



*Online-Live*  
***Rubric***  
*For Course Design*

---

**Sam Houston State University**

[online.shsu.edu](http://online.shsu.edu) | 936.294.2780 | [online@shsu.edu](mailto:online@shsu.edu)

# Contents

<b><i>1. Course Organization: Creating a Framework for Development</i></b>	<b><i>1</i></b>
Syllabus & Course Schedule	2
Course Description	4
Navigation	6
Navigation-Cont.—Unit-to-Unit	8
Navigation-Cont.—Within the Units	10
Elements of Design	12
<b><i>2. Student Learning Objectives: Design with the End in Mind</i></b>	<b><i>15</i></b>
Student Learning Objectives (SLOs)	16
<b><i>3. Multimedia</i></b>	<b><i>19</i></b>
Multimedia Elements	20
<b><i>4. Collaboration &amp; Communication</i></b>	<b><i>23</i></b>
Student to Instructor	24
Student to Student	26
<b><i>5. Assignments &amp; Assessments</i></b>	
Assessment Measures	30
Academic Integrity	32
<b><i>6. References</i></b>	<b><i>34</i></b>

# Rubric Modalities

Rubrics are available to match a specific teaching style. Even though they share much of the same pedagogical best practices each document is specialized to highlight the strengths of each style.

[SHSU Online Course Design Rubrics](#)

## Online Live

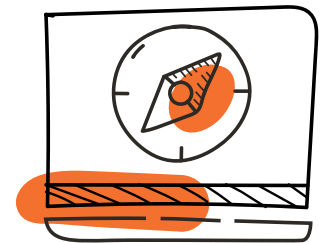
**100% of instruction (lectures) and course contact hours occurring synchronously (live) online.**

An online live course is defined at SHSU as an online course with 100% of instruction (lectures) and course contact hours occurring synchronously (live) online. Students enrolled in an online-live course are required to participate in synchronous, online instruction and other course activities in real-time during scheduled class meeting times. Course materials, activities, and instructional assets will be stored in the learning management system.



## Online Course

An online course is defined at SHSU as a course with 100% of the instruction and course contact hours occurring asynchronously (on-demand) and when the students and instructor(s) are not in the same place. An online course may have optional online synchronous components including special guest lectures, group meetings, or faculty office hours that do not require mandatory attendance and that can be recorded for later viewing. An online course may not require students to participate in any face-to-face instruction or other course activities and may not require on-campus or face-to-face exams.



## Hybrid/Blended

A hybrid/blended course is defined at SHSU as a course with more than 50% but less than 67% of the planned instruction and course contact hours occurring asynchronously (on-demand) and when the students and instructor(s) are not in the same place. A hybrid course may not require students to participate in any online synchronous (online-live) instruction or other course activities.



**T**he SHSU Online-Live Rubric For Course Design synthesizes best practices for online course design and basic online instructional practices. The rubric is a guide that informs the course development process, as well as evaluation of the design of any course leveraging digital elements for teaching and learning. The rubric is applicable to fully or partially online, flipped, blended, or web-assisted face-to-face courses.

Developed on nationally recognized, research-based quality assurance standards related to the essential components of online course design, the rubric highlights best practices and practical recommendations in the following areas:

- 1 Course Organization**
- 2 Student Learning Objectives**
- 3 Multimedia**
- 4 Collaboration & Communication**
- 5 Assignments & Assessments**

It also provides a baseline for accessibility, ADA compliance, and learner support within an online course. The SHSU Online-Live Rubric For Course Design has been vetted by SHSU faculty and endorsed by members of the SHSU Online rubric committee, instructional designers, and digital learning practitioners.

# 1. *Course Organization:*

## *Creating a Framework for Development*

---

**C**ourse organization addresses the basic overview and structure of the course. Research on how people learn supports the use of organization and sequencing strategies to maximize learning (Bransford, Brown, & Cocking, 1999; Clark & Mayer, 2008). In a learning environment where an instructor and students do not meet face-to-face, an intuitive, organized, and well-structured course design is especially critical (Anderson, 2008).

In this section, the following course elements are explored:

- 1 Syllabus & Course Schedule**
- 2 Course Description**
- 3 Navigation**
- 4 Elements of Design**

# Syllabus & Course Schedule

When preparing to teach a course of any kind, the syllabus is typically a good place to start as it provides a workable outline for the instructional aims of the course. For online-live courses, the syllabus can be used as a guide that informs the organization and structure of the units, the items added to or removed from the navigation menu, and the design of the course schedule, as well as what a student should have prepared for each synchronous meeting session.

## Best Practices

### *In Progress*

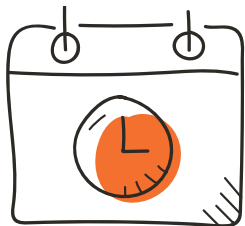
- A.** The course design may confuse students. How can design more closely follow the syllabus or course schedule?
- B.** Some links appear to be missing from some course items.

### *Established Practice*

- A.** Course design clearly deriving and flowing from the course syllabus and schedule.
- B.** Terms and names used throughout the course are mostly consistent.
- C.** Activities expected to be completed during scheduled class sessions are designated in the course schedule or syllabus.

### *Exemplary Practice*

- A.** Excellent flow of course design from the course syllabus and schedule.
- B.** Terms and names are consistent throughout the course and its documents.
- C.** Exams, Assessments, and other activities expected to be completed during scheduled class sessions are easy to identify in the course schedule or syllabus.



## The Goal

To organize the structure of your course in a way that mimics or mirrors the structure and schedule flow indicated in your syllabus, with a clear distinction between preparatory activities and what is expected to be completed within the live sessions.

# Course Description

The Course Description is not only an opportunity to orient your students towards the course objectives. It is also an area where you can share your enthusiasm, perspective, and expertise about the subject of the course.

**An expanded course description can address the following considerations:**

1. Why should students want to complete this course?
2. How does it fit into the overall program curriculum?
3. What are the main learning objectives of the course?
4. How can students apply the content, intellectually and practically?



## The Goal

To write a more expansive course description that provides essential details of the course. A welcoming tone is an ideal way to humanize your course!

## Best Practices

### In Progress

A. No description of the course is present.

### Established Practice

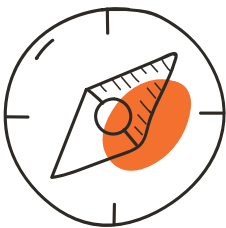
A. Course catalogue description appears in the course and syllabus.

### Exemplary Practice

A. From the basis of the course catalogue description, the instructor has developed a more expansive description of the course (clarified terms, supplied emphasis, etc.), and has utilized it throughout the course as well as in the syllabus.

# Navigation

Navigation within an online-live course has a lot to do with the logical flow and organization of information, as well as the implementation of practices designed to create an intuitive and navigable environment. Navigation throughout the course, between course units, and within units is considered.



## The Goal

To organize the flow of content in a logical manner, facilitating intuitive navigation for the learner.

## Best Practices

Throughout the course

### In Progress

- A.** Course navigation techniques may vary from unit to unit or from one section of the course to another.
- B.** Excessive clicking and/or scrolling is required to access content.
- C.** Presence of empty folders may confuse students.

### Established Practice

- A.** Course navigation is efficient and consistent.
- B.** Instructor has minimized the number of clicks and scrolling necessary to access content.
- C.** The instructor has provided a course outline dividing the content into topic-based or weekly folders.

### Exemplary Practice

- A.** Course navigation is efficient and consistent.
- B.** Instructor has minimized the number of clicks and scrolling necessary to access content.
- C.** Instructor has employed a flat navigation structure.<sup>1</sup>
- D.** The instructor has provided a course outline dividing the content into topic-based or weekly folders.

<sup>1</sup> "Flat navigation" structures utilize minimal sublevels when planning the organization of information within website hierarchies. A flat navigation yields benefits to the end user by facilitating ease of use, more discoverable content, and categorization that is easier to understand. (Nielsen Norman Group, retrieved from <https://www.nngroup.com/articles/flat-vs-deep-hierarchy/>).

# Navigation-Cont.

## Unit-to-Unit

### Best Practices

#### Unit to Unit

##### *In Progress*

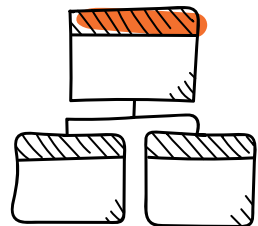
- A.** Students will benefit by increased course content chunking.<sup>1</sup>
- B.** Students may not discern the logical flow of the content.
- C.** Expected navigation may not be clear to student users.

##### *Established Practice*

- A.** Instructor has aided students by chunking course content into manageable segments (i.e., presented in distinct learning units or modules).
- B.** Students will easily follow the content flow.

##### *Exemplary Practice*

- A.** Course content is chunked into manageable segments (i.e., presented in distinct learning units or modules).
- B.** Course organization deploys and designs symmetrical units throughout.
- C.** Content flows in a logical progression; concepts are appropriately scaffolded.<sup>2</sup>
- D.** Students will easily discern navigation from unit to unit.



### The Goal

To chunk content, organize units in a logical progression, and scaffold concepts for the learner.

<sup>1</sup>."Chunking refers to the strategy of breaking down information into bite-sized pieces so the brain can more easily digest new information." Chunking allows for the grouping of material into modules or units of study that contain within themselves everything the learner needs to complete them. (The eLearning Coach Chunking Guide, retrieved from [http://theelearningcoach.com/elearning\\_design/chunking-information/](http://theelearningcoach.com/elearning_design/chunking-information/) )

<sup>2</sup>."Scaffolding refers to a variety of instructional techniques used to move students progressively toward stronger understanding and, ultimately, greater independence in the learning process. The term itself offers the relevant descriptive metaphor: teachers provide successive levels of temporary support that help students reach higher levels of comprehension and skill acquisition" (The Glossary of Education Reform, retrieved from <https://www.edglossary.org/scaffolding/>).



# Navigation-Cont. *Within the Units*

## *Best Practices Within the Units*

### *In Progress*

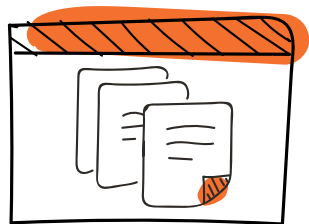
- A.** Students may not easily recognize unit's introductory materials.
- B.** Students may not easily follow the organization of the content and/or lesson plans.

### *Established Practice*

- A.** Instructor has designed most units to include a lesson plan/outline/introduction.
- B.** Instructor has organized most content sequentially and follows the lesson plan.

### *Exemplary Practice*

- A.** Instructor has designed units to include a lesson plan/outline/introduction.
- B.** Instructor has organized the content sequentially (by start date) and follows the lesson plan.



## *The Goal*

To organize content within the units sequentially, and guide students with unit introductions.

# Elements of Design

Visual elements play a key role within an online-live course. They are instrumental in highlighting important information, providing emphasis, and visually orienting the learner to the course layout. However, these elements must be utilized with accessibility and ADA compliance in mind.



## The Goal

To create a more accessible online-live learning environment for students of all kinds.

## Best Practices

### In Progress

**A.** Propose ADA compliance - images should contain alternate text, documents also posted as scanned images.

**B.** Font usage – change fonts only for clear thematic reasons, consolidate font types in display areas.

**C.** Color usage - color best used as one of multiple methods of emphasis. Colorblind users will rely on specific shade variations. Students will likely cite clashing colors used within a visual area.

**D.** Recommend use of typesetting conventions.

### Established Practice

**A.** Elements of ADA compliance –

1. All images have an alternate text display (including all images within uploaded files),
2. Documents are posted in text format,
3. Clear consideration of other barriers to access (link text must contain relevant context, for example “USA Today Article Title” and not [www.usatoday/articletitle](http://www.usatoday/articletitle)).
4. Ordered list formatting is done with text editors and not manually.

**B.** Instructor mostly employs modern typesetting conventions.

### Exemplary Practice

**A.** Adherence to ADA rules and Universal Design principles goes above and beyond Established Practice

1. Documents have formatted headings
2. Video content is chosen from already captioned source material.
3. Student submitted papers are guided towards ADA compliance.

**B.** Instructor employs modern typesetting conventions.

# 2. *Student Learning Objectives:*

*Design with the End in Mind*

---

Student learning objectives (SLOs) are content-specific learning statements that educators can validly measure to document student learning over a defined period of time (Marion, DePascale, Gong & DiazBilello, 2012). Written from the perspective of what the student will achieve upon successful completion of the course, SLOs help learners connect their learning with the intent and purpose of the course. The process of setting goals, monitoring progress against those goals, and evaluating performance is strong instructional practice.

# Student Learning Objectives (SLOs)

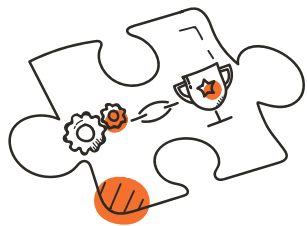
## A few sample SLOs: By the end of this course...

Students will be able to identify the social, political, economic and cultural influences and differences that affect the development process of the individual.

Students will be able to summarize the principles of design in computerized art.

Students will be able to evaluate economic events that apply to the preparation of financial statements.

Students will be able to conduct basic laboratory experiments involving classical mechanics.



## The Goal

To help students see the link between their learning and the intended aims of the course.

## Best Practices

### *In Progress*

A. Students may struggle to relate course content to SLOs.

### *Established Practice*

A. Students will likely identify learning objectives appropriately.

### *Exemplary Practice*

A. Students will easily relate course content to SLOs.

B. SLOs are conveyed in both online-live materials and in each synchronous presentation.

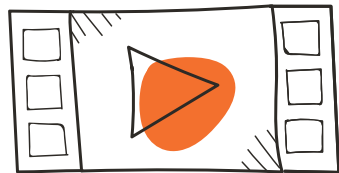
# 3. *Multimedia*

---

Multimedia in the course allows for incorporating presentational activities that the students can use to prepare and reserve the scheduled time for interaction in active teaching and active learning activities.

The use of multimedia in an online-live course not only enhances the visual feel by breaking up large amounts of text on a page, it may actually reinforce learning. Research from the Dual Code Theory indicates that learners utilize two discrete information-processing functions: the verbal and the pictorial. Text on a page, such as in your course, provides a mechanism by which learners can glean and process information using the verbal function. The same can be said for podcasts, and other forms of narration. On the other hand, the use of visual multimedia, such as videos, graphics, pictures, and animations provide a chance to engage the pictorial information-processing function. Presenting a concept or topic using verbal and pictorial elements, facilitates learning (Mayer, 2009).

# Multimedia Elements



## The Goal

To leverage multimedia carefully and strategically in support of learning. In online-live courses, multimedia can be used to deliver presentational activities so that scheduled class times can focus on activities requiring real time participation.

## Best Practices

### In Progress

- A.** Students may struggle to relate the multimedia content to the course either because of the content itself or because of difficulty accessing it out of a media server (i.e., Kaltura).
- B.** Mobile experience of the multimedia content likely will not be optimal, perhaps because there is a better storage format than currently chosen.
- C.** Students may struggle to find or understand instructions for third party tools used in course.

### Established Practice

- A.** Students will reasonably connect multimedia elements to the content of the course.
- B.** Storage format and file sizes are conducive to online-live delivery.
- C.** Mobile experience of the content will likely include consistent delivery, thanks to good format and type choices.
- D.** Students will likely find and implement the helpful instructions for third party tools used in course.
- C.** Students will benefit from clear and easily accessible instructions and/or demonstrations of third party tools used in course.

### Exemplary Practice

- A.** Instructor employs multimedia elements strategically and appropriately throughout the course. Students will likely characterize the content as enriching.
- B.** Instructor has chosen multimedia content that is mobile friendly and stored in the ideal format(s) for online-live delivery.
- C.** Students will gain confidence thanks to opportunities for practice and exploration of tools available before their use in the course.

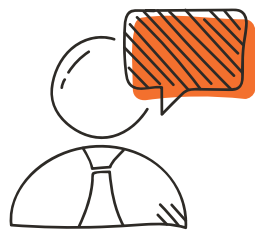
# **4. *Collaboration & Communication***

---

The online-live environment is particularly appropriate for collaborative learning approaches that emphasize group interaction (Harasim, 1990). Interaction among students and between students and instructor is key to learning (Palloff & Pratt, 1999). Social interaction among learners can have a significant impact on learning outcomes. According to Grabinger and Dunlap (2000), “learning occurs in a social context through collaboration, negotiation, debate, peer review, and mentoring.”

# Instructor to Student

Interaction and instructor presence is key, and it is important to build a sense of community. Consider a team-teaching approach and other approaches to increase instructor accessibility. Ask participants to identify potential distractions and share them. Take advantage of online tools. Use technical means to focus attention. Non-relevant discussion should be taken offline.



## The Goal

To articulate clear expectations regarding the frequency of the communication and provide mechanisms for students to connect with you.

As you plan your course, decide which portion will be synchronous and which part will be asynchronous. Synchronous sessions should not just happen in a vacuum; engage students connect with your current, past, or future objectives.

## Best Practices

### In Progress

**A.** Students will likely not anticipate communication or grading response times, because the information is not yet posted or is not readily visible.

**B.** Synchronous sessions are largely presentations delivered without active interactions with the class.

### Established Practice

**A.** In addition to communications during synchronous sessions, Instructor will utilize the announcement function surrounding major grades and significant course events.

**B.** Instructor provides expectations for response times for grading and student inquiries, and employs in class conversation in addition to a combination of virtual office, messages, or email.

### Exemplary Practice

**A.** In addition to communications during synchronous sessions, Instructor will communicate with students using various course tools multiple times a week.<sup>1</sup>

**B.** Students will likely have clear expectations for grading, communication, class meeting expectations, response times for both regular email and the class conversation, virtual office, messages, or email. The Instructor has also provided scheduled times of availability for office hours and live communication such as phone conferences.

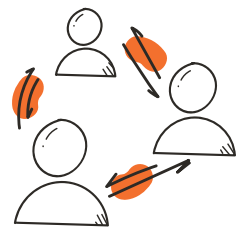
**C.** Communication policy stated in syllabus.

<sup>1</sup> To get the most out of the synchronous learning experiences, you'll have to develop an effective synchronous learning strategy that will allow you to capitalize on the many tools, techniques, and technologies that are available today.



# Student to Student

Student-to-student collaboration and cooperation can provide learners with the opportunity to discuss, argue, negotiate, and reflect upon existing beliefs and knowledge (Agostinho, Lefoe, & Hedberg, 1997). Grabinger and Dunlap (2000) note that collaboration helps learners validate their learning experiences, and requires a level of articulation that promotes collective knowledge building and a deeper understanding of what is being studied.



## The Goal

To provide opportunities for students to communicate and interact with peers.

## Best Practices

### In Progress

A. Students have no opportunities to communicate with peers.

### Established Practice

A. Students have opportunities to interact with each other within the course.

### Exemplary Practice

A. Students have meaningful opportunities to communicate and interact with peers using a combination of in-class discussion using conferencing tools and between classes using discussion boards and other collaborative technologies.<sup>1</sup>

<sup>1</sup>. Ask participants to identify potential distractions and share them. Take advantage of online tools. Use technical means to focus attention. Non-relevant discussion should be taken offline. Use virtual body language / establish non-verbal queues. Ask students to co-lead discussion and take on a student driven approach.

# 5. *Assignments & Assessments*

---

This section focuses on instructional activities designed to measure progress towards learning outcomes, and to provide feedback to both, student and instructor. It addresses the quality and type of student assessments within the course.

# Assessment Measures

## Best Practices

### *In Progress*

**A.** Only high\* stakes assessments employed.  
 \*An assessment worth 30% of the grade would count as a high stakes assessment, because the student would have to score 100% on all other assignments to achieve a low C in a course.

### *Established Practice*

**A.** Course contains a quiz or assignment for each lesson and periodic exams or major projects with minimal additional assessment methods.

**B.** Some assessments employed match SLOs.

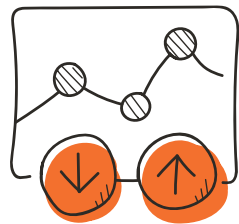
**C.** The instructor utilizes interaction during synchronous sessions for formative assessments.<sup>1</sup>

### *Exemplary Practice*

**A.** Instructor employs a combination of assessment methods, including pre-tests, written assignments, student-created multimedia, graded collaborative projects, and/or exams.

**B.** Instructor has matched assessments to stated SLOs.

**C.** The instructor routinely uses a combination of formative and summative assessments during synchronous class sessions.



## *The Goal*

To create an assessment strategy using frequent and varied forms of assessments.

<sup>1</sup> Guidance on expectations for participation and interaction during synchronous sessions.

# Academic Integrity

## Best Practices

### *In Progress*

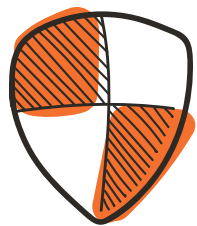
- A.** Plagiarism detection methods are not used for major writing assignments.
- B.** Exams and quizzes present identical question sets for every student and/or across multiple terms with no security methods employed.

### *Established Practice*

- A.** Instructor employs plagiarism detection and prevention methods for most major writing assignments.
- B.** Exams and quizzes use some protection methods, such as question randomization, multiple test forms per assignment, reserved question sets for subsequent terms, etc.

### *Exemplary Practice*

- A.** Plagiarism detection methods are used, when relevant, for major writing assignments.
- B.** Instructor uses combined security measures including usage-restricted browsers, exams and quizzes drawn from large question/data pools that are refreshed on a rotating basis. Exams and quizzes are secured with automated video proctoring as appropriate.
- C.** Instructor will be familiar with student voice from synchronous in class activities to guide determining authorship.



### *The Goal*

To leverage proctoring and plagiarism-detection tools and academic honesty strategies where appropriate to curb academic dishonesty.

# 6. *References*

---

- Agostinho, S., Lefoe, G., & Hedberg, J. (1997) Online Collaboration and Problem Solving for Effective Learning: A Case Study of a Post Graduate University Course, Proceedings of AUSWEB97 The Third Australian World Wide Web Conference, Southern Cross University, Lismore. Retrieved from <http://ausweb.scu.edu.au/proceedings/index.html>
- Alexander, S. (1995) Teaching and learning on the World Wide Web, Proceedings of AUSWEB95 The First Australian World Wide Web Conference, Southern Cross University, Lismore. Retrieved from <http://www.scu.edu.au/ausweb95/papers/education2/alexander/>
- Anderson, T. (2008). Towards a theory of online learning. In: Anderson, T. Elloumi, F. Theory and Practice of Online Learning. Athabasca University.
- Arvan, L. (2004). Dialogic learning objects: Inviting the student into the instructional process. Retrieved from <https://campustechnology.com/articles/2004/02/dialogic-learning-objects-inviting-the-student-into-the-instructional-process.aspx>
- Blackboard, Inc. (2015). Blackboard exemplary course program rubric. Retrieved from [http://www.blackboard.com/resources/catalyst-awards/bbexemplarycourserubric\\_rebrand\\_july2015.pdf](http://www.blackboard.com/resources/catalyst-awards/bbexemplarycourserubric_rebrand_july2015.pdf)
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (1999). How people learn: Brain, mind, experience, and school. Washington, DC: National Academy Press.
- California State University, Chico (2009). Rubric for online instruction. Retrieved from <http://www.csuchico.edu/eoi/documents/rubricpdf>
- Christe, B. (2003) Designing online courses to discourage dishonesty. EDUCAUSE Quarterly, 26 (4), 54-58. Retrieved from <http://www.educause.edu/ir/library/pdf/eqm0348.pdf>
- Clark, R. & Mayer, R. E. (2008). E-learning and the science of instruction (2nd ed). San Francisco: Jossey-Bass.
- Dell, C. A., Dell, T. F., & Blackwell, T. L. (2015). Applying universal design for learning in online courses: Pedagogical and practical considerations. Journal of Educators Online, 12(2), 166-192.
- Fink, L. D. (2003). Creating significant learning environments. San Francisco: Jossey-Bass Publishers.
- Goodson, L. A., & Nilson, L. B. (2018). Online teaching at its best Merging instructional design with teaching and learning research. San Fransico, CA: Jossey-Bass.
- Grabinger, R. S., Dunlap, J. C. (2000). Rich environments for active learning: A definition. In Squires, D., Conole, G., Jacobs, G. (Eds.), The changing face of learning technology (pp. 8–38). Cardiff, UK: University of Wales Press.
- Harasim, L. (2012). Learning theory and online technologies. Routledge.
- Harasim, L. M. (1995). Learning networks: A field guide to teaching and learning online. MIT press.
- Harasim, L. (1996). Online education. Computer networking and scholarly communication in the twenty-first-century university, 203-214.
- Harasim, L. M. (1990). Online education: Perspectives on a new environment. Greenwood Publishing Group Inc.
- Hrastinski, S., Keller, C., & Carlsson, S. A. (2010). Design exemplars for synchronous e-learning: A design theory approach. Computers & Education, 55(2), 652–662.
- Institutional Eligibility under the Higher Education Act of 1965, 34 C.F.R. § 600.2 (2014). Retrieved from <http://www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=34:3.1.3.1.1.1.23.2>
- Kearns, L. R., Frey, B. A., & McMorland, G. (2013). Designing online courses for screen reader users. Journal of Asynchronous Learning Networks, 17(3), 73-85.

- Ko, S. and Rossen, S. (2017). *Teaching Online: A Practical Guide*. (4th ed.). NY and London: Routledge Taylor and Francis Group.
- Lenkaitis, C. (2020) Technology as a mediating tool: videoconferencing, L2 learning, and learner autonomy. *Computer Assisted Language Learning* 33(5) 483-509.
- Marion, S.F., DePascale, C., Domaleski, C., Gong, B., & Diaz-Bilello, E. (2012). Considerations for analyzing educators' contributions to student learning in non-tested subjects and grades with a focus on Student Learning Objectives. National Center for the Improvement of Educational Assessment. Retrieved from [www.nciea.org](http://www.nciea.org).
- Martin, F., Ahlgrim-Delzell, L., & Budhrani, K. (2017) Systematic Review of Two Decades (1995 to 2014) of Research on Synchronous Online Learning, *American Journal of Distance Education*, 31(1) 3-19
- MarylandOnline, Inc. (2011). Quality Matters rubric standards 2011 – 2013 edition with assigned point values.
- Mayer, R. (2001). *Multimedia learning*. Cambridge, England: Cambridge University Press.
- McCracken, E. Fawn; Olson, S. Joann (2015). Is it worth the effort? The impact of incorporating synchronous lectures into an online course. *Online Learning Journal*, 19(2).
- Palloff, R. M., & Pratt, K. (1999). *Building Learning Communities in Cyberspace: Effective Strategies for the Online ' Classroom*. San Francisco, CA: Jossey-Bass.
- Pittman, C. N., & Heiselt, A. K. (2014). Increasing accessibility: Using universal design principles to address disability impairments in the online learning environment. *Online Journal of Distance Learning Administration*, 17(3).
- Rao, K., Edelen-Smith, P., & Wailehua, C. (2015). Universal design for online courses: applying principles to pedagogy. *Open Learning*, 30(1), 35-52. doi:10.1080/02680513.2014.991300
- Rose, R., & International Association for K-12 Online, L. (2014). Access and equity for all learners in blended and online education. International Association for K-12 Online Learning.
- Shank, P (2010). The importance of intuitive navigation in online course design. In Robert Kelly, (Ed.) *Online course design: Thirteen strategies for teaching in a web-based distance learning environment (Online Classroom Newsletter)* pp. 20-21. Madison, Wisconsin: Magna Publications Inc.
- Stavredes, T. (2011). *Effective online teaching: foundations and strategies for student success*. San Francisco, CA : Jossey-Bass, c2011.
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning, *Cognitive Science*, 12, 257-285.
- Terry Anderson, C. E. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *International Review of Research in Open and Distance Learning*, Vol 4, Iss 2 (2003), (2).
- Wiley, D.A. (2000). Learning object design and sequencing theory. Retrieved from <http://opencontent.org/docs/dissertation.pdf>



**Sam Houston State University**  
MEMBER THE TEXAS STATE UNIVERSITY SYSTEM