



Teaching One Another by Flipping the Classroom

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College can be very difficult. Many students are learning to cope with their new autonomy, a complex schedule, novel social situations, finances, and real-world issues. This is in addition to learning brand-new subjects. Even students with good study habits may be challenged by in-depth topics taught by master educators. Compounded with all of the distractions competing for their attention, a university education can be overwhelmingly stressful. Young adults frequently need mentors to help them through the transition to stable adulthood.

College can be difficult for instructors as well. Most educate because they love both their subjects and the success of young learners. Faculty want to be excellent teachers, and most genuinely desire to be innovative in their classes. As cited by professors, the biggest obstacle to innovation is time constraints (Walder 2015). A great portion of class time is spent covering the necessarily materials, and so opportunities to mentor, lift, and support are curtailed.

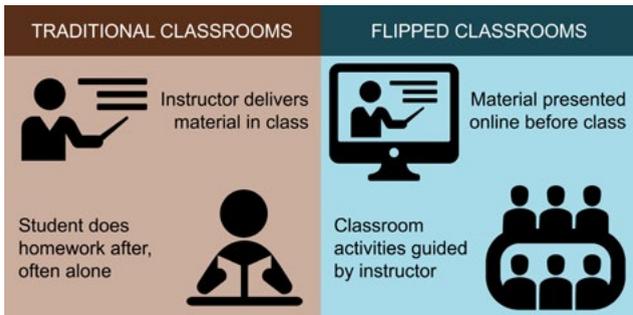
Professors and students both benefit from the mentor-mentee relationship. For students, especially underrepresented or at-risk students, mentoring improves understanding, reduces stress, and increases the likelihood of staying in school (Hurd, Tan and Loeb 2016). In turn, the faculty gain insights into teaching, and their instruction improves (Cook-Sather 2014). In making meaningful relationships, precepts of the Gospel can also be demonstrated through serving and supporting each other.

With the limited time available in a traditional classroom, it's nearly impossible to develop mentoring relationships. The instructor in this setting is the dispenser of information, or as Alison King labeled it, a "sage on the stage" in relation to the students (1993). The learner receives instruction in the group setting, passively listening or taking notes while the teacher gives wisdom, and then completes assignments alone. While this may be a convenient way of delivering information for the instructor, it may not be the most efficient method of learning for the student.

Students learn best when actively engaged (King 1993). This can involve connecting with the material or with the instructor, but it can also involve peer instruction (Mazur 1997). In order to make this happen, class time must be structured differently. It should be leveraged to have more time among peers, and also interaction between students and faculty. That is difficult to do when class consists of lectures alone. One solution is to "invert the classroom" (Lage, Platt, and Treglia 2000) by putting the lectures, reading, and instruction online. The class can then be used for completing work and having study groups. In this way, students can teach one another and the teacher can mentor students, either individually or in small groups. This has become known as a "flipped classroom."

The biggest differences between a traditional and flipped classroom are two-fold. First is the amount of preparation a student must complete before class begins. In a traditional class, many students enter tabula rasa, and the first exposure to the material is from the lips of the instructor. In a flipped classroom, the student attends class after learning the materials. This allows them to come with a basic understanding, able and ready to engage in discussion.

The second difference between traditional and flipped classrooms is the location where the students work. The assignments previously completed at home would be done,



at least in part, in class. This is assisted by study groups and with the help of the instructor and teaching assistants. Students who easily understand and can complete the work can also assist those that don't. This deepens the connection the high-achieving students have with the subject while lifting the struggling ones.

While a flipped classroom may seem like a recent or novel invention, it's really quite established. Textbooks were a way of flipping the classroom before computers existed. It was expected that students would come to class prepared for an active discussion. Additionally, the Savior used some flipped-classroom strategies when teaching. Among the Nephites, Jesus taught directly, but then acknowledged that they couldn't understand sufficiently yet. He sent them home to ponder, pray, and prepare before meeting again (3 Nephi: 17:1-3). He also affirmed that people learn by actively doing when he said, "If any man will do his will, he shall know of the doctrine..." (John 7:17) and entreating people to be "...doers of the word, and not hearers..." (James 1:22). These are only some of the many techniques used by the Master Teacher.

BYU-Idaho's Learning Model employs flipped-classroom strategies. The student's portion of the process begins with preparing before class begins. Students can then teach each other in class, and then take time afterward to ponder what they've learned and prove that they understand. This proving stage also becomes part of the preparation for the next class (BYU-Idaho n.d.).

One example of how the flipped classroom is being used at BYU-Idaho is in the nutrition department. Nutrition 150 was restructured to allow for more classroom interaction

among peers and between faculty and students. To maximize mentoring time, teaching assistants were trained to instruct portions of the class and lab, lead small group discussions, and assist students directly. The students were expected to come to class having completed the reading or learning materials, and then they completed in-class quizzes or tasks that showed understanding. In-class activities were focused on application and interaction.

Implementation of a flipped classroom was not without its challenges. Initial time investment was a concern, especially in training the assistants and retooling the curriculum. After the changes were established, more time was freed up for the instructor. Assistants could take a more active teaching role, and could train assistants in subsequent semesters. The faculty concluded that well-trained student mentors were key to the success of the course.

Training the students how to learn in a flipped classroom posed additional dilemmas. Many were accustomed to passive learning, especially those new to BYU-Idaho. It took several class periods before some understood how the preparation materials were essential to their success. Some resisted the group work and activities in class, preferring to sit back and watch, but over time, this decreased as well. Some students were unmotivated or lazy, but it is unclear if this was the same percent unmotivated or lazy in a traditional classroom. Generally, once the students adjusted to the flipped format, improvement was notable.

By flipping the instruction to preparatory assignments, and by making the classroom active, the roles of both learner and teacher shift.

As students engaged and participated in class, test scores rose. Overall test scores increased by one full letter grade. The most marked difference was in the low-performing group. These same tests were identical to those given before the shift to a flipped classroom. Enjoyment of the class improved, as did the course evaluations. Students reported spending more time learning, more overall satisfaction, and a better experience.

After flipping the nutrition classroom, the faculty and instructional designers who were used as consultants in the process developed tips for flipping other classrooms. Suggestions include:

CHOOSE AN ACTIVITY WHERE DIRECT INSTRUCTION COULD TAKE PLACE ONLINE AND MAKE IT CLASS PREPARATION. This may be done through readings, videos, recorded lectures, or interactive software or tutorials.

HOLD STUDENTS ACCOUNTABLE FOR THEIR OUTSIDE WORK. Individual assessments such as quizzes work well, but it is even more important to make the outside preparation relevant to the in-class activities. Avoid the temptation to re-teach the preparatory materials.

CREATE A STUDENT-CENTERED, ENGAGING ACTIVITY FOR CLASS TIME. Consider having the students work in small groups that allow the instructor to float among them and mentor the groups as necessary. Use teaching assistants whenever possible.

START SMALL. Do not try to flip an entire course at once, but begin with a single activity. Get feedback from the students along the way, and do not be afraid to fail at first.

GET HELP. In addition to colleagues and teaching assistants, past students, curriculum developers, and people from other departments may be of service. There are also papers that give ideas for small changes and techniques



specific to the college classroom, such as Faust and Paulson's catalog of active learning techniques (1998).

DON'T GIVE UP. Flipping a classroom takes a shift in thinking for the instructor, assistants, and students. It may take several semesters to adjust thinking and actions.

Active learning, implemented well, works (Prince, 2004). By flipping the instruction to preparatory assignments, and by making the classroom active, the roles of both learner and teacher shift. The student learns to “act and not only be acted upon” (Bednar 2006 ref. 2 Nephi 2:13–14), and the role of the instructor shifts “from sage on the stage to guide on the side” (King 1993). This role allows for more mentoring and more personal connections. The learners become empowered, and the instructor can engage in more Christ-like lifting and love for the students. ❖

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