Using Backwards Design to Guide a Switch to Virtual Instruction

This is a stressful time as many faculty look to make a huge shift in pedagogy in a short amount of time. While there are many strategies to help instructors successfully transition, this guide will use the framework of backwards design to help best shift content.

Background: Backwards design was introduced by Grant Wiggins and Jay McTighe in their book **Understanding by Design**. The basic idea focuses on designing a course by conceptualizing the ideal student at the end of your course. Thinking of this student, instructors ask the question, "what does this student know?" or "what skills does this student have?" This step is called underlining identifying the desired results and it helps focus instructors about the knowledge that is important in the course they are creating. This knowledge can be used to begin to create learning objectives. The second step is to determine the acceptable evidence for those knowledge and skills. In other words, how can you assess that students have the knowledge and skills you have identified as crucial to your course? The final step is to plan learning experiences and instruction. For a more detailed look at the process, the **Vanderbilt University Center for Teaching** has a good guide.

Context Influencing Decisions: Before jumping into design, it is important to think through some of the current considerations for both faculty and students.

Faculty must be empathetic to the struggles our students are facing in light of this crisis. Even in the most ideal of circumstances, the sudden shift in pedagogy can cause stress, shifts in study habits, and annoyance of being forced into a learning mode they did not choose. On top of that, students may be struggling with numerous non-academic issues such as illness, child care, loss of income, and general stress. Another consideration is the possible technological limitations students may be facing. Worst-case scenario students may not have reliable access to a computer or the internet. Or more likely, they only have access via a smart phone which is not the optimal way to interact with virtual material.

Faculty have an academic obligation to students. Despite the obstacles students currently face, faculty need to think about their material in terms of essential learning. Many courses provide foundational information for future courses or post-graduation goals. Therefore, faculty have a responsibility even under difficult circumstances to prepare students for success in future courses where the information in their current classes is crucial. While there may be a temptation to remove large portions of material given the various constraints, we must think through if the benefit in the short-term is going to give the students more issues in the long-term if they end up struggling in future courses.

Faculty need to protect their time and mental health. Most faculty understand that these decisions are for the greater good of society/our students and will do the hard work to make these changes and ensure that student learning is preserved. While faculty have obligations to the university and students, they cannot do this to the serious detriment to their mental health, families, or career. Decisions to learn complex new technology or create materials that are just as robust as the things you had months to design for a face-to-face course must be weighed against your well-being.Hopefully this

guide will help instructors design a course that meets students needs while being mindful of the constraints of faculty.

There are no easy answers about how to balance these issues. Each faculty member must make their own decisions, but naming the concerns will help inform the choices we make as we shift the design of our courses.

Applying Backwards Design to a Virtual Shift: Given the above context, faculty can use the main principles of backwards design to guide the decisions they make in transitioning to a virtual environment. Faculty already have stated learning outcomes in their courses from whichever design technique they employed when designing their course. The following steps should help with shifting them to a virtual environment:

Revisit your Identifying desired results.
Think about presenting students with a revised set of learning outcomes for the remaining class time.

- Some of your learning outcomes may have already been accomplished. So **consider eliminating completed outcomes**. Rather than deleting them from the syllabus,you could present students with the remaining learning outcomes in a document outlining your plan for the remaining portions of the course (or perhaps denote them with a strikethrough).

- **Consider revising some learning outcomes**. Previous learning outcomes may represent the ideal circumstances. Faculty may want to think about the desired results as "given the current constraints, what knowledge do I *really* need students to know?". Beyond just information, what is the enduring knowledge you want them to know next semester? Next year? These constraints will help you identify the crucial elements of the course and focus on them with the time remaining.

- **Briefly explain changes to students**. It will be helpful if you provide students with some of your rationale behind the changes. While you do not need to bore them with the details of how the sausage is made; students appreciate when you explain the reasons behind the decisions you made. Take it as an opportunity to focus them back on the learning outcomes in the course.

Revisit acceptable evidence: Given the constraints (time, your familiarity with online tools, your well being) how can you best assess your revised learning outcomes? The following consideration could be helpful as you apply the backwards design framework to this shift:

- **A common mistake** of those newer to virtual teaching (I made this mistake too) **is trying to pick up your face-to-face course and drop it online**. It is a different medium and has different strengths and weaknesses. The analogy I often use is when television was first invented the first thing produced were filmed radio plays. They simply reproduced what they were doing before in a new medium that has very different possibilities. Think about how a virtual environment might accentuate your outcomes. **Think about what virtual instruction**

can do well, and spend energy there rather than worrying about how it may not be able to duplicate some aspect of your previous design.

- **Keep it simple**:Think about what is the most simple and concise way to assess student knowledge. While there are several very dynamic online tools to engage students, think about the learning curve involved to 1) make it work 2) do it well. While we do not want to short-change students, parsimonious assignments that help them learn are more effective than a flashy technique that is handicapped by lack of familiarity or mediocre implementation.

- **Don't forget the basics**: Letproven techniques such as meta-cognition guide your assessment. For example, having students engage their readings and then answer questions in a journal may not seem like the most dynamic teaching technique. However, if those questions go beyond just the recall of facts (something students can skim the reading to find) and encourage them to think about the underlying meaning of material, it can be very useful to students. Asking them to identify the major themes of a reading and apply it to a previous reading in the course is a simple way to get them to engage the reading on a deeper level. I have found that by slowing down and really having students engage their reading, they are able to have deeper learning experiences that can often be missed in a face to face class when they may only skim the reading.

- **Think about taking exams and quizzes in a virtual environment**. There are various technological safeguards in place to cut down on the chances that students engage in academic dishonesty during a virtual testing environment. Some of these tools have a learning curve and none of them are guaranteed to work. Instructors should assume that students will have access to additional material or information to assist them during the exam. Regardless, some courses may have to use these techniques to assess students. However, if traditional quizzes and exams are not a necessity, instructors may want to consider open-book exams or take-home style exams that emphasize application rather than recall.

Revisit planning As you make changes to your course, think about how you are going to present these changes to students. By keeping things simple will allow faculty to present changes in a clear and concise manner to students. **Remember students will have multiple classes changing at once, so the easier it is for them to understand, see, and navigate the changes the less stress for them and the greater likelihood that they will succeed**. So when making decisions, think about how you will need to communicate them to students and how long that will take. If these explanations become too complicated or abstract, that might be a sign that there might be a more straight-forwd way for you to present and assess your learning outcomes.

Hopefully these principles will help provide some help or structure as you undertake this process.