**Best Practices in Online Learning at Wilmington University**

A guide to better online teaching supported by research.



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# The Seven Principles Developed by Chickering and Gamson

Arthur W. Chickering and Zelda F. Gamson identified seven principles to improve the quality of education for undergraduates in 1987. While dated, the principles still stand and are valid beyond the undergraduate years and in online learning. The publication, *Seven Principles for Good Practice in Undergraduate Education* (1987) include:

1. Encourages contacts between students and faculty.
2. Develops reciprocity and cooperation among students.
3. Uses active learning techniques.
4. Gives prompt feedback
5. Emphasizes time on task
6. Communicates high expectations.
7. Respects diverse talents and ways of learning

In online learning, these principles can be enhanced when used correctly. Here is how we can adapt these principles.

1. **Encouraging contact between students and faculty**

Large lecture halls are often not conducive to giving individualized attention to students. Faculty in this situation will often not communicate with the majority of their students. In online learning, one can alleviate this with smaller class sizes, individual emails, and participating actively in discussion boards with students. Holding online “office hours” through a video conferencing tool is also beneficial for reaching out to students.

1. **Develops reciprocity and cooperation among students**

One of the most challenging aspects of online learning is student to student interaction. By providing students with open-ended discussions, group assignments utilizing tools like blogs and wikis, and allowing students to communicate within the class through online conferencing tools, an instructor can foster these relationships. An instructor’s active role in this environment is crucial to facilitating good discussions and learning.

1. **Uses active learning techniques**

Gone are the days of lecture, note-taking, and then testing students based on the information. Learning can and should be interactive. Online learning has the capability to offer new possibilities that puts the learning in the hands of the student. Instead of having students review the text, lecture slides, and then quizzing them, now one can use videos and other multimedia to enhance the learning experience. Instructors should have students create videos of presentations, actively participate in group problem solving, and participate in authentic tasks which mirror the work environment of that program.

1. **Give prompt feedback**

Online learning makes individualized and personalized feedback even easier. When grading, you can address the student directly. Assignments can come in throughout the course of the week, allowing instructors to spend small chunks of time grading and giving feedback—avoiding burnout from grading a pile of assignments for a few hours at a time.

1. **Emphasizes time on task**

People are busy, and that goes for students as well. Utilizing appropriate assignments that do not burden students with extra work is vital to learning. If the task seems tedious and not connected to the objectives, then engagement, followed by learning, will suffer. Instructors should keep in mind the workload when designing their courses and give multiple prompts and extra time for projects that require it. Since an online environment allows for flexibility in pace, a lot of responsibility falls on the student. Faculty should keep in mind all learners (e.g. proactive, last minute, and those who like to pace themselves).

1. **Communicates high expectations**

Even though the instructor is not usually meeting face to face with their students in an online environment, there is still a need for the instructor to be presence and communicate high expectations. Students will inevitably put forth the effort they need to get by, so faculty need to set that bar high in order for students to reach their maximum potential. Faculty should offer extra help, guidance, and be an active participant in the course in order to convey their expectations.

1. **Respect diverse talents and ways of learning**

Students are all different, regardless of whether they are in a physical classroom or digital. They come with their own background knowledge and skill sets. Allowing students to learn in their own way can be easier online. By giving students multiple resources of varying difficulties and conveyed in different ways, students can forge their own path to understanding the material.

# Effective Feedback Supported by Wiggins

In his article, *Seven Keys to Effective Feedback* (2012), Grant Wiggins describes what an educator needs to do in order to prompt learning through appropriate feedback. We can apply this to the online learning environment as well.

1. **Goal-Referenced**

When giving a student feedback, make sure that there is a goal in mind. When a student gives an instructor a piece that does not quite fit the criteria of the assignment, refer back to that specific section and address it openly.

1. **Tangible and Transparent**

Feedback needs to be productive and work towards something obtainable. It needs to have clear and precise direction. Students will respond best when they are given guidance with actual examples or clear directions on what is expected of them. If a student is using incorrect formatting, just saying, “Your format is wrong,” will not suffice. Clearly the student thought they were fine, otherwise they would not have done it that way. Giving them direction such as, “The formatting here is not aligned with your guide, please refer to…” is much more meaningful and gives students a way to learn and build based on their mistakes.

1. **Actionable**

Feedback should be useful. Merely stating, “Good job,” “This is wrong,” and similar phrases does not what they should do or not do specifically again. “Your argument here is strong a valid claim supported by strong details,” tells a student a lot more than, “Nice!” Asking questions of students when giving feedback also makes them take action on their own. Good, thought-provoking prompts can allow for deeper reflection.

1. **User-Friendly**

Making sure that students can understand the intended meaning is imperative to effective feedback. Think of it as taking an advanced physics course when you never took introductory physics. The words and sentences can be well structured, but the meaning is lost to the reader. Keep the language simple, to the point, and avoid excessive verbiage. The goal is to help students learn and improve, not confuse and hinder.

1. **Timely**

In a course, one may write five essays on various topics. At the end of the course, they receive feedback from the instructor that points out the same error throughout all five papers. If the student received timely feedback in the beginning with the first assignment, they would have the opportunity to improve upon their work, making grading a lot easier and learning a lot more appropriate. One should keep in mind that peer-review can be used to help give feedback while lessening the workload on faculty. However, training students to give effective feedback should occur in order to maximize potential.

1. **Ongoing**

The more feedback a student receives, the better the work will become. During formative assessments, a student should be given multiple attempts to build their work so that the summative assessment is not so daunting. Instructors want to ensure success, not failure. Offering ongoing feedback will help a student build a solid piece of work.

1. **Consistent**

The idea of high quality work needs to be consistent and transparent to all students. A most frustrating case can occur when two students question their grades based on feedback given to the other student. Using rubrics to help guide feedback and grades can alleviate this to a degree. Faculty should evaluate student work together in order to build a consistent framework for high quality work.

# Reducing Cognitive Load Developed by Mayer and Moreno

Richard Mayer and Roxana Moreno compiled a list of ways to reduce cognitive load in multimedia learning due to the increase use of multimedia in the learning environment. Words, graphics, sounds, and video started to dominate the scene as the big new thing. However, too much of anything is bad, and this applies to the use of multimedia as well. They described several overloading examples and ways to rectify it in their article, *Nine Ways to Reduce Cognitive Load in Multimedia Learning* (2010).

1. **Limiting sources of multimedia**

Giving students multiple examples in multiple ways is not necessarily a bad thing, but doing so all at once is. When using a video to help facilitate learning, the screen should be focusing on the video. No additional text should be made available that could divert the student’s attention. If two stimuli are present, then there is a chance that the student’s attention is split and retention of information is inhibited.

1. **Segment**

If a video comes with both narration and vivid imagery, break down the video into chunks and avoid moving too fast through it. The brain is trying to process both the words and the images to make a coherent package. Moving too fast and having too much information will cause limited retention.

1. **Pretrain**

If segmenting is not feasible, pretrain the student by giving prior instruction regarding what they are about to see. Prompt them by showing parts of the system being explored so that they already have part of it processed cognitively.

1. **Weeding**

Having a stunning video full of vivid images, music, and narration can sound good, but when a learner is trying to process all of that information with the distraction of other nonessential pieces, it becomes too much. Weeding involves making content concise and coherent so that the learner is not focusing on extraneous material.

1. **Signaling**

When eliminating the extra pieces of a multimedia presentation cannot be done, signaling can be used to help focus students’ attention on the important pieces. Visual cues such as arrows, key words, or graphic organizers can help student’s focus on the critical pieces of information without overloading from the extra material.

1. **Align words and pictures**

Having students look in two different places for information at the same time will cause an overload. Perhaps one screen has images where another has text describing the image. Instead, the text and images should be together on one screen.

1. **Eliminating redundancy**

If a student has to read about steps involved in a system and then views an animation of that system, the cognitive capacity of the learner is holding the first piece in their working memory, which does not allow for full capacity during the second piece. Reducing the amount of the same information can help retain information. Instead, aligning the two would be preferable.

1. **Synchronizing**

As in the above example, taking a short narration followed by a short animation, the cognitive load is increased as the student is processing one piece of information (narrative) and then trying to process another piece on top of it (animated). Combining the two into one visual/aural presentation would do better for reducing cognitive load.

1. **Individualizing**

Students are individuals first and foremost. Mayer and Moreno (2010) describe that there are two types of learners, low-spatial and high-spatial, that can handle non-synchronized material differently. High-spatial learners have an easier time handling material that is presented like in the above example involving a short narration followed by a short animation, whereas low-spatial learners have a more difficult time. If synchronizing is not an option, an instructor must be sure that low-spatial learners have an appropriate alternative.

# References:

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin*, *3*, 7.

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