MAXIMIZING INTERACTIVITY IN ONLINE LEARNING: MOVING BEYOND DISCUSSION BOARDS

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ABSTRACT

Emergent technologies and communication channels have evolved over time and now offer more connected interactivity between students, their peers, course content, and their instructor. Yet, many who teach in the online environment continue to utilize the traditional forms of communication (such as discussion boards and email). This article explores practical strategies for maximizing interactivity, shares specific synchronous and asynchronous channels for communication, and identifies pre-planning techniques to ensure timely communication with your learners. It will explore opportunities for students to co-create and co-produce content in a course, provide time saving strategies for customizable feedback, and share ways to produce materials that can be accessed on demand for learners.

"*Don't you miss connecting with your students?*!" – I received this response when an instructor at a conference heard that I taught fully online – in which I replied, "I feel incredibly connected to my students and have even met their spouses and children during our live weekly video calls - if anything, I feel more deeply connected to all of my learners online." She seemed absolutely shocked by my response and held a sentiment that is common in the world of online learning…… the myth that there is little communication or connection with students in online courses. It's time to debunk that myth and the first step involves exploring the plethora of interaction types, communication channels, and ways to utilize them efficiently to support active communication in your class!

COMMUNICATION IN ONLINE COURSES

In the past, one of the strongest criticisms of online teaching and learning pertained to the lack of communication and interaction. It's easy to understand this legitimate criticism, as early online courses typically centered on text-based content, with discussion boards or email as the primary forum for communication. Despite these primitive beginnings in the world of online learning, nearly 5.8 million students are taking online courses – furthermore, distance education numbers continue to grow even as higher education enrollments overall have declined (Allen & Seaman, 2016). In large part, this growth is due to the convenience and flexibility the online learning format provides, yet a 'lack of interaction' was the most cited reason for dissatisfaction among learners in online and hybrid courses (Cole, Shelley & Swartz, 2014).

Fortunately, given recent advancements in emergent technologies with empirical research to support their use and intentional course design, greater opportunities exist to create more connected learning which better resemble (and sometimes surpass) the experience of learning in face-to-face classes (Rogerson-Revell, 2015; Hsiao, 2012; Ashby, Sadera, & McNary, 2011; Sun, Tsai, Finger, Chen, & Yeh, 2008; Wiecha, Gramling, Joachim, & Vanderschmidt, 2003). For example, researchers found learners felt more comfortable participating in online courses, by virtually eliminating the awkwardness sometimes associated with traditional classroom discussion and debate (Sun. et. al, 2008). In other research, students reported an appreciation for the delay in response which afforded time to reflect before they write (Hill, Song & West, 2009). Learners also valued web-

based learning environments and communication over those of traditional face-to-face learning and were more willing to ask questions and participate in discussion groups when communicating online via discussion boards (Sun et. al., 2008). Lastly, high levels of student satisfaction, improved knowledge scores, and understanding of concepts in online courses was reported (Wiecha, Gramling, Joachim, Vanderschmidt, 2003).

These positive strides are largely due to the progression of interactivity and improved communication with learners. Communication in online learning (referred to as interactivity) typically occurs in three forms - they include communication between: 1) student-student, 2) student-instructor, and 3) student-content. Research shows that interactivity, particularly between student–instructor, can play an important role in student satisfaction (Espasa & Meneses, 2010). A study by Kuo, Walker, Belland & Schroder (2013) found that learner-instructor interaction was a good predictor of student satisfaction and additional research confirms that your role, and the ways in which you communicate with your students, can make a significant impact on learner satisfaction, retention, and the overall learning experience (Mahle, 2011; Park & Choi, 2009; Thurmond, Wambach, Connors, & Frey, 2002).

To ensure successful communication and interactivity with our learners today, it's important to understand and become familiar with practices that optimize this communication in efficient and effective ways, and to understand the emergent tools and technologies that can foster such exchange. They include:

1. Maximizing interactivity: student-student; student-instructor; student-content.
2. Utilizing both synchronous and asynchronous channels for communication.
3. Strategizing to pre-plan for timely communication with your learners.

MAXIMIZING INTERACTIVITY

Interactivity in online classes is categorized as communication between 1) learner-learner, 2) learner-instructor, or 3) learner-content. Building a blend of these three interaction types has been shown to improve motivation, satisfaction and achievement in online courses (Mahle, 2011; Park & Choi, 2009).

Student-Student: In online learning environments, the interaction between peer learners is crucial. Thurmond, Wamback, Connors, & Frey (2002) found a correlation between interactivity and student satisfaction to be dependent upon how likely students were to work within teams/groups. Student-Student interaction can occur in a variety of ways through discussion, debate, role-play, scenario-building, team projects or other collaborative activities. The value of the learner-learner interaction acknowledges that we no longer rely on the 'expert' instructor to convey his/her knowledge, but rather on the opportunity for learners to co-construct knowledge and meaning together (Salmon, 2013). The online learning environment is particularly poised for such collaborative knowledge sharing and knowledge creating with the tools that exist to support and promote it (Hsu, Ching & Grabowski, 2014). Student-student interaction can promote collaborative knowledge building cultures, co-constructed meaning, and build communities of practice.

Student-Instructor: The relationship between the student and you (the instructor) serves as the foundation for learning in online courses. Research suggests that one-to-one interaction between student–instructor in online courses is a key component of student learning and course satisfaction (Thurmond, Wambach, Connors & Frey, 2002). Additionally, students thrive when interaction between themselves and the instructor is viewed as a relationship. Furthermore, the student–instructor interaction was noted to be a primary variable in online student satisfaction and persistence (Kauffman, 2015). Driven by the instructor, teaching and social presence are also important factors that drive learning quality (Ladyshewsky, 2013). Thurmond, Wambach, Connors, & Frey (2002) discovered that receiving timely comments comments from the instructor, knowing the instructor, and having a variety of ways for being assessed all contributed to student satisfaction as well. Likewise, the tools available in the online learning environment support the development of this important feedback, relationship building, and timely communication.

Student- Content: Learners in online education interact not only with their peers and instructor, but also with the content provided. Kuo, Walker, Belland & Schroder (2013) found that

learner-content interaction and internet self-efficacy were good predictors of student satisfaction. In terms of designing content that promotes interaction with the students,

Ke and Xie (2009) examined the perception of learning success and satisfaction among undergraduate and graduate students enrolled in online courses and the effect that course design has on these variables. Their results showed that integrated course design (i.e. content that is unstructured and adaptable; no textbook-weekly readings provided by the instructor; online discussion/teams projects with active facilitation by instructor) led to the greatest satisfaction in the learning experience, while close-ended discussion tasks had the opposite affect (Ke & Xie, 2009). Likewise, Rogerson-Revell (2015) found that activities which used a range of technologies (podcasts, voicebased discussion, wikis, blogs, etc.) stimulated more collaborative learning and motivated students to engage in the course content. These finding suggest that student-content interactions should promote autonomy, flexibility, and learner-created content.

Given our understanding of the three interaction types: student-student, student-instructor, student-content, it's important to consider how these interactions can be maximized for effectiveness and efficiency. The overarching recommendations to maximize learning for your students (and to save you time and effort) include:

- Recommendation #1: Create opportunities for students to co-create and co-produce content in the course
- Recommendation #2: Establish collaborative communities of practice that invite expertise sharing from your learners and external experts
- Recommendation #3: Produce materials that can be recycled, reused, and accessed on demand for learners
- Recommendation #4: Provide timely (and slightly customized) feedback for learners

The following section will explore available technologies, communication channels, and specific strategies to implement the recommendations provided above.

UTILIZING SYNCHRONOUS & ASYNCHRONOUS COMMUNICATION

Many learning management systems (LMS) differ in the communication tools they offer. However, most platforms now offer both synchronous and asynchronous channels for communicating with learners. Let's explore and understand the value of both synchronous and asynchronous communication.

- *Synchronous* is defined as "happening, moving, or existing at the same time" (Merriam-Webster, 2017). From a communication perspective, synchronous learning means working together at the same time and examples of synchronous communication might include chat rooms and online conferencing. Chat rooms can take the form of live chats and personal messaging, while online conferencing can include voice over internet protocol (VOIP) for real-time conversations or video conferencing in which you can see and hear participants. All synchronous communication occurs in at a set time or in 'real time'.
- *Asynchronous* is defined as "having no timing requirement for transition" (Merriam-Webster, 2017). From a communication perspective, asynchronous communication relays information with a time lag and is typically available on demand and at the point of need for the user. Examples of asynchronous communication might include email, discussion forums, or pre-recorded video lectures. Asynchronous communication occurs in a self-paced environment.

There are several advantages/disadvantages to both synchronous and asynchronous communication that need to be considered for all instructors and their learners. For example, *synchronous communication* promotes more detailed queries and real-time solutions, while connecting individuals to interact at the same time from different locations. A few drawbacks to synchronous communication include a stronger reliance on Internet capabilities and bandwidth and may require more expensive hardware/software to operate. Synchronous communication also requires more coordination and time investment from the instructor and learners (particularly if occurring over various time zones).

On the other hand, *asynchronous communication* affords more freedom and flexibility for self-paced learning. It is considered advantageous because it allows time for reflection and synthesis prior to responding to a comment or assignment prompt and found that learners are more willing

to share their thoughts and opinions without restraint (Hill, Song & West, 2009). In summary, while *synchronous* options allow the learners and instructor to connect real-time for immediate feedback and instant collaboration, *asynchronous* communication provides opportunities for the learner to reflect and synthesize their thoughts.

It's easy to see advantages of using both synchronous and asynchronous communication and current research confirms that combining both modes in online courses is optimal. For example, researchers Oztok, Zingaro, Brett, & Hewitt (2013) found that private messaging (synchronous) complemented discussion boards (asynchronous) and encouraged participation in each. Likewise, Giesbers, Rienties, Tempelaar, & Gijselaers (2014) found a strong connection between student engagement and motivation when using a combination of asynchronous and synchronous communication in online courses. Furthermore, Chou (2002) discovered social-emotional interactions occurred in the synchronous mode while task-oriented interaction occurred in asynchronous discussions. Therefore, learning benefits exist for *integrating both synchronous and asynchronous communication*.

Let's review some common synchronous and asynchronous communication options typically available in online learning management systems that can promote effective and efficient communication and interactivity (student-student; student-instructor; student-content):

Synchronous (real time)	Asynchronous (self-paced)
• Instant Messaging	• Email
• Live Chat	• Discussion Boards/Forums
• Webinars	• Message Boards
• VOIP/ Audio Conferencing	• Pre-recorded Lectures
• Video Conferencing	• Podcasting
• Virtual & Augmented Realities	• Blogs
• Social Networking Sites	• Wikis
	• E-Portfolios

It's important to understand the advantages and disadvantages of each communication channel, in addition to the potential strategies for utilizing these tools successfully and efficiently. The section below outlines key considerations and applications to support improved interactivity in your course. As you read through this section, think of ways you could potentially utilize these tools in your own practice!

SYNCHRONOUS COMMUNICATION CHANNELS:

1. Instant Messaging / Chat

Live chat and instant messaging refers to any kind of communication over the Internet that offers real-time transmission of text message from sender to receiver (Instant messaging, n.d.). Chat messages are typically short to allow for a quick and immediate response and can be sent from one person to another or from one person to many. It's hard to deny the power of instant messaging when over 50 billion messages were sent daily in 2014 and with over 900 million monthly users of messenger (Goode, 2016). The use in this type of communication channel has exploded, particularly with the move to free, internet-based messaging services (such as WhatsApp, Snapchat, or Slack) that avoid costly bills linked with mobile data plans. Consequently, it's important to consider this communication channel and the ways it can be utilized to support learning within higher education. See more in Table 1.

2. Webinars

A webinar is a live presentation that is made available online and usually accompanied by audio/video with slides. Common uses for webinars include an academic lecture or business conference. Since webinars connect participants online, they typically have integrated tools (such as a chat, whiteboards, polling, and file sharing) to enhance the learning experience. Webinars have grown in popularity based on their ability to provide online educational programming synchronously, affordably, and to geographically dispersed audiences (Rich, Komar, Schilling, Tomas, Carleo & Colucci, 2011). Recent research also found webinars to be a useful tool in creating and building knowledge-to-action networks (Trainor, S. F., Kettle, N. P., & Brook Gamble, J. (2016). However, educators in higher education, as well as older students, have a lower skill level in using webinars and require additional technological and organizational support (Ahrens, Zascerinska, Ramar, & Andreeva, 2016; Khechine, Lakhal, Pascot & Bytha, 2014). Still, research has found that recording shorter webinar sessions,

which allows learners to revisit the course material as needed, can help improve quality, efficiency, and productivity of students (Khechine et al., 2014). See more in Table 2.

3. Audio/Video Conferencing

Advances in audio and video conferencing capabilities have been significant in recent years and have been integrated into many LMS systems today. It provides opportunities for audio/video connection, the opportunity to read non-verbal queues in students, and connection beyond the asynchronous learning environment. Furthermore, most conferencing software provides additional channels to communicate during the conference, including screen-sharing capabilities, live chat/instant messaging, document sharing, white-boarding and more. Research has found a correlation between those who participated in videoconferencing and motivation and grade on the final exam (Giesbers, Rienties, Tempelaar, Gijselaers, 2013). Although video can sometimes be overwhelming for novice users (Erikson, 2007), embedding video into the course design process can prove to be valuable and beneficial to the learning experience (Blomberg, Renkl, Sherin, Borko & Seidel, 2013). Table 3 summarizes the information.

Table 1. Instant Message and Chat

Advantages:	• Immediate interaction and feedback • Students find it rewarding and less complex to communicate (Spencer & Hiltz, 2003) • Little bandwidth required (this is a nice feature for learners participating in countries/locations with limited access) • Can utilize chat/live messaging to share information immediately with students
Disadvantages:	• Difficult for participants to follow the flow of conversation in groups of 5 or more • Difficult for instructor to schedule chat sessions that all participants can attend (Spencer & Hiltz, 2003) • Depending on the provider, some limitations exist in sharing (i.e. typically able to share text only or small attachments) • Depending on the provider, phishing attempts, viruses, and computer worms can spread through a users' contact list
Uses in Your Practice:	• Question & answer sessions (Q&A) • Instructor office (virtual office hours) • One-to-one inquiries • Announcements, reminders, updates • Team communication for project and instant updates
Tips for Efficiency:	• Consider using chat as part of your virtual "office hours". Chat is a great way to quickly answer a student question and avoids filling your email box. Set 1 hour weekly to block time for work at your desk, and avail yourself for any questions that arise via chat. If no one participates, it provides dedicated work time at your desk for other endeavors during that blocked time. • Record questions that arise and save them in a "Frequently asked questions" document – which can later be uploaded in the course and used in future courses. • Use chat for Recommendation #3 & #4
Example	• Slack (www.slack.com) is a free, instant messaging tool that has grown in use for online teams who prefer to collaborate live. What is unique about this system is that instructors can create groups for each course, (and teams within groups), and have the ability to monitor all communication that occurs outside of the online course – this is important to archive and view student interactions and gradable team exchanges or work. It can be used to send announcements, reminders, ask questions, or quickly solve problems. Remember to be mindful of team sizes within a course or group and try to create teams of no more than 5 participants.

Table 2. Webinars

Advantages:	• Excellent opportunities to engage external expertise (often times, free of charge and available through professional associations) • Allows learners to engage in a professional community and network of like minded individuals • Effectively facilitates interaction between the instructor and individual students who had questions regarding the course materials *(Kohorst & Cox, 2007)* • Real-time dissemination of information, immediate feedback, ease of access and affordability *(Rich, Komar, Schilling, Tomas, Carleo & Colucci, 2011)*
Disadvantages:	• Tends to be less engaging and less interactive for the participant • Depending upon the topic, it may be difficult to participate in the Q&A portion of heavily attended webinars (sometime 100+ participants) • May require training for the instructor/learner to use the necessary software and also requires greater bandwidth
Uses:	• Can be used to present complex topics or challenging information in a live format • Can facilitate both virtual office hours and the communication of course- related information to students *(Kohorst & Cox, 2007)* • Promotes the opportunity for live discussion, debate or Q&A sessions • Can be used to host external guest presenters and expert panelists outside of your course/institution
Tips for Efficiency:	• It is important to have a clear topic or purpose for the webinar that provides opportunities for interaction - such as the use of polling or chat *(Khechine, Lakhal, Pascot & Bytha, 2014).* • Set a time that might accommodate the majority of your learners – consider using a calendar-coordinating tool (such as www.doodle.com) to select the optimal time. • If possible, *record* the live webinar to allow for review and use in future course offerings. You could build your own repository of course webinars to feature as course content of recorded webinars. • To lessen anxiety or confusion, offer a recorded tutorial on how to access and participate in the webinar (e.g., logging into the webinar, adjusting audio controls, using key features, etc.). *(Khechine, et al 2014)* • Provide access to the slides/information before the webinar and identify an "assistant" to help you keep track of questions in the discussion box, with polling and other interactive features *(Khechine, Lakhal, Pascot & Bytha, 2014).* • Use Webinars for Recommendation #2 and #3
Example	• Zoom (www.zoom.com) is a free platform that allows you to host videoconferencing and webinars. Instructors can utilize the webinar feature to invite an expert guest speaker on a particular topic, to present live to your class and host a Q&A session after the presentation. You can also record the webinar and utilize it as a resource in your course in the future. If you plan to invite an external guest presenter to share during a webinar, remember to gain permission from the presenter to record and upload the session to your course (if possible).

Table 3. Audio/Video Conferencing

Advantages:	• Establishes a stronger bond and connection to those in the course • Taps into learners who prefer multimedia learning vs. text-based learning (engaging multiple learning preferences) • Allows you to record calls for later viewing on demand • Allows users to share screens, present content, see one another and have live chats, all in one location • Excellent for those who want to communicate real time – ideal for brainstorming, groupwork, Q&A sessions, and presentations.
Disadvantages:	• Requires internet access and more bandwidth • Some learners (and instructors) may experience technical difficulties if computers are not equipped with an internal microphone/speakers • May experience interruptions or distracting noises in the background (dog barking, difficulty hearing one another, etc.) • May be difficult for novice users to learn *(Erikson, 2007)*
Uses:	• Group project work • Brainstorming, discussion, debate • One-to-one, or one-to-many tutoring • Office hours • Guest presenters • Virtual Symposium •
Tips for Efficiency	• Prepare a recorded video to demonstrate how to utilize the tools • Conduct a 'practice run' before the first session so all participants can test the system and work out any technical difficulties • If possible utilize a help support staff during your first videoconference to assist students with any technical issues. • Identify activities that would benefit from real-time, live discussion (do not include for the sake of integrating a new technology). • Audio/Video Conferencing for Recommendations #1, 2, 3, 4
Example	• In a graduate level capstone course, video conferencing was used for students to present and defend their final projects live. The class set a consistent day/time to meet weekly for 1 hour via videoconference, and presented their work and final projects in a live virtual symposium. They invited guests outside to the course and the "virtual symposium" allowed learners to share their work with an extended audience. • Others have used videoconference to connect undergraduates studying World history (focused on Syria) with a Fulbright scholar from that country for discussion and to support academic service learning *(Johnson, 2014).*

Table 4. Virtual & Augmented Realities

Advantages:	• Excellent to use for application-based learning • Learners can visit different 'worlds' and apply their skills in context • A shared space for multiple users to participate simultaneously • Virtual embodiment in the form of an avatar (a 3-D representation of self) *(Estes, Choi, & Dailey-Hebert, 2016).* • Interactions that occur between users and objects in the environment *(Estes, Choi, & Dailey-Hebert, 2016).* • If desired, you can create your own customized realities to engage your learners (For example, Holobuilder) • Students can teleport for immersive experiences without cost or travel
Disadvantages:	• There is a steep learning curve (for instructors and students) and it is much more time intensive to learn • Requires high bandwidth for adequate use and additional hardware/software with an extra expense or cost • Learners may be cognitively overloaded by the large amount of information they encounter, the multiple technological devices required, or the complex tasks to complete *(Wu, Lee, Chang, & Liang, 2013).* • Learners may focus on playing with/learning the tool instead of focusing on the learning goal or assignment at hand.
Uses:	• Application-based work (science labs, nursing practice, teaching, etc.) • Demonstrate competencies and skills in practice • Problem-solve in real world scenarios/context • Reflect on performance for improvement • Provide feedback or host tutoring sessions • Campus guided or geographical/topographical tours • Field trips for learners with physical disabilities • Improved understanding and empathy building via virtual experience
Tips for Efficiency:	• Search existing VR, AR, games or simulations available for open-source use online. Many free applications are available such as: • Virtual Worlds of Art History Teaching http://www2.gsu.edu/~artwgg/atmos.htm • Create Your Own Virtual World www.Autodesk.com • Virutal Human Interaction Lab at Stanford University https://vhil.stanford.edu • Utilize existing tutorials for VR/AR software to improve the learning curve for you and your students. • Create peer support and teams within such learning environments to 'crowd-source' solutions with one another – this will save you time and foster more peer exchange and independence. • Join groups or speak to others who've successfully implemented VR/AR in their courses, and have them mentor you through the process • AR/VR used for Recommendation #1, 2, 3, 4
Example	• Secondlife (www.secondlife.com) was used in an undergraduate Marketing class where students were given the choice of 4 different products to select and market. They worked in teams of 4 to create a marketing campaign for one of the products and advertised it in Secondlife. Individuals had to use their Linden dollars to buy products (other than their own) and reflect upon why they selected those products. Teams were given feedback on their campaigns, had to manage marketing funds, work in teams, and the team that earned the most Linden dollars in SecondLife won the marketing competition. (Belei, N., Noteborn, G., & De Ruyter, K. ,2011 ; *Noteborn, Carbonell, Dailey-Hebert & Gijselaers, 2012).*

Table 5. Social Networking Sites

Advantages:	• Very user friendly and typically easy to navigate • Most sites are free and do not require high bandwidth • Allows users to combine and build their social, professional, and learning networks • Provides a more personalized, informal space for exchange • Utilizes the space that learners already monitor for comments, information, and exchange to link with their existing habits *(Casey & Evans, 2011)*
Disadvantages:	• Social networking sites may be a distraction from formalized learning • They can potentially create bias based on others' personal profiles (which may reveal lifestyle choices, religious/political views, etc.) • Some learners do not want to share their profiles, information, or thoughts in a public forum outside the course • Legal implications have been associated with social network use by faculty/learners (i.e. a faculty member was fired for inappropriate comments posted on their facebook wall *(Zamudio-Suarez, 2016).* • Exposure to excess information may lead to cognitive overload
Uses:	• Exchange of course information • 'Learner lounge' for informal discussion • Space to build teams for projects or conduct reflection • Networking in professional communities or associations • A platform to promote an eLearning event, campaign, or guest speaker • A space to create online mentorships with professionals
Tips for Efficiency:	• Gain approval for the use of social network sites prior to integrating in your course – many institutions maintain university-sponsored sites and require faculty to develop their page through such sites. • Create an activity in which the students review and select the social network site of their choice (collectively) and create the learning activity themselves. This saves you time, empowers the learner, and ensures student comfort with the network selected. Let them take the lead on identifying beneficial activities of SNS in the learning. • Consider using SNS to promote online mentorships to connect learners with professionals in the field • Social Networking for Recommendation #1, 2, 3
Example	• In a graduate course for human capacity building and training, students were required to complete a profile on LinkedIn (www.LinkedIn.com) and identify 3 different LinkedIn groups they would like to subscribe to for news feeds and informational updates. They shared these groups with the class and discussed networking strategies to promote greater circulation of their profiles, optimal designs and templates for updating their own profiles, and identified ways to network with other professionals in the field. Next, they were required (as a class) to identify one professional connection found via LinkedIn that they would like to invite as a guest presenter on a topic of their choosing. This requires very little work on your part as the instructor, and creates a community for your learners to plug into based on their own interests.

4. Virtual & Augmented Realities

(Simulation, Gaming, Secondlife, Oculus Rfits, etc.)

Virtual and augmented realities are computer generated environments designed to simulate three-dimensional (3D) physical environments that provide the user interaction, with promise to deliver both online distance learning with real world class experiences in one platform (Estes, Choi, & Dailey-Hebert, 2016). These are areas that have been utilized for years in higher education, particularly for training medical practitioners through applied learning in safe contexts. The New York Times recently used VR to share the story of three children driven from their home due to war, to enhance understanding through the user experience of the journey. It is available for free download from googleplay/itunes app store (see https://www.nytimes.com/2015/11/08/magazine/nyt-vr-how-to-experience-a-new-form-of-storytelling-from-the-times.html?_r=0). In Deloitte's 2017 Technology Outlook they report anticipated growth sectors in 'exponential technologies', particularly in virtual and augmented reality (VR)(AR). And as VR/AR become more affordable and more portable, using goggles with compatible cell phones, the growth in use is likely to continue (Pierce, 2015). Hence, as AR/VR grow in popularity and ease of use, we find more opportunities to integrate them for communication channels in higher education and to promote interactivity with your learners. Table 4 provides more information.

5. Social Networking Sites

(LinkedIn, Facebook, Twitter, Instagram, etc.)

Social networking sites, particularly in developing countries where communication via mobile device may be the primary learning platform, have continued to grow by leaps and bounds. Deloitte reported that of weekly smartphone usage, 59% is used for accessing social networks (Deloitte, 2017). Mobile computing devices and the use of social media created opportunities for interaction, collaboration, and engagement in content creation using social media and Web 2.0 tools (Gikas & Grant, 2013). Given the extensive use of social network sites, particularly by young people today, many see great promise in utilizing these tools in the online courses to capitalize on student's existing behaviors, interests, and habits. Casey & Evans (2011) found social networks help build community, interaction, and engagement for students in a format they already use to monitor their online presence and activity. Yet, higher education instructors rarely use social networking sites in online secondary courses and report not seeing the value of such integration (Dolphy, 2015). Still, the integration of social media into education has been shown to connect learners with professionals outside the class and to promote transformative learning processes (Ng'ambi, 2013). Therefore, it's important to review and consider this form of communication with your online course and whether it might add value and save time. Table 5 highlights examples.

ASYNCHRONOUS COMMUNICATION CHANNELS:

6. Email

While it may be somewhat self-explanatory, email is one of the most commonly used forms of communication and one of the oldest collaboration tools in online learning. It is fairly stable, reliable, user friendly, and utilized by the majority of professionals today. As one of the first forms of communication in the early days of online learning, email still remains a vital communication tool today. See Table 6 for examples.

7. Discussion Forums/ Message Boards

Discussion forums and messaging boards are effective tools in the online course environment for students to interact with course content, their peers and the instructor through threaded discussion posts. 'Threads' for different topics are created by the instructor and learners post a response to a particular question or learning prompt within the discussion thread. All communication is tracked and archived in the threaded discussion area and can be accessed by the instructor for later review and grading. Research shows that integration of such technology can enhance student learning (Krentler & Willis-Flurry, 2005) and build more positive student-instructor relationship and a greater sense of community (Woods & Ebersole, 2003). See Table 7.

8. Pre-Recorded Videos/Lectures

The quality, flexibility, speed, and cost to produce video recordings has improved significantly in recent years. There are many ways pre-recorded videos can be used in online courses and many excellent tools within most LMS exist to create such videos. While many formal video-recording

programs can capture video of the professor while simultaneously showing presentation slides, there is growth and interest in 'homemade' videos from the instructor and the advantages for communicating to learners in this mode. Students express satisfaction in the student-instructor interaction when reviewing instructor-made videos and also reported feeling more connected to the instructor when able to view instructor made videos (Rose, 2009). Furthermore, videos can also be utilized by students to record their own work or content (Reece, 2013; Winterbottom, 2007). Therefore, utilizing pre-recorded videos not only provides positive support and connection for the learners, they can also provide a significant timesaver for instructors. See Table 8.

9. Podcasting

A podcast is an audio session that you can record and uploaded to the web for learners to download or play from a workstation, laptop, mobile device, or mp3 player (Bonk & Zhang, 2009). A podcast news feed provides information about a series of podcasts that individuals can subscribe to, or find other podcasts on related topics. Instructors can create their own podcasts for their learners to subscribe, or they may find it valuable to find existing podcasts in which to subscribe. With the growth of mobile and ubiquitous learning (learning anywhere, anytime), there are many opportunities that support the integration of podcasting and research shows that students were motivated by the use of podcasts in their online courses (Bolliger, Supanakorn & Boggs, 2010). Furthermore, we find that learners today are able to 'steal learning moments' throughout their day – such as accessing a podcast on the commute to work or during their lunch break.). Therefore, integrating podcasts into your teaching could allow you and your learners to learn and save time.See Table 9.

10. Blogs & Wikis

A blog (weblog) is a website that contains dated entries in reverse chronological order about a particular topic and can be written by one person or a group of contributors (Boulos, Maramba & Wheeler, 2006). It often takes the form of a journal and can include links, photos, text and can be used for collaborative knowledge building, debate and reflection (Boulous et al., 2006). In terms of their use in the online learning environment, research shows that blogs help prevent feelings of isolation and alienation for distance learners (Dickey, 2004) and found that students perceived blogging led them to think about course concepts outside the class (Halic, Lee, Paulus & Spence, 2010). Wikis are also helpful collaborative websites that allow individual contributors to edit the information. Courses should provide opportunities for peer collaboration and sharing of ideas in order to develop an online community of learners, rather than feelings of isolation (Song, Singleton, Hill & Koh, 2004). Blogs and wikis are two technological communication channels that can assist in creating such collaborative knowledge sharing and community building within an online course. See Table 10.

11. E-Portfolios

An electronic portfolio (or e-portfolio) is a collection of student work in a digital format. It is typically assembled and managed by the user and can include a variety of materials such as images, project work, multimedia, blog entries and more – often resulting in a representative webpage to display select elements of the portfolio. E-portfolios offer extensive features to provide feedback and integrated scoring rubrics, in addition to private and public options for display. Learners have reported that the use of eportfolios have helped them develop technological skills that may be useful in job searches (Wakimoto & Lewis, 2014) and have adopted more future-oriented thinking to consider their learning in the context of their future career and professional lives (Bennett, Rowley, Dunbar-Hall, Hitchcock & Blom, 2016). See Table 11.

Table 6. Email

Advantages:	• It is the most widely used communication in online learning • Allows you to send private messages and create a distribution class list • You can attach files and send content • Email is reliable, inexpensive, and often utilized for all institutional communication • Email is checked more regularly and more easily than an LMS/online course
Disadvantages:	• Sometimes email operates outside the online course • Students can grow to rely on email as the primary communication source and fail to utilize the course resources and materials • There are limitations on file sizes and attachments that can be sent via email • All communication is text-based; does not engage multiple learning preferences
Uses:	• Can be used to send welcome messages, announcements, due date reminders, etc. • Emails can respond to private or personal messages from students • Some LMS have email integrated into the system to track all communication and can provide a course distribution list to send messages to all students or individuals • Clarify assignments or make schedule updates/changes • Can be used to send outlook calendar requests for specific events or meetings
Tips for Efficiency:	• Set guidelines for email use to provide expectations for communication with your learners (i.e. I will respond to all student email inquiries within 24-48 hours). • Create standard templates (for announcements, welcome messages, reminders, etc.) that can be reused and/or updated for future courses. • Create folders within your inbox for each course to track and record communication between you and your students • Email for Recommendation #2, 4
Example	• In on online undergraduate mathematics course, the instructor utilized email to send a welcome message to all learners before they had access to the online course. This welcome message included an attached file of learner and instructor expectations for succeeding in the course and required that all students return the attached file as a signed agreement. These agreements were kept on file in the instructor's inbox and demonstrated a mutual understanding between learner and instructor on what was expected before the course even began. Email communication was used to welcome the learners and welcome them become acquainted with the instructor, course expectations, and a learning/communication agreement.

Table 7. Discussion Forums/ Message Boards

Advantages:	• All posts are archived (and can be used to track participation) – this is particularly helpful in the event of a grade challenge or grade appeal • This format that allows more quiet or shy students to voice their thoughts and opinions • Discussion boards provide more time for thoughtful posts and more reflection and synthesis of material (which can also be validated, cited and/or linked to directly) • Discussion boards serve as a centralized forum to share information that is easily accessible to all learners
Disadvantages:	• Assignments that require posting and response to peer posts can be viewed as 'busywork' by students • Depending on the class size and number of students, it may be rather time consuming to read and grade discussion boards • Since interaction occurs asynchronously, online students may feel impatient while waiting for others to respond (Hill et al., 2009) • Student may find the text-based interaction boring, and feel that it is forced interactivity • Depending upon their placement in the LMS, message boards or announcement boards may be overlooked by users • Some students may dominate the discussion boards/forum
Uses:	• Announcements, reminders, due dates, weekly summaries • You can use a discussion board for Q&A or instructor office hours • Debate or discussion of a particular topic, reading, project or assignment. • Peer review, group work, project work, etc. • Informal discussion space for students to engage
Tips for Efficiency:	• Create a Question and Answer Board (Q&A) and encourage students to respond to the questions posed by their peers – to 'crowdsource' the answer together. Many times, students can respond with the correct answer before the instructor has had an opportunity to enter the online course and read the question. • Threaded discussions can be daunting to review and grade with over 100+ posts in one thread over one week. Therefore, you should not respond to every student post, but rather read and synthesize several student posts in one response. • Pose additional questions to the learners collectively (which can be prepared in advance of the course) to promote deeper learning and critical thinking, and to prevent the conversation from stagnating • Create clear expectations for communication within the discussion boards and outline those expectations in the syllabus and in a discussion rubric (i.e. respect others' ideas and opinions – even if you disagree; do not repeat what others have already shared; avoid statements of simple agree/disagreement in posts; prepare well researched, concise thoughts to share in your posts and cite your sources using APA, etc.) • Use discussion boards for Recommendation #1, 2, 3, 4
Example	• In an undergraduate political science course, students used their discussion board to take a 'virtual field trip' to various websites selected by the instructor. Learners were required to review the sites, and then use the discussion board to post their reflection and response to the learning assignment, with citations to support their views and thoughts. They were then required to comment on two peers' posts with additional questions and or resources.

Table 8. Pre-Recorded Videos/Lectures	
Advantages:	• Pre-recorded videos are available on demand and can be reviewed and revisited multiple times and at the learner's convenience (Bransford, Brown, & Cocking, 2000) • Videos can be reused to save the instructor time, effort, and replication of information • Pre-recorded videos offer a repository of on-demand and archived learning • Videos can be used for students to record themselves and provide self-evaluation and reflection on their recorded presentations (Yousef, Chatti, Schroeder & 2014)
Disadvantages:	• Content in the recordings may become dated and require updates • Technical difficulties can be experienced and negatively impact student learning • It make take more time to buffer content for those with low bandwidth and this can create frustration for learners • Instructors can become lost in the complexities of new technology (Woolfitt, 2015)
Uses:	• Pre-recorded videos can be used to share lectures, presentations, or welcome message • Videos can be utilized to provide instructions, examples, or directions for assignments • Video summarization technique can be used to extract and summarize important information (Chang, Wu & Yang, 2011; Yousef et al. 2014) – particularly in the form of a weekly summary or overview • Videos can be used to share recorded interviews and build a resource repository
Tips for Efficiency:	• Create brief video recordings to provide directions and explain all major assignments in the course (this will prevent student misunderstandings or confusion and save time during the course) – these videos can also be reused for each course offering. • Utilize recordings to provide generic feedback on assignments • Offer the opportunity for learners to download the recordings (which help prevent issues with buffering content and other technical problems) • Video recording for Recommendation #3
Example	• A graduate course on communication utilized pre-recorded videos to create a comprehensive resource repository. The course included a weekly video overview to introduce assignments, activities, expectations, and pitfalls to avoid each week. Video recordings were also utilized by the students in a major project of the course, in which they presented a lesson and shared the recording of their presentation with the class. Learners evaluated and offered peer review of the classmates recording, and the recordings also served as the foundation for self-review and reflection on areas that could be improved.

Table 9. Podcasting

Advantages:	• Extends beyond text-based/visual-based learning to address auditory learning preferences of students • Podcasts are mobile, portable, and can be accessed during a commute, a run, a lunch break, etc. • Podcasts use RSS (Really Simple Syndication) to offer the content and it is free/open source; it can also be used to push podcasts to subscribers as they become available • Accessible and can be played back and repeated as many times as the learner wants to revisit the content • Some existing podcasts could be used, rather than having to create from scratch
Disadvantages:	• Not well suited for complex topics that require visual aids • It is a passive, one-way interaction of listening and does not afford learners the opportunity to ask questions • If required by your institution, it may be time intensive to create a transcript of the podcast (in response to ADA compliance) • Requires an audio output device for use
Uses:	• Podcasts are excellent venues for learning languages • Can be used to review or reinforce lecture concepts • Podcasts can be used to conduct an interview with an expert • Students can create their own podcast as a narrative, story telling, or reflective exercise or can assist in curating podcasts for the class • Podcasts can be used for short, specific presentations of information • Audio recordings of textbook content
Tips for Efficiency:	• Avoid lengthy podcasts and keep your recordings to no more than 15 minutes (Bonk & Zhang, 2009) • You can record podcast sessions using freely available or open source tools (such as Audacity or Garageband from Apple; www.archive.org, LibSyn and Blubrry are options for hosting and media stats as well) • Use resources such as MERLOT (Multimedia Educational Resource for Learning and Online Teaching) to review existing podcasts for use • Test your first two recordings with colleagues and students to determine whether the technology works effectively, was recorded correctly, and is accessible. • Have learners curate and build the resources for you – allow them to select podcasts on the topic and share within the class • Use Podcasts for Recommendation #1, 2, 3
Example	• "Assign learners to find relevant podcasts on a topic in the field and post them to the class. Then have students vote on the best ones for each week/unit. The best one from each week can then be posted in "best of podcasts" course portal or website that is updated each time the course is taught." (Bonk & Zhang, 2009)

Table 10. Blogs & Wikis

Advantages:	• Students can be part of creating the content in a course (vs. using a static textbook) and part of knowledge creating community • Blogs can be utilized to promote reflective writing and improve writing skills • They can be made public or private • Instructors and students can invite people outside the class to review/engage in the blog • Blogs/wikis allow many individual ideas to be contributed to a common goal, to brainstorm, or to problem solve • Wikis allow learners to share information and be part of a community of a virtual community of practice • Allows instructors the ability to see the formative learning process and monitor the evolution of learning – it captures the development of thinking over time
Disadvantages:	• Some students don't want to share their writing in a public space • Wikis do not validate data or information shared, it must be done by the contributors • Users are not able to determine the credibility of some content that gets added • In a shared environment, students could accidentally delete the work of others if unfamiliar with how to system works
Uses:	• Blogs and wikis are excellent areas to complete reflective exercises or journal writing • Blogs and wikis can link to other resources or readings, debate, and article discussions (Boulous et al., 2006) • Blogs can be utilized to post 'after class' reflections, summarize major issues, comment on current events, post announcements to class, or address any emerging issues and learning needs (Churchill, 2009) • Wikis can be used to build a shared definition, vision, or challenge • Wikis and blogs can be used to research history, solve a problem, or brainstorm an idea. • Newer research suggests applications for effective uses of blog-based teaching portfolios (Tang & Lam, 2014)
Tips for Efficiency:	• Determine whether you want each student to create and utilize an individual blog or have the class contribute to one collective course blog – it is recommended to begin small with one collective course blog to teach learners the do's/don't's of commenting, how to post, use the system, etc. • Structure blog assignments with an outline and schedule for required contributions and responses • If you plan to utilize blogs or wikis in your course, make them graded activities. • To save time in grading, consider reviewing and evaluating the evolution of learning and the learning process itself (i.e. one point of feedback for comprehensive review) • Use for Recommendations #1, 2, 3, 4
Example	• Within a teacher education program, blogs were utilized to create a virtual mentorship program between first year learners entering the program and student teachers ready to graduate from the program. They utilized the blog to share questions, insights, observations, concerns, experiences and stories. This created a community of learning, promoted a network with future graduates of the program, and allowed learners to engage in a significant amount of feedback and advice from peers rather than the instructor.

Table 11. e-Portfolios	
Advantages:	• Offers a summative collection of student work that archives a self-portrait of the user (Bennett, Rowley, Dunbar-Hall, Hitchcock & Blom, 2016) • Allows for peer/instructor/external comments and feedback as well as reflection • The portfolio can extend the learning activities beyond the course to share with future employers and in job searches • Provides an opportunity for the user demonstrate their competencies and skillsets in variety modes, medium, and through a variety of work products – to create a showcase of their work • The use of electronic portfolios supports the use and development of critical thinking skills
Disadvantages:	• Once created, it may be difficult to get students to maintain the eportfolios and update them regularly • Users must develop technological skills to utilize electronic portfolios • Most eportfolio systems require a fee or subscription to utilize • Security, privacy and intellectual property issues are considerations when there are legal implications for sharing authentic examples of student work (Kahn, 2004)
Uses:	• Electronic portfolios can be used to consolidate and share work • They can be used to network, find a job or share work with an employer • Portfolios can create an individualized website affiliated with the users projects and work • Enter reflective analysis and synthesis
Tips for Efficiency:	• Considerable training is required for portfolio use and is necessary for all users (instructors and students) • Build in feedback and grading options directly into all portfolio to save time and effort during the review process • Integrate peer review opportunities and provide model portfolios as examples (Wakimoto & Lewis, 2014) • Use eportfolios for Recommendation #1, 2, 3, 4
Example	• Electronic portfolios were used in a nursing program to assess cognitive, reflective and affective skills. The e-portfolio provided a way for nurses to track, share, and showcase their skills, achievements, experience, competencies, and progress in continuous learning for both themselves, as evidence of learning in the program review, and as artifacts for registration boards and employers. (Green, Wyllie & Jackson, 2014).

STRATEGIZING & PREPARING TIMELY COMMUNICATION

Regardless of which synchronous and asynchronous methods you use to communicate, it will be important to strategically plan, prepare, and align your communication to save time, improve learning outcomes, and maintain a productive course. To improve your own efficiency and effectiveness in the online course, you will likely engage in 2 different types of interactions:

1. one-to-one interactions (individual communication)
2. one-to-many (class communication)

As you may have guessed, "one-to-one" interactions are those that occur between you and one other individual. "One-to-many" interactions are those that occur between you and the entire class or a group of students within your class. A few instances of one-to-one interactions include those that require a meeting/phone call/live chat during your virtual office hours. It might involve an email or private message from a student pertaining to a personal situation or request for an extension. It could also include individual contact from a student to discuss his/her teammate's participation. In this instance, one-to-one communication typically occurs in a private chat, direct email, or audio/videoconference (all of which can be documented and/or recorded for archival purposes). Interactions that are "one-to-many" include those communications you want to share with a larger group, a team, or the entire class. These are typically done via email distribution lists, public chat, announcement/message boards, discussion forums, or pre-recorded lectures. It's recommended that faculty utilize multiple modes to communicate the same message when interacting "one-to-many" to ensure all intended recipients receive the message. To save time and become more efficient with your "one-to-many" communications, below are a few strategies to maximize your time and efforts.

Timing Your Communication

Let's review some strategies to save time and effort – primarily by preparing in advance and reusing the content for each course offering. Before the course begins, you will want to send communication that welcomes the students to your course and acquaints them with the course expectations and tools that will be used.

Before the Course Begins

One of the easiest ways to save time and become more efficient is to prepare your materials before the class begins. Specifically, this also includes communicating with your students prior to the course start to set expectations, test equipment, and align calendars for any synchronous communication – such preparation will save you significant time and frustration (for both you and your students) during the course. Prior to course start (prepare in advance and utilize each semester)

- Welcome message (pre-written/pre-recorded)
    - o You can send an email, text, video, announcement or a combination to welcome students to your course and provide any pertinent information that will be needed to succeed in your course etc.
- Calendar coordination (for any synchronous components you plan to have in class)
- Testing any software/equipment (if you plan to use audio/video conferencing)
- Prepare any primers and arrange for any guest presenters/panelist
- Pre-record Q&A based on previous terms – make available and reference as needed

Weekly Feedback

Students want and expect to receive timely feedback in the online environment, therefore your level of communication will directly impact their perceived learning and their desire to continue in the course. Hence, it's important to not only provide individual feedback on graded assignments (typically done in the gradebook), but also to acknowledge key contributions by individual learners and to summarize the primary learning points each week. This can be achieved in a variety of ways – through a weekly course blog, a weekly instructor videolog post, an announcement or weekly summary email (just to name a few). Regardless, these weekly summaries can be easily compiled to save you time and energy.

For starters, you can write or record weekly summaries of the content to identify the key 'take aways' students are intended to learn. Since these key concepts do not change, the weekly summaries could be created one time and utilized many times in future offerings of the course. Simply save your weekly summary and repost in future courses. It creates automatic weekly communication with

your students and requires little effort on your part (other than simply posting it).

Compile While Grading

Second, think of ways to 'kill two birds with one stone' and become more efficient during your grading time to assist with your weekly communication. Since you are already grading each activity and weekly assignment, use that time to also compile any customized elements you want to add to your weekly summary. If you notice that a student shared a great resource, made an insightful comment, or was really engaged in the discussion, make note of it in your own file as you grade. By the time you are doing grading, you will also have a list of individual student contributions you can highlight to customize your summary. For example:

Hello Class,

I just wanted to offer a brief recap of Week 2 and I wanted to thank each of you for sharing your critical incident exercise on the course blog – it was great to see you each examine your assumptions, beliefs, and events that led to a perspective transformation. I know that reflecting upon and analyzing such an event can be a challenge and I'm incredibly impressed with your ability to do so. Also, please know that anyone who wishes to resubmit their critical incident exercise as an opportunity for deeper reflection, to earn additional points, or to more fully demonstrate your understanding of key concepts from our Week 1-2 readings - you are more than welcome to do so by Sunday of this week.

During the Week 2 discussion, Michelle had a fantastic post that compared and commonalities and differences between the Week 1 & 2 readings and identified Brookfield's focus on others (helpers) and Mezirow's focus on the sole individual. Jennifer also linked the concept of 'self deception' and 'psychological safety' in groups/teams and how they pertain to critical thinking.....both were excellent insights that I wanted to highlight. Richard also shared to excellent resource that I'd strongly encourage you to check out if you haven't already. In our first unit (Week 1 & 2) we looked at the more personal dimensions of critical thinking. And as we move to Week 3 & 4, we will be exploring the power dynamics that exist in organizational, governmental and political realms on this topic as well. Be sure to check out this week's readings/featured authors, and watch the self-paced lecture as well.

We will be hosting our Week 3 video call on Wednesday night 8:30pm CST using the "conferences" tab and I look forward to seeing you then. Prior to that meeting, it would be helpful to view the 3 videos in the discussion board activity to allow for a rich discussion of key points and concepts. I look forward to seeing you then!

Professor XXXX

Prewritten/Prerecorded Announcements

One of the easiest ways to save time is replicating announcements for future courses. Typically, you can save any assignment reminders or announcements and reuse them. And since online coursework is typically archived, you can reuse announcements you've already posted previously. Of course removing any specific dates might be needed, but you can tap into your previous work to save more generic messages and resuse for future courses. This can include alerts, announcements, reminders, key take aways, and summaries. Below is a sample welcome message that was posted to an instructor's announcement board, sent via email, posted in the course discussion, and recorded via video:

Hello Class,

I'm so excited to have you in "ED 512: Human Capacity Building", and look forward to collaborating with you in the next 8 weeks. This course focuses on Human Capacity Building (on an organizational level and an individual level) and I know that we will learn a significant amount from one another and from the resources we can share. In fact, I just came across

this resource (attached) today and wanted to share it with you. It's a fantastic report just released that discusses capacity development trends in the workplace in 2017....I hope you find it as illuminating as I did!

In the first few weeks you will have the opportunity to become acquainted with the course, each other, and complete activities. Then we will start hosting a weekly video call in Week 4-8. During our weekly video calls, we will host external experts, industry partners, alumni of our program to connect with, and host discussions as a class on emergent areas of interest to you. These discussions are always invigorating and exciting! To best accommodate your schedules, I'd kindly request that you complete this doodle scheduler: http://doodlepoll/Ed512

Simply click on the link above and then select ANY and ALL days/times that would allow you to participate in the video call in Week 4. For consistency, we will schedule our weekly video calls for the same day/time in Weeks 4-8, so please select a day/time that could potentially work during all 4 weeks. I hope you enjoy the remainder of your spring break this week and look forward to working with you in ED 512 on Monday!

Professor XXX

Naturally you could customize your own welcome letter and modify as needed, however, creating a template message (that can be reused each term/semester/course) allows you to communicate with the learners without expending significant time or energy. Think of ways you can customize language, announcements, and welcome messages that can be reused and recycled in your teaching practice.

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Appendix A. Communication Checklist

Communication Considerations	Completed
Pre-written/Pre-recorded (reuse these materials)	
Welcome message	
Instructor Introduction	
Calendar coordination for synchronous interaction	
Weekly overviews	
Weekly summaries	
Announcements	
Reminders	
Frequently Asked Questions	
Lectures	
During the Course (customized)	
Individual grading	
Highlights of student insights (add to weekly summaries to customize)	
Virtual Office Hour responses	
Student inquiries	
After the Course (reuse these materials) Synthesis and summary of the course	
Make updates to any pre-written/pre-recorded materials or FAQ's (if needed)	

Appendix B. Critical Reflection Questions

General:

• What is your greatest barrier to providing effective communication?

• How can you manage your online teaching time to provide appropriate communication and interaction to your learners?

• What communication strategies do you currently use that allow you to provide high quality, efficient interaction between you and your learners?

Institutional Context:

• What are the expectations at your institution for the quantity, quality and frequency of communication? (For example, do you have a 24-hr. required response time?)

• How is your communication with learners evaluated?

• What do students expect in terms of the quantity, quality and frequency of interaction?

Instructor Style:

• When do you typically respond to student inquiries? How does your personal schedule impact your ability to provide effective and efficient communication?

• In what format are you most comfortable interacting and communicating to your learners (written, video, audio, other)?

• What synchronous and asynchronous technologies are you most comfortable with using to communicate?

• What supplemental technologies are available through your institution? Outside your institution? What permissions are needed for their use?

• Do you have a current strategy or system for communicating with your learners? How might you enhance your current approach(es) to be more efficient?

Course:

• Do you typically teach the same online courses from semester to semester? How can you preload or save communication to utilize in multiple contexts?

• How much communication is built into the course assignments and activities?

• Do you use the same assignments from one semester to the next? How can you integrate template communication to reduce the time spent?

• What opportunities exist in your courses to integrate peer-to-peer or one-to-many communication strategies?

• Is your course accelerated or on a traditional semester schedule? How does the timing of your course interact with your ability to provide effective and efficient communication?

Learning Management System:

• What synchronous and asynchronous tools exist within your current LMS?

• What Web 2.0 technologies can be used within your learning management system to increase the efficiency of communicating with your learners?

• Does your learning management system have integrated audio or video capabilities? How might you use these features to interact?

Appendix C. Dos and Don'ts for Effective and Efficient Communication in the Online Classroom

	Don't	Do
Maximizing Interactivity	Create all content and materials for the entire course yourself	Establish activities for learners to co-create and co-produce course content
	Provide feedback on graded items only	Provide timely feedback and interaction in multiple communication channels
	Rely on yourself to provide all expertise on all topics in your course	Establish collaborative communities of practice that invite expertise sharing from your learners and external experts
Synchronous vs. Asynchronous	Rely on text-based email, discussion boards, and gradebook for all of your communication.	Utilize a combination of both synchronous and asynchronous communication.
	Use communication and interaction only for grading purposes	Push yourself to try new methods to mix and match communication strategies within your course.
	Create assignments that require little interaction with peers	Identify which communication channels will work well to build communities of practice and collaborative knowledge sharing
Preparing Timely Communication	Load all communication and interaction exchanges on yourself during the course.	Create pre-recorded and/or pre-written standard communication that can be recycled, reused, and accessed on demand for learners
	Rely solely on one-to-one interactions to meet learner needs.	Utilize both one-to-one and one-to-many communication strategies throughout your course.
	Wait until the course starts to begin communicating with your learners.	Organize standard communication that allows for efficient use across students and terms.