DO NOT have to use all of the tools. Too many can confuse students.

Do This



Asynchronous learning

Teachers create learning experiences for students to work at their own pace and take time to absorb content

Less is more



Assignments likely take twice as long to complete at home because of different factors; prioritize and be realistic

Give explicit instructions



Outline deliberate instructions and specify the length of time to complete the session of learning

Specify expectations



Specify task requirements and length clearly (e.g. 2 minute audio recording with a bulleted checklist)

Be empathetic



Assign a reasonable workload; encourage students to balance online with offline and connect with one another

Communicate consistently



All instructions and assignments **must** be communicated via ManageBac, our online hub

Be online for 'office hours'



Be online during office hours to provide support, answer questions, or clarify confusion via a **system**.

Seek student feedback



Seek student feedback about their workload, emotional state, learning preferences, and learning pace

Boost learning retention



Curate multimedia materials to boost learning retention and use digital tools to create interactive lessons

Identify lesson objectives



Be intentional and identify clear learning objectives and assessment outcomes (formative and summative)

Not That



Synchronous learning

Teachers and students meet online in real time through videoconferencing or live chatting

Being unrealistic



Assign "class work" and "homework" every day and request students to complete according to short timelines

Being unclear and vague



Communicate in lengthy paragraphs with instructions that may be difficult to follow or tasks that are overly vague

Being too open-ended



Assign tasks that are too open ended (e.g. make a video about the moon; write an essay about pollution)

Be overly task-oriented



Assign online classwork followed by extra homework without a clear focus on student wellbeing

Mixed communication



Use multiple platforms inconsistently (e.g. email followed by Google Classroom w/ MB submission)

Stand by at all times



Respond to every email right away and leave no break for yourself (unless it's urgent, it can wait until office hours)

Use the same approach



Teach in a way that does not give students voice and/or choice, leaving them feeling overwhelmed

Try new & unused tools




Trying new tools that you've never used may lead to technological difficulties and increase challenge

Give random activities



Keep students busy doing online activities and do not think about the lesson objectives and assessments



Truy cập đường link sau để lấy tài liệu hội thảo:
<https://sites.google.com/view/simincountryworkshop/n%E1%BB%99i-dung?authuser=0>