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Developing and Implementing an Online Course Framework

Introduction

Integration of technology tools and resources is imperative when working with today's students as many are expecting to encounter various apps and media-based software in the curriculum. It is important, however, to have a clear purpose for integrating technology into the classroom; technology should not be integrated into the curriculum simply for the sake of doing so! To assist with purposeful integration, faculty members from Nova Southeastern University and St. Thomas University created a Technology Integration Learning Community (TILC); an online professional learning community where members teach each other about the latest and greatest technological tools and share ideas for integration into the curriculum. Anytime an instructor is thinking of integrating technology into a classroom, it is important to use a model or framework as a guide to enhance the objectives or outcomes as well as ensure accessibility for all students. Therefore, the TILC developed The TILC Online Course Framework (TOCF), based on the ASSURE model (Smaldino, Lowther, Russell, & Mims, 2016), to guide this technology integration.

The ASSURE Model: Technology Integration in Classroom Instruction

The ASSURE model is a framework originally used by classroom teachers for the effective integration of technology (Smaldino et al., 2015). The ASSURE model includes Robert Gagne's events of instruction to ensure effective use of media in instruction. This model emphasizes how to plan and implement effective integration of technology and media by outlining steps that an instructor must follow in order to be successful. This model was modified by the TILC to infuse technologies that included cutting-edge apps, social media, and collaboration tools. The model clearly outlines the steps below as a guide to help instructors develop an integration plan. The instructor must understand the purpose for technology integration; it needs to coincide with the course-learning outcomes or objectives for the integration to be successful. Thus, the instructor must first understand the purpose for the technology integration and then choose the course outcome that the technology will enhance or be used to facilitate learning. The goal is to ensure that technology is integrated effectively to enhance the course outcome (Smaldino et al., 2015). The ASSURE model contains six stages: (a) Analyze the learner, (b) state the objective, (c) select the strategies and resources, (d) utilize the strategies and resources, (e) require learner participation, and (f) evaluate and revise (Smaldino et al., 2015). When planning lessons, instructors must decide which technology they want to integrate to meet objectives and enhance learning. Below is an example of the ASSURE Model applied to TILC initiatives:

1. Analyze learners: Online learners seeking a graduate degree
2. State course objectives: Integrate technology and transform our courses (Note: The TOCF focuses on general objectives that can be applied to any course. When applying the TCOF to a course, instructors would state the specific course learning objective).
3. Select strategies and resources:
    a. Student-driven strategies: peer collaboration, asynchronous activities, peer reviews
    b. Instructor-driven strategies: presentations, synchronous activities, asynchronous activities

4. Utilize resources: 21st century tools
5. Require learner participation: Discussions, synchronous chats, blogs, videos, peer review, asynchronous activities
6. Evaluate and revise: assessments, videos, student surveys; lesson is improved based on the evaluative feedback

Online Course Framework

Based on guidelines for effective online instruction such as the Quality Matters (QM) Standards (2014) and the 2016 Online Learning Consortium's (OLC) *Quality Course Teaching and Instructional Practice Scorecard*, this paper shares ideas, strategies, and tools used by TILC members to engage their students in online learning. Based on the Assure Model, QM standards, OLC, and recommendations from Ko and Rossen (2017), the TOCF incorporates the following components: (a) Course Overview, (b) Communication, (c) Activities for Collaboration and Interaction, (d) Content Presentation, and (e) Assessment.

Course Overview

Ko and Rossen (2017) recommend preparing students for online courses by creating readiness and orientation programs organized by the institution. If the institution does not offer these programs, faculty members can create their own. Most of the components of the orientation that Ko and Rossen suggest coincide with components included in the OLC's (2016) course design review rubric and the QM (2014) rubric. In other words, the course should welcome students and guide them with a general introduction that offers an overview of the course and clear information about how to navigate it. For instance, course information, tasks, and due dates are explicit, clear, and easy to navigate; the introduction explains a variety of appropriate methods, software, and devices for accessing and participating in the course; contact information for instructor, department, and program are provided; and opportunities to get to know fellow classmates are available.

In face-to-face courses, instructors conduct orientation during the first class by providing a brief overview. In the online learning environment, this overview is fundamental; it needs to be prepared and available to students so their first live interaction with the professor (and possibly class members) goes well. Ko and Rossen (2017) and the QM Standards (2014) recommend offering an orientation to help students understand the structure of the course, learn how to navigate the course, identify the components of the course, and get ready to start working. Many tools can be used to prepare your orientation, including a student-friendly, easy-to-open video that walks students through how to navigate the course. Videos can be created using YouTube (https://www.youtube.com), Kaltura (https://corp.kaltura.com/), Office Mix (https://mix.office.com/en-us/education), and other video applications.

Although YouTube is a natural open educational resource for presenting content knowledge, it is also useful for creating, uploading, and/or editing instructor-created videos. To create a course overview using YouTube, simply open the YouTube app on a mobile device, click on the video icon, select record, and start talking. After recording, an instructor can trim the video, change the

brightness, and add music. Select “Next” to add a title and description to the video, choose the privacy settings (i.e., public for anyone to view, unlisted for anyone with link to view, or private for only you to view), and upload this video to YouTube. Then add the video to a playlist, further edit the video, or share the video (e.g., post a link to the unlisted video into the course). Similarly, on the desktop version, use YouTube’s Creator Studio to upload, edit, and organize videos in Video Manager.

Another option to create effective orientations is to have a synchronous meeting/class using videoconferencing software such as Zoom (https://zoom.us/), Facebook Live (https://live.fb.com/), GoToTraining (GTT: https://www.gotomeeting.com/training/), or Google Hangouts (https://hangouts.google.com/), to name a few. Zoom is a simple online video conferencing tool that can be used to meet with classes. Students and professors enjoy seeing each other, often for the first time, through the application's video conferencing capabilities. The use of Zoom as a synchronous classroom meeting place facilitates student and instructor engagement. The meeting room encourages students to collaborate through Zoom’s grouping capabilities. The instructor can divide larger student groups into smaller groups for discussion time and then reunite students to discuss group results. Students frequently provide positive feedback regarding increased social presence and personable characteristics of courses designed by TILC members because they value seeing and interacting with their peers and instructors, which makes Zoom the TILC’s go-to synchronous meeting application.

In addition to the course overview, students and instructors should have the opportunity to get to know each other. Pinterest (https://www.pinterest.com/) is so much more than a type of social media; it is a favorite for personalized introductions. A database for storing information, Pinterest is often used to pin favorite recipes, home decorating ideas, and travel destinations. However, Pinterest has a wide variety of uses in the classroom! Students enjoy personalizing their Pinterest boards and find that introductions become more personal and enjoyable.

Communication

Effective and ongoing communication is essential in online learning. A variety of engaging tools can be used to communicate instructor’s contact information, expectations, deadlines, announcements, and other information. Besides the use of common, traditional, and still effective tools such as phone calls and emails, new tools have emerged to facilitate communication between students and instructors. Two specific tools that enhance communication with students without requiring instructors to share their personal cell phone numbers are Remind (https://www.remind.com/) and Google Voice (https://voice.google.com). Remind is a free app that allows instructors to send text messages, picture messages, and voice messages directly from their cell phones to students. This is especially useful during power outages or when experiencing Internet connectivity issues. Google Voice is a free service that allows instructors to select a new phone number in addition to an already existing office number and personal cell phone number. When a call comes through, the instructor sees the Google Voice number that indicates a student is calling. There are several options to consider once an instructor receives the call: answer it, send it to voicemail, send the call to voicemail and listen live, or answer and record the call. After Hurricane Irma, TILC members communicated well with students with

both Remind and Google Voice due to their flexibility and adaptability to challenges associated with natural disasters.

Activities: Collaboration and Interaction

To facilitate needed student engagement in an online course, it is important to establish social presence given that interactions in online learning only occur via the Internet (Khan, Egbue, Palkie, & Madden, 2017). Online courses need to offer a variety of engaging learning activities that facilitate student-student interaction, student-instructor interaction, and student-content interaction (Ko & Rossen, 2017; OLC, 2016). Examples of activities that facilitate interaction include ice breaking activities, self-introduction activities, group activities, reflective activities, scenarios or cases studies, discussions, activities to create or evaluate products, and discussion forums. These collaborative activities can be synchronous or asynchronous.

Synchronous activities. Synchronous activities take place simultaneously; the instructor and the students interact at the same time. These are the most common ways of delivering instruction in face-to-face learning. However, in the online environment, synchronous activities are one of many ways in which students interact with their classmates and the instructor. In the initial stages of online learning, synchronous meetings were typed chat sessions similar to those used on social media without voice or video capability. Currently, synchronous meetings that promote collaboration and interaction are delivered using videoconferencing. Some effective tools for video conferencing are Zoom, GoToTraining (GTT), Google Hangouts, and Facebook Live, to name a few.

GoToTraining (GTT) is a web-based video-conferencing tool that many learning management systems have embedded within their course tools. Students can choose to share their webcams, and this application has many features similar to Zoom. It should be noted that both Zoom and GTT can also be utilized as asynchronous tools. The instructor can record a presentation without the students and then share it. Students using one of these tools for online synchronous classes may find it easy to view a recording in the same format utilized for synchronous class.

With Google Hangouts and Facebook Live, instructors can use cell phones to share instantly and respond to student comments and see reactions. Instructors can even use Events to schedule a live Q&A session. This ability to both broadcast and watch live video within Groups and Events enables people to connect and share their interests.

Asynchronous activities. Asynchronous activities are learning activities that promote student interaction with the content, and in some cases with other students and the instructor. Asynchronous participation affords students time to reflect and add in-depth analysis to prompt collaborative interaction with peers. Useful asynchronous discussions rely on quality prompts and feedback; prompts and questions should be motivational. The instructor must skillfully monitor student interactions to ensure they are participating in a timely fashion (Ko & Rosen, 2017). Discussions and activities can be provided through alternate formats through the use of tools. Some effective tools for asynchronous activities that promote collaboration and interaction are podcasts using Audacity (http://www.audacityteam.org/), social media such as Pinterest, and

collaborative products within the Google suite (e.g., Google Docs, Google Slides, Google Forms, and Google Sheets: https://www.google.com/).

Audacity allows instructors to record podcasts, edit audio files, work with multiple tracks, and add music to presentations. Music as well as voice can be edited, and instructors can edit audio for some video software and drop the audio back into the video (e.g., Camtasia, https://discover.techsmith.com/). Instructors can use Audacity for audio discussion posts, providing some variety to course discussions, and adding a personal touch.

Although Pinterest was mentioned earlier as a way to personalize introductions, Pinterest can also be used to present assignments (e.g., creating a research board), thus allowing the professor to provide a variety of presentation options for students. Students can use Pinterest to store useful websites, images, etc. about a topic that can be accessed at anytime and anywhere (e.g., dissertation board to pin useful articles for a literature review; or a President's Day board where students pin information about the various Presidents to share with the class).

Google tools can be utilized by students and instructors to create and edit written work in Google Docs collaboratively, and share seamlessly. For example, students can use Google Docs for a group research report or teachers can use it for collaborative lesson planning. Google Forms can be used to create surveys, and collect and display data quickly and efficiently. Data can also be organized, displayed, and analyzed using Google Sheets, and presented using Google Slides. The Google tools are flexible; they can be used individually or combined together seamlessly for a group project. For example, in a survey research course students can collaborate in Google Docs on a research paper, create a brief survey and collect data using Google Forms, analyze it collaboratively using Google Sheets, and present it using Google Slides.

Content Presentation

Technology tools to promote student-content interaction are ubiquitous today and many of these tools are free and easy to integrate into new or existing courses. Using static PowerPoint presentations from 1998 to share content in online learning settings is no longer acceptable. The use of PowerPoint should follow very specific guidelines and avoid becoming a replication of the textbook with equal amount of information contained within the slides. The overuse of text on slides is ineffective and should always be avoided. According to Bart (2011), "Students appreciate a structured, logical flow to their courses, and how you organize your assignments and activities can go a long way in minimizing confusion" (para 6). Three decades after the creation of PowerPoint, instructors now have a plethora of engaging tools to present content. Some effective tools to promote student-content interaction are Videos (YouTube; Lynda.com: https://www.lynda.com/; Educreations: https://www.educreations.com/), screen capture (Jing: https://www.techsmith.com/jing-tool.html), slide presentations (PPT: https://products.office.com/en-us/powerpoint/; Prezi: www.prezi.com/; Google Slides: https://www.google.com/slides/about/), multimedia presentations (Microsoft SWAY: https://sway.com/), and podcasts (Audacity).

YouTube, a video-sharing website, is the most frequent name that surfaces when thinking of video sharing. There are other resources available such as Lynda.com and Educreations that offer training and video sharing; however, with over 300 hours of video uploaded every minute, YouTube seems to be the most ubiquitous (https://fortunelords.com/youtube-statistics/). YouTube allows instructors and students to present topics that would otherwise be difficult to demonstrate. It would be near impossible to explain the depth of space, but with tools like YouTube combined with Google Earth, the users can simply browse around and gain some perspective about the topic. YouTube can be an effective research tool to foster a deeper sense of knowledge on the subject as a result of watching videos on a specific topic. When integrating this type of video learning into a classroom, students have the opportunity to formulate deeper understanding of the content in a more meaningful way than just reading text or listening to a traditional lecture.

In addition to viewing video content in YouTube and video-sharing platforms, students are able to respond to the material they interact with by creating their own original YouTube video responses and posting them on their own YouTube Channel. This allows for more of a social interaction in lieu of simply responding on a discussion board via traditional text. Creating a social and connected learning environment by allowing students to interact with their peers can be a more meaningful learning experience.
Jing, Microsoft Mix, and Camtasia are screen capture technologies that allow for easy and effective ways to present information. Instructors can capture their screen and diagram it for students or add audio for effective and specific content presentation. With the Net-generation/Millennial population, it is an effective way to provide quick and easy ways to demonstrate procedures or show information.

Podcasts are another useful way to share lengthy information that requires audio only. An audio file is the appropriate tool to meet the objective in many instances. Consider the commuter that cannot watch a YouTube video or read a chapter while driving long distances to and from a location. An instructor's self-made audio podcast or existing podcast is a great solution for students with busy lives. These tools are very simple and can be emailed directly to students or placed within a course for future downloading. Podcasts can be used to record a live lecture for students who cannot attend in real time, and they can listen to it later at their convenience. Having these resources available can bring a traditional course into the modern arena and eliminate barriers that may exist for learners. As mentioned above, Audacity is a powerful podcasting tool.

No matter what presentation tools are used, the content is paramount! Finding additional ways to refresh a presentation tool like PowerPoint by integrating "add-ons" to the software or using videos or sound files to supplement traditional text can make the difference between a very traditional boring delivery of content and something that students will want to view and refer back to. TILC members have been early adopters of flipped learning; assigning videos, mostly instructor-created, for content knowledge consumption before class, and foregoing the traditional lecture during class time, allowing more opportunities for collaboration and creative-thinking during class time. Students appreciate the opportunity to review lectures anytime, anywhere, and to use in-class time to collaborate in problem solving and active learning activities with fellow students, while the instructor facilitates learning and provides support.

Assessment

A fundamental quality of assessments is their alignment with learning targets such as objectives or outcomes (Chappuis & Stiggins, 2012; Wiggins & McTighe, 2006). In addition, assessments should be implemented using a variety of instruments to assess students' knowledge (OLC, 2016; Quality Matters, 2014) and to offer diverse learners the opportunity to demonstrate their mastery of skills and their knowledge in different ways. Some assessment methods include selected response questions, performance assessments, personal communications, and written responses (Stiggins & Chappius, 2012; Wiggins & McTighe, 2006). Despite the variety of assessment methods, the most used assessments are selected response and written response.

In a selected response assessment, students choose a correct answer, match a definition with a concept, select true or false, or use a word bank to complete a sentence. Although selected response assessments are overused due to the ease of grading, filling in bubbles with a pencil and waiting for the teacher to run the tests through a scantron before returning them has become monotonous. However, there are engaging tools to create interactive selected response assessments, such as Kahoot (https://kahoot.it/) and Socrative (https://www.socrative.com/). These apps help teachers create quizzes which give students immediate feedback to their answers, they can see their classmates' responses, and they can even compete in a game. Another tool to create interactive selected response assessments is EdPuzzle (https://edpuzzle.com/), which allows an instructor to turn a video into an assignment by inserting comments, multiple choice questions, and open-ended questions.

Written response assessments are more engaging when students can use an alternative to essays and they know that they have an audience. Using Social Media such as a blog or a wiki offers students an audience and teachers an opportunity to assess students' written answers. Performance assessments are assessments that evaluate students' ability to perform or to create something (Stiggins & Chappius, 2012; Wiggins & McTighe, 2006). Social Media tools such as Pinterest give students the opportunity to create posters on a topic, compile information, insert multimedia information in a board, and share their knowledge and their learning product. Students and instructors alike must uphold copyright laws when posting to Pinterest as well as any other social media performance assessment.

Important Considerations

While the emergence of a myriad of online applications facilitate the goal to integrate technology to enhance learning and engage students, the existence of these applications generates important issues for consideration. Prior to integrating new tools, it is important to evaluate them to ensure they are appropriate, user-friendly, and will achieve your learning outcomes. Examining these tools can be a simple task, which begins by researching an online video about how others have used the software or apps in their teaching or learning, or by sharing in an online learning community.

When considering applications/tools for online frameworks, instructors need to ensure that they are accessible to all users in concordance with Section 504 of the Rehabilitation Act of 1973 and

the Americans with Disabilities Act of 1990 with its 2008 Amendments. College campuses are required to maintain offices for disability services in which personnel assist students who have documented disabilities as defined by applicable federal and state laws. According to Burgstahler (2017), the most common accommodations include closed captioning and the use of screen readers for students who may be blind or dyslexic. Electronic screen readers allow students to concurrently see printed words and hear them spoken at the same time.

Finally, according to Nathan, MacGougan, and Shaffer (2014), educational institutions are responsible for developing and maintaining proactive policies regarding the ethical use of social media platforms in the classroom. The use of social media evolves with every new tool and instructors need to align usage with scaffolded learning objectives. In addition to these academic objectives, instructors should cover concepts such as copyright, cybersecurity, digital citizenship, and digital footprints.

Summary

The TOCF is a beneficial set of guidelines for both traditionally designed online courses and for courses that adopt a flipped model. Based on the ASSURE Model (Smaldino et al., 2016), QM standards (2014), OLC (2016), and recommendations from Ko and Rossen (2017), the TOCF recommends incorporating the following components into any online course: (a) Course Overview, (b) Communication, (c) Activities for Collaboration and Interaction, (d) Content Presentation, and (e) Assessment. Technological tools can enhance the online experiences for both students and teachers, but it must be done with a purpose and tied to the learning outcomes. The technological tools presented to support the components have been used by TILC members to increase student and instructor engagement. Although many of these tools are widely used, it is important to evaluate new tools, provide accommodations for all students, and maintain ethical practices.

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