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Synchronous and Asynchronous Tools

There are two modes of interaction and communication in online learning, or two modes of delivering eLearning: synchronous and asynchronous. Which is better? The short answer is "It depends."

Whatever works best for the course, the students and the instructor is what should be used. Keep in mind that there is no rule stating that your online courses need to consist of one mode or the other exclusively. Blended learning or the "flipped classroom" model make heavy use of asynchronous online coursework combined with synchronous in-classroom time. Some instructors and students find this to be the best model for delivery of instruction. However, the skillful online teacher can develop content and strategies that work just as well in fully online courses as well as in the hybrid models.

Asynchronous e-learning, is a just-in-time, on-demand student learning experience. It is commonly facilitated by internet communications media such as e-mail and discussion boards. Students do not need to schedule their time around the predetermined plan of the instructor. There is complete flexibility with asynchronous training, which comes in two forms, facilitated and self-paced. Asynchronous e-learning makes it possible for learners to log on to an e-learning environment at any time and download documents or send messages to teachers or peers. **In other words, participants communicate at different times from different places using the same communication tool.**

Synchronous e-learning involves geographically dispersed students accessing the same web site at the same time as an instructor. This type of learning is commonly supported by internet communications media such as videoconferencing and chat. The instructor typically "drives" a slideshow presentation, which the students watch while connected to a conference web site. Students can ask questions or provide comments through the phone line, or through a chat window. **In other words, participants communicate at the same time, from different locations using the same communication tool.**

There are a variety of tools available to support either mode, the the two charts below summarize them fairly well.

Synchronous Tools

Synchronous tools enable real-time communication and collaboration in a "same time-different place" mode. These tools allow people to connect at a single point in time, at the same time. Synchronous tools possess the advantage of being able to engage people instantly and at the same point in time. The primary drawback of synchronous tools is that, by definition, they require same-time participation -different time zones and conflicting schedules can create communication challenges. In addition, they tend to be costly and may require significant bandwidth to be efficient.

Synchronous Tools	Useful for	Drawbacks
Audio conferencing	Discussions and dialogue	Cost, especially when international participation is involved. Free options such as Skype are now readily available
Web conferencing	Sharing presentations and information	Cost, bandwidth; may also require audio conferencing to be useful. Within the state of Washington, a state supported tool is available, some LMSs employ a built-in solution, and some free tools are available.
Video conferencing	In-depth discussions with higher-touch interactions	Cost, limited availability of video conferencing systems
Chat	Information sharing of low-complexity issues	Usually requires typing, "lower touch" experience
Instant messaging	Ad hoc quick communications	All users must use compatible system, usually best for 1:1 interactions
White boarding	Co-development of ideas	Cost, bandwidth; may also require audio conferencing to be useful. Many web conferencing tools include whiteboard features.
Application sharing	Co-development of documents	Cost, bandwidth; may also require audio conferencing to be useful. Many web conferencing tools also provide this feature.

Asynchronous Tools

Asynchronous tools enable communication and collaboration over a period of time through a "different time-different place" mode. These tools allow people to connect together at each person's own convenience and own schedule. Asynchronous tools are useful for sustaining dialogue and collaboration over a period of time and providing people with resources and information that are instantly accessible, day or night. Asynchronous tools possess the advantage of being able to involve people from multiple time zones. In addition, asynchronous tools are helpful in capturing the history of the interactions of a group, allowing for collective knowledge to be more easily shared and distributed. The primary drawback of asynchronous technologies is that they require some discipline to use when used for ongoing communities of practice (e.g., people typically must take the initiative to "log in" to participate) and they may feel "impersonal" to those who prefer higher-touch synchronous technologies.

A significant step beyond this smorgasbord of individual tools are web-based platforms such as our Canvas learning management system that can become the single portal for all course activities. Many faculty just use the tools provided within the LMS, while others augment the LMS with additional web-based tools. And there are still others who have built entire classrooms using a mashup of web-based tools completely ignoring the LMS. Below are some thoughts that might guide your decisions as you consider the tools you might use to help create more presence in your online course:

- Most students enroll in online courses because they either can't or don't want to have to commit to being somewhere at a specified time. This makes asynchronous solutions more accessible to a larger body of students.
- Regardless of whether you choose synchronous, asynchronous or a combination of both, it is the quality of the materials, instruction, interactions and activities that create effective learning.
- Using an LMS and the tools included mean that students have to learn only one technology instead of many, and they navigate to one location to accomplish all of their work. This has serious pedagogical and accessibility advantages.
- Asynchronous tools are a huge work-saver for faculty - build it once, and use it many times.
- Asynchronous tools can foster higher level thinking in interactions by providing both faculty and students time to think before interacting.
- Asynchronous tools typically provide better tools for recording and measuring participation by individuals.

Whichever route you go, the goal must still be a strong presence in your online course. Holding a synchronous "office hour" or live lecture once a week is not a substitute for an almost continuous presence in an online classroom. Just as the dependence on asynchronous tools to enable you to be an absent professor is not really teaching.

Whether you rely on synchronous, asynchronous or a combination of communication approaches in an online course, the most important thing you can do is communicate - communicate clearly, effectively and frequently. **Remember, it is not about the technology, it's about the teaching!**

Asynchronous Tools	Useful for	Drawbacks
Discussion boards	Dialogue that takes place over a period of time	May take longer to arrive at decisions or conclusions. Discussion boards are available in all l3earning management systems.
Web logs (Blogs)	Sharing ideas and comments	May take longer to arrive at decisions or conclusions
Messaging (e-mail)	One-to-one or one-to-many communications	May be misused as a "collaboration tool" and become overwhelming
Streaming audio	Communicating or teaching	Static and typically does not provide option to answer questions or expand on ideas
Streaming video	Communicating or teaching	Static and typically does not provide option to answer questions or expand on ideas
Narrated slideshows	Communicating or teaching	Static and typically does not provide option to answer questions or expand on ideas
"Learning objects" (Web-based training)	Teaching and training	Typically does not provide option to answer questions or expand on ideas in detail. Available in all LMSs.

Document libraries	Managing resources	Version control can be an issue unless check-in / check-out functionality is enabled
Databases	Managing information and knowledge	Requires clear definition and skillful administration
Web books	Teaching and training	Not dynamic and may lose interest of users
Surveys and polls	Capturing information and trends	Requires clear definition and ongoing coordination
Shared Calendars	Coordinating activities	System compatibility
Web site links	Providing resources and references	May become outdated and "broken"