



# GUIDANCE FOR DESIGNING ASYNCHRONOUS LEARNING EXPERIENCES FOR ADULT LEARNERS

**CCNETWORK**   
Comprehensive Center Network

REGION 5  
Kentucky  
Tennessee  
Virginia  
West Virginia

## ACKNOWLEDGMENTS

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## Introduction

The Region 5 Comprehensive Center (R5 CC) worked in partnership with the Tennessee Department of Education (TDOE) to develop an adult learning framework and toolkit. These resources support education stakeholders in efforts to ensure all professional learning experiences implemented are:



high quality,



conducted and assessed consistently across the state, and



aligned with adult learning theories.

Technical assistance providers from R5 CC partnered with instructional design faculty to develop guidance for individuals who create asynchronous learning experiences.

This guide is a companion to the [Adult Learning Framework \(ALF\)](#). It works in partnership with the framework while considering the unique challenges associated with the development of engaging and effective online, asynchronous learning experiences that have become embedded in the fabric of learning for all.

## How to Use the Guide

The information contained in this guide focuses on:

1. the design of adult learner asynchronous learning,
2. the implementation of adult learner asynchronous learning, and
3. the selection of strategies, tools, and techniques.

The guide's appendices provide sample worksheets to support instructional planning and adult learner support.

## Asynchronous Learning Definition

Asynchronous learning is distinguished by the following elements:

- » Time-based delays between instructor and learner
- » Either cohort-based (instructor facilitated) or stand-alone, self-paced (learner focused)
- » Fully online
- » Increased learner responsibility for managing time, information organization, and information synthesis

Majeski et al. (2016) defined asynchronous learning as such:

*Completely asynchronous online learning with multimedia refers to learning that occurs entirely in the online classroom without a real-time component. It may include the use of multimedia such as video lectures, graphics, and/or other visual and auditory media. The asynchronous multimedia online classroom may*

*utilize announcements, discussion board forums (e.g., threaded discussions), and course material—such as audio-embedded PowerPoints, video lectures, and other visual/auditory media—to facilitate the achievement of course learning objectives. The role of the instructor is that of a facilitator of knowledge construction, skill acquisition, and transmitter of information. The role of students is that of learners who actively engage with course materials, other students, and the instructor to understand, analyze, and apply course concepts and skills.*

The assumption for development of an online training solution is that there is an identified **performance gap** due to a **lack of skills or knowledge**. The performance gap is not caused by individual motivation, policy, and/or an environmental gap.<sup>1</sup>

## Why Should Asynchronous Learning Be Considered?

Asynchronous learning plays a strategic role in the ongoing development of educators and school staff. Some of the reasons asynchronous learning experiences may be highly desirable to adult learners are:

- » **Adults prefer agency in their learning:** High-quality, on-demand forms of learning are often advantageous and desirable to adults who prefer to choose when, how, and what they will learn. Asynchronous learning allows for this choice, grants learners agency to set a pace that's right for them, and potentially minimizes time away from their professional role in the classroom, office, or work site.

<sup>1</sup> See Romiszowski (1992); Rossett (1987); Chyung (2008); and Ripley (2016).

- » **Adults are more open to learning when they feel respected and safe:** Not all adult learners are comfortable in large-group settings, where they may feel vulnerable or uncomfortable. Asynchronous forms of learning may be a more suitable match for many.
- » **Adults seek relevance and usefulness in their learning:** Asynchronous learning design holds promise for facilitating learning that is targeted and role-specific, therefore enhancing usefulness and relevance for the end user.

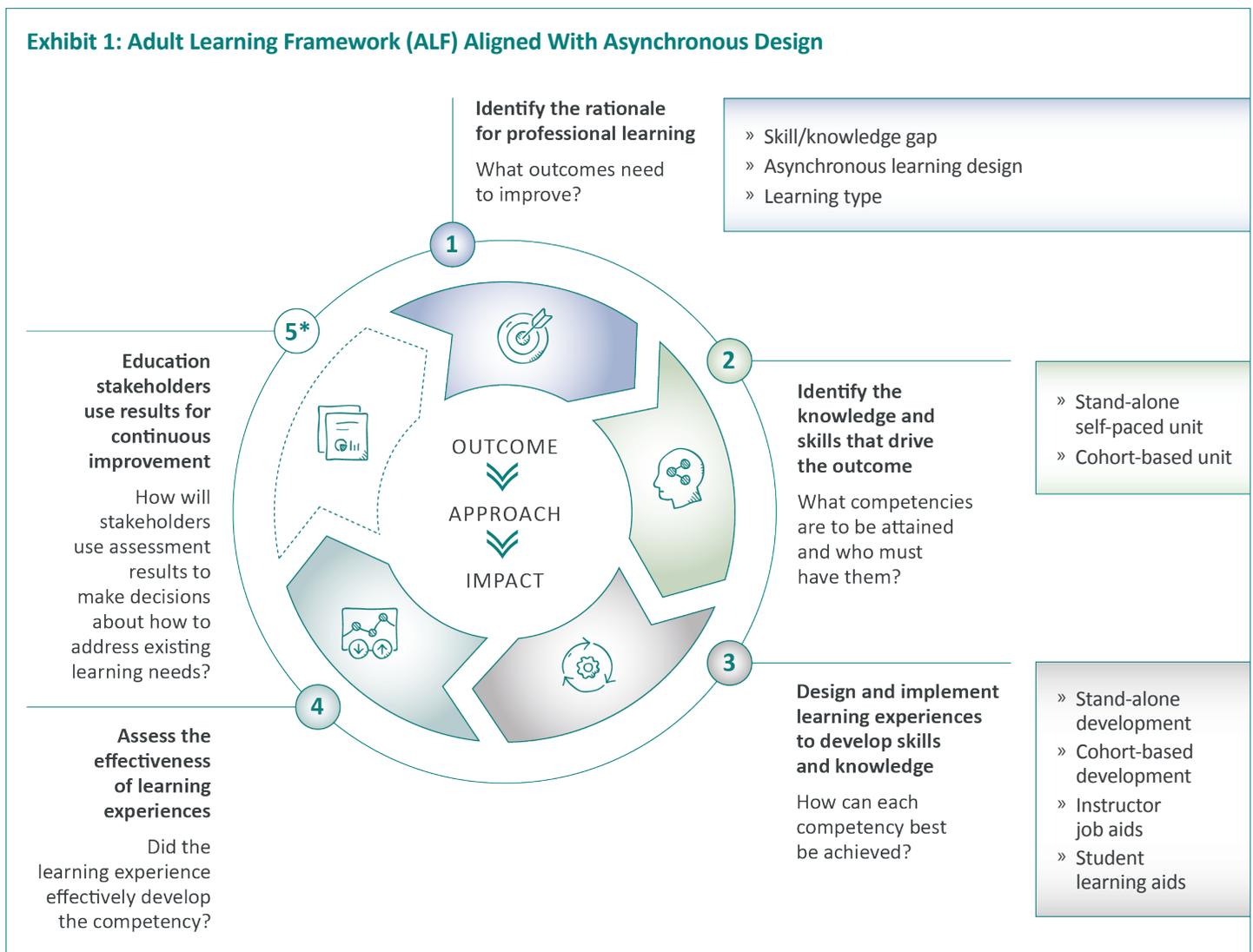
No matter the method, learning experience designers should always begin planning with the end in mind and are prompted in Step 1 of the ALF to identify the rationale for professional learning, specifically in terms of the desired outcomes for student performance (when appropriate). The decision to design an asynchronous learning experience can happen as late as Step 3d, when a designer determines a useful training method. However, there are considerations a designer may bring into the

decision-making process much sooner that solidify the intention to design an asynchronous learning experience from the start.

## Additional Considerations

- » Speed with which new knowledge must be disseminated and absorbed by the field
- » Desire to offer choice of methods for learning the same content
- » Desire for flexible, just-in-time learning options for relatively static information
- » Time and resource challenges that prohibit synchronous large-group learning experiences (virtual or in person)

Exhibit 1 illustrates where decisions regarding asynchronous learning may occur, along with additional decisions designers make related to the type of asynchronous method to employ for a given set of learning objectives. These decisions are further discussed below.



Within the context of asynchronous online learning, there are two formats: stand-alone self-paced units (single sessions) and cohort-based units.

**Stand-alone self-paced units (single sessions):** Some asynchronous learning takes place where there is no interaction between the learner and any instructor or other learners. Within this context, learners take on the primary responsibility for their learning. Learning is facilitated through active engagement with content. Feedback to the learner occurs through engagement with the content and the learning interface. Assessment of learning is commonly done using auto-scored quizzes. However, self-assessment can also be included by using reflective activities and/or providing self-assessment rubrics, worksheets, and questionnaires.

Stand-alone self-paced units are appropriate for promoting awareness of a content area at the level of remember and understand, as well as developing attitudes, opinions, and behaviors (affect). Examples of self-paced units include recorded webinars accompanied by an engagement guide, on-demand learning modules with embedded tasks that are housed in a learning management system (LMS), guided inquiry, and self-directed inquiry.

**Cohort-based units:** Some asynchronous learning takes place in cohorts, in which a group of learners engage with skills and content, as well as with one another, within time parameters. As with self-paced units, learning in cohort-based units is facilitated through active engagement. However, cohort-based learning includes additional types of engagement: learners engaging with the instructor and each other, as well as with content, to build a community of learners.

Cohort-based units are appropriate for facilitating higher levels of learning, including the development of intellectual and affective skills, as shown in Exhibit 2.

**Types of Learning**

Smith and Ragan (2005) used Gagné’s conditions of learning and Bloom’s taxonomy to create a mapping between the types of learning and levels of learning. Exhibit 2 illustrates the alignment between the types and levels of learning and the asynchronous instructional organization (stand-alone self-paced or cohort-based).

**Exhibit 2: Types and Levels of Learning<sup>2</sup>**

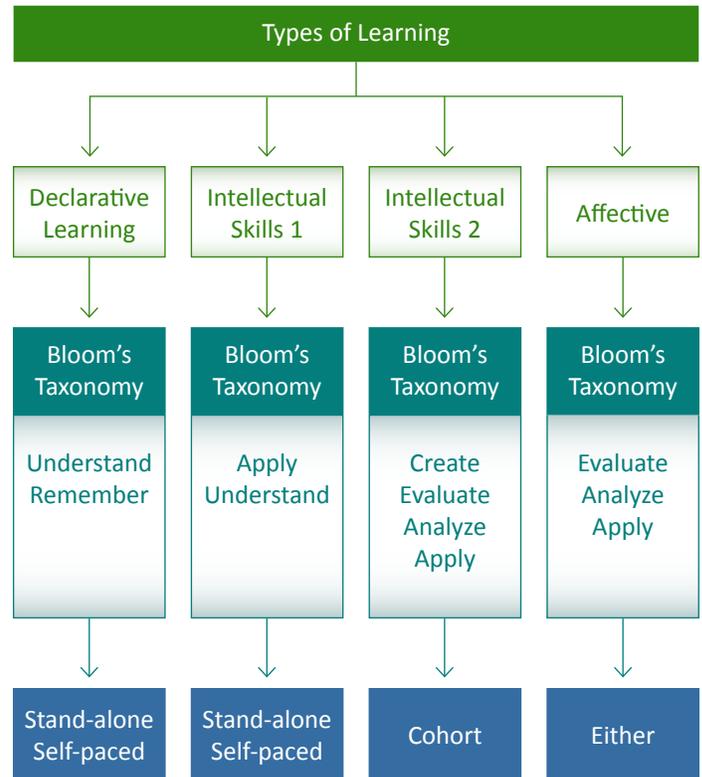


Table 1 defines each learning type and further explores its alignment with Bloom’s Taxonomy<sup>2</sup> to give a clear picture of the cognitive processes that thinkers encounter at each level, along with the continuum of increasing complexity.

We provide a definition, the delivery format(s), and Bloom’s Taxonomy level for each type of learning for:

- » Declarative knowledge
- » Intellectual skills 1
- » Intellectual skills 2
- » Affective skills

<sup>2</sup> <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>

**Table 1: Cognitive Processes and Delivery Formats**

| <b>DECLARATIVE KNOWLEDGE (FACTS/INFORMATIONAL)</b>                     |   |
|--|---|
| Definition   | “...require a learner to recall in verbatim, paraphrased, or summarized form facts, lists, names, or organized information. Learners are not required to apply the knowledge that they have acquired but merely to recall, recognize, or state it in their own words” (p. 79). <sup>3</sup>   |
| Delivery Format  | Stand-alone self-paced  |
| Bloom’s Taxonomy Level   | <p><b>Understand</b><br/>Explain ideas or concepts<br/>Verbs - classify, describe, discuss, explain, identify, recognize</p> <p><b>Remember</b><br/>Recall facts and basic concepts.<br/>Verbs - define, list, state</p>  |
| <b>INTELLECTUAL SKILLS 1 (DISCRIMINATIONS, CONCEPTS)</b>               |   |
| Definition   | “...the application of rules to previously encountered examples ... students learn how to not only recall, but also to apply knowledge to instances not encountered during instruction” (p. 80). <sup>3</sup>   |
| Delivery Format  | Stand-alone self-paced  |
| Bloom’s Taxonomy Level   | <p><b>Apply</b><br/>Use information in new situations<br/>Verbs - use, interpret, execute, implement, schedule</p> <p><b>Understand</b><br/>Explain ideas or concepts<br/>Verbs - classify, describe, discuss, explain, identify, recognize</p>   |
| <b>INTELLECTUAL SKILLS 2 (PRINCIPLES, PROCEDURES, PROBLEM SOLVING)</b> |   |
| Definition   | "...the application of rules to previously encountered examples ... students learn how to not only recall, but also to apply knowledge to instances not encountered during instruction" (p. 80). <sup>3</sup>   |
| Delivery Format  | Cohort-based  |
| Bloom’s Taxonomy Level   | <p><b>Create</b><br/>Produce new or original work<br/>Verbs - Design, construct, develop, formulate, investigate</p> <p><b>Evaluate</b><br/>Justify a decision<br/>Verbs - Appraise, argue, defend, judge, support, critique, value</p> <p><b>Analyze</b><br/>Draw connections among ideas<br/>Verbs - Compare, contrast, question, test, relate</p> <p><b>Apply</b><br/>Use information in new situations<br/>Verbs - use, interpret, execute, implement, schedule</p> |

<sup>3</sup>Smith and Ragan (2005).

**Table 1: Cognitive Processes and Delivery Formats (Continued)**

| <b>AFFECTIVE SKILLS</b> |  |
|-------------------------|--|
| Definition              | “... a mental state that predisposes a learner to choose to behave in a certain way... attitudes influence the choices learners make” (p. 82). <sup>3</sup>  |
| Delivery Format         | Stand-alone self-paced<br>Cohort-based   |
| Bloom’s Taxonomy Level  | <p><b>Evaluate</b><br/>Justify a decision<br/>Verbs - Appraise, argue, defend, judge, support, critique, value</p> <p><b>Analyze</b><br/>Draw connections among ideas<br/>Verbs - Compare, contrast, question, test, relate</p> <p><b>Apply</b><br/>Use information in new situations<br/>Verbs - use, interpret, execute, implement, schedule</p> |

### Situating Asynchronous Learning Along a Progression of Learning

The ALF describes three phases that are useful in capturing the intent of a learning experience. The movement from awareness through capacity and on to implementation represents increasing complexity and demand in the application of skills and knowledge for adult learners. Designers should thoughtfully and skillfully consider the match between session type and learning phase, as described below.

### Session Types

Each session type contains a number of differing organizational elements to be considered in the design and development of stand-alone self-paced or cohort-based learning. While each session type may use the same LMS or content delivery platform, the design and delivery of the learning, the types of LMS tools, and the student assessments implemented may differ. Table 2 presents an overview of considerations a designer brings to each session type.

**Table 2: Session Type Organizational Elements**

|  | <b>STAND-ALONE SELF-PACED</b>   | <b>COHORT-BASED</b>   |
|--|---|---|
| Learning Management and Content Delivery | <ul style="list-style-type: none"> <li>» Self-paced modules</li> <li>» Video slide deck</li> <li>» Quizzes/exams</li> <li>» Handouts</li> </ul> | <ul style="list-style-type: none"> <li>» Video slide deck</li> <li>» Threaded discussions</li> <li>» Quizzes/exams</li> <li>» Instructor prompts</li> </ul> |
| Levels of Learning (Bloom’s Taxonomy)    | <ul style="list-style-type: none"> <li>» Apply</li> <li>» Understand</li> <li>» Remember</li> </ul>   | <ul style="list-style-type: none"> <li>» Create</li> <li>» Evaluate</li> <li>» Analyze</li> <li>» Apply</li> </ul>  |
| Learning Phase                           | Awareness   | <ul style="list-style-type: none"> <li>» Capacity building</li> <li>» Implementation</li> </ul>   |
| Instructor Role (Type of Engagement)     | <ul style="list-style-type: none"> <li>» Course structure</li> <li>» Course organization</li> </ul>   | Active, ongoing engagement throughout training  |

**Table 2: Session Type Organizational Elements (Continued)**

|                                      | <b>STAND-ALONE SELF-PACED</b>   | <b>COHORT-BASED</b>   |
|--------------------------------------|---|---|
| Learner Role<br>(Type of Engagement) | Self-directed learner-to-content engagement facilitated by course activities  | <ul style="list-style-type: none"> <li>» Learner-to-instructor engagement facilitated by instructor</li> <li>» Peer-to-peer engagement facilitated by course activities</li> <li>» Learner-to-content engagement facilitated by course activities</li> </ul>  |
| Tools                                | <ul style="list-style-type: none"> <li>» Advance organizer</li> <li>» Session worksheets</li> <li>» Auto-scored quizzes</li> <li>» Rubrics<sup>4</sup></li> <li>» Self-assessments</li> </ul>   | <ul style="list-style-type: none"> <li>» Advance organizer</li> <li>» Session worksheets</li> <li>» Auto-scored quizzes</li> <li>» Rubrics<sup>4</sup></li> <li>» Self-assessments</li> <li>» Discussion boards</li> <li>» Project-based tasks</li> <li>» Group projects</li> </ul>   |
| Techniques                           | <ul style="list-style-type: none"> <li>» Intentional integration of asynchronous tools<sup>5</sup></li> <li>» Feedback<sup>6,7,8</sup></li> <li>» Cognitive strategies</li> <li>» Authenticity strategies</li> <li>» Self-regulated strategies</li> <li>» Reflective strategies</li> <li>» Student support<sup>9</sup></li> </ul> | <ul style="list-style-type: none"> <li>» Intentional integration of asynchronous tools<sup>5</sup></li> <li>» Discussion boards<sup>5,6</sup> <ul style="list-style-type: none"> <li>› Instructor prompts</li> <li>› Adding information</li> <li>› Asking follow-up and guided questions</li> <li>› Learner-to-learner interactions<sup>10</sup></li> </ul> </li> <li>» Feedback<sup>6,7</sup></li> <li>» Cognitive strategies</li> <li>» Authenticity strategies</li> <li>» Self-regulated strategies</li> <li>» Reflective strategies</li> <li>» Student support<sup>9</sup></li> </ul> |
| Assessments                          | <ul style="list-style-type: none"> <li>» Self-scoring quizzes</li> <li>» Exams</li> <li>» Self-assessment rubrics</li> </ul>  | <ul style="list-style-type: none"> <li>» Self-scoring quizzes</li> <li>» Exams</li> <li>» Projects</li> <li>» Collaborative projects</li> <li>» Case studies</li> </ul>   |

<sup>4</sup> Wyss et al. (2014).

<sup>5</sup> Zhu (2006).

<sup>6</sup> Giacomo and Wilhelmina (2020).

<sup>7</sup> Guo et al. (2014).

<sup>8</sup> Hattie and Timperley (2007).

<sup>9</sup> Dickson (2016).

<sup>10</sup> Oyarzun et al. (2018).

**Techniques to Promote Engagement**

Zhu (2006) noted the intentional integration of asynchronous tools was an important element of online learning:

*The findings show that it is unrealistic to assume that online discussion will engage and improve interaction between students and instructors and among students themselves under any circumstances. The study also confirms that interaction does not simply occur due to the discussion online, but it must be intentionally integrated into the discussion and course (Berge, 1999; King & Doerfert, 1996), and nurtured by the instructor and students. The findings further reveal that an instructor’s course/discussion design rather than the online environment (i.e., easy [sic] of posting messages and replying to peers’ message[s]) that may regulate students’ posting behaviors. Other factors that contributed to the types of interaction are found to be instructors’ role in the discussion, facilitation, and discussion questions (p. 471).*

Extrapolating Zhu’s (2006) findings regarding online discussion boards, regardless of the asynchronous tool selected, designers should intentionally integrate these tools into their designs rather than relying on learners or instructors to make the connection between availability and intentionality. Some of the techniques outlined in Table 3 are defined below, with examples provided.

**Discussions (Using Discussion Board Tool)**

*“[L]earners do not learn because they join a group or because technology was added to the course design; they learn when they perform activities that trigger specific learning mechanisms (Dillenbourg, 1999), and their activities, in turn, stimulate dialogue with others” (p. 85).<sup>11</sup>*

Dialogue is present when two or more individuals engage in response to one another. Incorporation of discussion boards or forums into an asynchronous course encourages dialogue; however, specific strategies should be employed to ensure learners engage in dialogue.

**Instructor Strategies**

- » Provide discussion instructions and prompts.
- » Ask follow-up questions that prompt learners to provide deeper, not superficial, responses.
- » Provide additional resources.

The degree of engagement by learners is impacted by instructor presence. Learners need to feel their posts are being read; however, instructors should not appear to take over the discussion. Responding too quickly, without allowing other learners to engage first, can discourage peers from participating.<sup>12</sup>

**Table 3. Suggested Techniques for Instructors by Delivery Format**

|                 |   |
|-----------------|---|
| Technique       | Provide explicit and relevant prompts that promote analysis of concepts, principles, and processes; provide the opportunity for unique responses; and encourage learners to relate concepts to their past experience. <sup>12 13</sup>  |
| Delivery Format | Cohort-based  |
| Examples        | <ul style="list-style-type: none"> <li>» Explain why _____ .</li> <li>» Explain how _____ .</li> <li>» How is [new knowledge] related to [your prior knowledge]?</li> <li>» Can you think of a time when you’ve [some process or procedure that requires new content] _____ ?</li> <li>» How are _____ and _____ similar or different?</li> <li>» What do you think would happen if _____ ?</li> <li>» Provide a case example and provide discussion prompt:                             <ul style="list-style-type: none"> <li>› How would you respond in this situation?</li> <li>› What strategies would you use to solve this problem?</li> </ul> </li> </ul> |
| Technique       | Ask follow-up and guided questions <sup>6 12</sup>  |

<sup>11</sup> LaPointe and Gunawardena (2004).

<sup>12</sup> Dennen (2005).

<sup>13</sup> Mayer (2008).

**Table 3. Suggested Techniques for Instructors by Delivery Format (Continued)**

|                 |   |
|-----------------|---|
| Delivery Format | Cohort-based  |
| Examples        | <ul style="list-style-type: none"> <li>» Can you give us an example?</li> <li>» Tell us more about that?</li> <li>» What are we missing from our discussion?</li> <li>» Are there alternative explanations to _____ ?</li> </ul>  |
| Technique       | Add information to discussion boards <sup>6</sup>   |
| Delivery Format | Cohort-based  |
| Examples        | For additional readings or information of the posts made by student/group 1, please see _____   |
| Technique       | Add information to discussion boards <sup>6</sup>   |
| Delivery Format | Cohort-based  |
| Examples        | <ul style="list-style-type: none"> <li>» For additional readings or information of the posts made by student/group 1, please see _____</li> <li>» Author/Website _____ has a good posting related to our topic from module 1</li> <li>» Note that student 1 and student 2 have presented two sides to the issue</li> <li>» Add frame type one or type two (see below) or a concept map to summarize discussion board</li> <li>» List main points from discussion board</li> </ul> |

**PROMOTING ACTIVE LEARNING**

Several strategies are useful for promoting active engagement by individual learners with the content. Learning designers choose strategies based on the type(s) of learning and related desired outcomes of a learning event. Several engagement strategies are described below.

**INSTRUCTOR STRATEGIES**

- » Cognitive strategies
- » Self-regulated strategies
- » Authenticity strategies
- » Reflective strategies

**Table 3. Suggested Techniques for Instructors by Delivery Format (Continued)**

| <b>COGNITIVE STRATEGIES</b> |  |         |            |         |  |  |  |
|-----------------------------|--|---------|------------|---------|--|--|--|
| Definition                  | “... used to support information processing: these include selecting information to attend to, promoting the encoding and storage of information, and enhancing retrieval” (p. 244). <sup>14</sup>   |         |            |         |  |  |  |
| Delivery Format             | Stand-alone self-paced<br>Cohort-based   |         |            |         |  |  |  |
| Types                       | <p><b>Mnemonic Strategies:</b><sup>13</sup> Memory aids that help learners remember facts. Mnemonic aids can be provided or learners can be encouraged to create their own.</p> <ul style="list-style-type: none"> <li>» <b>Name Mnemonics:</b> e.g., ROY G. BIV to remember the colors of the light spectrum (red, orange, yellow, green, blue, indigo, violet)</li> <li>» <b>Visual Mnemonics:</b> e.g., from physics, The Right-Hand Rule to determine the direction of current flow.<sup>15</sup></li> <li>» <b>Music Mnemonics:</b> e.g., The ABC song.</li> </ul> <p><b>Structure Strategies:</b><sup>13</sup> Strategies that help learners organize information.</p> <ul style="list-style-type: none"> <li>» <b>Outline:</b> using a structured outline, have learners fill in the information.</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 33%;">Term</th> <th style="width: 33%;">Definition</th> <th style="width: 33%;">Example</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>» <b>Frames:</b><sup>16</sup> Provide a visual display and organization of information.                             <ul style="list-style-type: none"> <li>› <b>Type One:</b> “... a grid, a matrix, or a framework for representing knowledge ... The frames include labels of main ideas in rows and columns” (p. 60). Frames can be used to help organize facts, ideas, concepts, examples, concepts, procedures, processes, descriptions, and explanations (p. 60).</li> <li>› <b>Type Two:</b> “The distinguishing feature of frames, type two, is that some law-like principle or statement allows, through inference, the completion of slots [or cells]. The principle is used to construct facts logically, to elicit personal knowledge from memory and to place that knowledge into the visual array, grid or frame” (p. 78).</li> </ul> </li> <li>» <b>Concept maps:</b><sup>17</sup> Have learners draw visual representations of concepts or processes. Later, the instructor can provide a concept map for comparison.</li> </ul> <p><b>Generative Strategies:</b> strategies that help learners connect new information to prior knowledge and their experiences.</p> <ul style="list-style-type: none"> <li>» <b>Propose questions:</b> Instruct learners to write down questions they have as they work through the unit materials.</li> <li>» <b>Write a summary:</b> Instruct learners to write a summary, in their own words, of the content presentation (readings, videos, etc.).</li> <li>» <b>Develop a visual summary:</b> Instruct learners to create a visual representation of the unit materials.</li> <li>» <b>Personal stories:</b> Write about an experience that comes to mind when studying a unit.</li> </ul> | Term    | Definition | Example |  |  |  |
| Term                        | Definition   | Example |            |         |  |  |  |
|                             |  |         |            |         |  |  |  |

| <b>SELF-REGULATED STRATEGIES</b> |   |
|----------------------------------|---|
| Definition                       | “... strategies that promote self-regulated learning and a degree of intellectual independence are those where students are encouraged to engage with learning activities that are self-directed and autonomous...” (p. 2). <sup>18</sup> |
| Delivery Format                  | Stand-alone self-paced<br>Cohort-based  |

<sup>14</sup> Smith and Ragan (2005).

<sup>15</sup> [https://en.wikipedia.org/wiki/Right-hand\\_rule](https://en.wikipedia.org/wiki/Right-hand_rule)

<sup>16</sup> West et al. (1991).

<sup>17</sup> Novak and Canäs (2008).

Table 3. Suggested Techniques for Instructors by Delivery Format (Continued)

| SELF-REGULATED STRATEGIES |  |
|---------------------------|--|
| Types                     | <ul style="list-style-type: none"> <li>» Pre-instruction self-assessments of skills and knowledge</li> <li>» Learning contracts</li> <li>» Daily or weekly list of tasks/goals</li> <li>» Forum/discussion board where learners can post any questions or problems and share solutions</li> <li>» Self-scoring quizzes</li> <li>» Tutorials to support learning</li> </ul> |
| AUTHENTICITY STRATEGIES   |  |
| Definition                | “Authentic activities provide students with opportunities to develop knowledge and skills needed for specific contexts, jobs and roles.” (p. 5) <sup>18</sup>  |
| Delivery Format           | Stand-alone self-paced<br>Cohort-based   |
| Types                     | <ul style="list-style-type: none"> <li>» Providing authentic/contextual cases and examples</li> <li>» Problem-based activities using “real” cases examples</li> </ul>  |
| REFLECTIVE STRATEGIES     |  |
| Definition                | “... a deliberate act of thinking about past or future events in which a perceived problem or activity is examined....” (p. 4) <sup>18</sup>   |
| Delivery Format           | Stand-alone self-paced<br>Cohort-based   |
| Types                     | <ul style="list-style-type: none"> <li>» Reflective journals</li> <li>» Peer-to-peer assessments (cohort)</li> <li>» Peer-to-peer sharing of reflective journals (cohort)</li> <li>» “What if” discussion threads</li> </ul>   |

<sup>18</sup> Luca and Oliver (2002).

## Appendices

### Session Planning Worksheet<sup>19</sup>

| GAGNÉ'S NINE EVENTS                                 | LEARNING PROCESS                                    | PLANNING NOTES: HOW IS THE EVENT GOING TO BE ACCOMPLISHED? |
|---|---|--|
| 1. Gaining attention                                | Reception of patterns of neural impulses            |  |
| 2. Informing the learner of the objective           | Activating a process of executive control           |  |
| 3. Stimulating recall of prerequisite learning      | Retrieval of prior learning to working memory       |  |
| 4. Presenting the stimulus material                 | Emphasizing features for selective perception       |  |
| 5. Providing learning guidance                      | Semantic encoding; cues for retrieval               |  |
| 6. Eliciting the performance                        | Activating response organization                    |  |
| 7. Providing feedback about performance correctness | Establishing reinforcement                          |  |
| 8. Assessing the performance                        | Activating retrieval; making reinforcement possible |  |
| 9. Enhancing retention and transfer                 | Providing cues and strategies for retrieval         |  |

<sup>19</sup> Gagné et al. (2005).





## References

- Chyung, S. Y. (2008). *Foundations of instructional and performance technology*. Amherst, MA: HRD Press.
- Dennen, V.P. (2005). From message posting to learning dialogues: Factors affecting learner participation in asynchronous discussion. *Distance Education, 26*(1), 127-148.
- Dickson, C. (2016). Considerations for introducing asynchronous discussion to enhance postgraduate online learner engagement. *Nursing Education Perspectives, 37*(6), 349-351.
- Fehrman, S. & Watson, S.L. (2020). A systematic review of asynchronous online discussions in online higher education. *American Journal of Distance Education, 1*-14. <https://doi.org/10.1080/08923647.2020.1858705>
- Gagné, R, Wager, W.W., Golas, K.C., & Keller, J.M. (2005). *Principles of instructional design* (5th ed.). Wadsworth/Thompson Learning.
- Giacumo, L.A., & Wilhelmina, S. (2020). Asynchronous discussion forum design to support cognition: Effects of rubrics and instructor prompts on learner's critical thinking, achievement, and satisfaction. *Educational Technology, Research and Development, 68*(1), 37-66.
- Guo, W., Chen, Y., Lei, J., & Wen, Y. (2014). The effects of facilitating feedback on online learners' cognitive engagement: Evidence from the asynchronous online discussion. *Education Sciences, 4*(2), 193-208.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81–112. <https://doi.org/10.3102%2F003465430298487>
- LaPointe, D. K., & Gunawardena, C. N. (2004). Developing, testing and refining of a model to understand the relationship between peer interaction and learning outcomes in computer mediated conferencing. *Distance Education, 25*(1), 83-106.
- Luca, J., & Oliver, R. (2002). Developing an instructional design strategy to support generic skills development. *Proceedings of the 19th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education*. Auckland, New Zealand.
- Majeski, R.A., Stover, M. & Ronch, J. (2016). Making asynchronous online learning more learner-oriented: An integrated conceptual model with applications for course design and instruction. *Educational Gerontology, 42*(2), 109-119. <https://doi.org/10.1080/03601277.2015.1083389>
- Mayer, R. E. (2008). *Learning and instruction*. Pearson.
- Novak, J. D., & Canäs, A.J. (2008). *The theory underlying concept maps and how to construct and use them*. Technical Report IHMC CmapTools 2006-01 Rev 01-2008, Institute for Human and Machine Cognition. <http://cmap.ihmc.us/docs/pdf/TheoryUnderlyingConceptMaps.pdf>
- Oyarzun, B., Stefaniak, J., Bol, L., & Morrison, G. R. (2018). Effects of learner-to-learner interactions on social presence, achievement and satisfaction. *Journal of Computing in Higher Education, 30*(1), 154-175. <https://eric.ed.gov/?redir=http%3a%2f%2fdx.doi.org%2f10.1007%2fs12528-017-9157-x>
- Right-hand rule. (2021, July 29). In *Wikipedia*. [https://en.wikipedia.org/wiki/Right-hand\\_rule](https://en.wikipedia.org/wiki/Right-hand_rule)
- Ripley, D.E. (2016). Joe Harless, Ed.D.: An ounce of analysis. *Performance Improvement, 55*(6), 41-48. <https://doi.org/10.1002/pfi.21596>
- Romiszowski, A.J. (1992). Is instruction the solution? In A. J. Romiszowski, *Designing Instructional Systems* (pp. 95-119). Nichols Publishing.
- Rossett, A. (1987). *Training needs assessment*. Educational Technology Publications.
- Smith, P., & Ragan, T. (2005). *Instructional design* (3rd ed.). John Wiley and Sons.
- West, C.K., Farmer, J. A., & Wolff, P. M. (1991). *Instructional design: Implications from cognitive science*. Prentice-Hall.
- Wyss, V.L., Freedman, D. & Siebert, C.J. (2014). The development of a discussion rubric for online courses: Standardizing expectations of graduate students in online scholarly discussions. *TechTrends, 58*, 99–107. <https://www.learnstechlib.org/p/154259/>
- Zhu, E. (2006). Interaction and cognitive engagement: An analysis of four asynchronous online discussions. *Instructional Science, 34*(6), 451-480.

## Other Resources

Anderson, G., Boud, D., & Sampson, J. (1996). *Learning contracts: A practical guide* (1st ed.). Routledge.

Armstrong, P. (2010). *Bloom's taxonomy*. Vanderbilt University Center for Teaching. <https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>

Banz, R. (2009). Exploring the personal responsibility orientation model: *Self-directed learning within museum education*. Adult Education Research Conference. Retrieved June 21 2021, from: <https://newprairiepress.org/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=3751&context=aerc>

Caffarella, R. S., & Caffarella, E. P. (1986). Self-directedness and learning contracts in adult education. *Adult Education Quarterly*, 36(4), 226-234.

Dennen, V.P., & Wieland, K. (2008). Does task type impact participation? Interaction levels and learner orientation in online discussion activities. *Technology, Instruction, Cognition and Learning*, 6(2), 105-124.

Green, R. A., Farchione, D., Hughes, D. L., & Chan, S. P. (2014). Participation in asynchronous online discussion forums does improve student learning of gross anatomy. *Anatomical Sciences Education*, 7(1), 71-76.

He, J. (2020). Construction of “three-stage asynchronous” instructional mode of blended flipped classroom based on mobile learning platform. *Education and Information Technologies*, 25, 4915–4936.

Hou, H.-T., Wang, S.-M., Lin, P.-C., & Chang, K.-E. (2015). Exploring the learner's knowledge construction and cognitive patterns of different asynchronous platforms: Comparison of an online discussion forum and Facebook. *Innovations in Education and Teaching International*, 52(6), 610-620. <https://doi.org/10.1080/14703297.2013.847381>

Laycock, M., & Stephenson, J. (Eds.). (1993). *Using learning contracts in higher education* (1st ed.). Routledge.

Lipnevich, A. A., McCallen, L. N., Miles, K. P., & Smith, J. K. (2014). Mind the gap! Students' use of exemplars and detailed rubrics as formative assessment. *Instructional Science*, 42(4), 539–559.

Rasi, P., & Vuojarvi, H. (2018). Toward personal and emotional connectivity in mobile higher education through asynchronous formative audio feedback. *British Journal of Educational Technology*, 49(2), 292-304. <https://doi.org/10.1111/bjet.12587>

Robb, C.A., & Sutton, J. (2014). The importance of social presence and motivation in distance learning. *The Journal of Technology, Management, and Applied Engineering*, 31(2), 2-10.

Rovai, A.P. (2000). Building and sustaining community in asynchronous learning networks. *Internet and Higher Education*, 3, 285–297.

Rovai, A.P. (2002). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *The Internet and Higher Education*, 5, 319-332. [https://doi.org/10.1016/S1096-7516\(02\)00130-6](https://doi.org/10.1016/S1096-7516(02)00130-6)