

# ASSIGNMENTS THAT ENGAGE!

A Teaching Resource from the Walker Center for Teaching and Learning



**Assignments that engage the student and at the same time offer solid demonstration of their learning take time to craft.**

**UTC Faculty share their insights into active-learning by offering descriptions of assignments that truly engage the student.**

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# **I. SCAFFOLDING AND STAGES**

# SCAFFOLDING AND STAGES

## PEER REVIEW

One of the most important student learning outcomes in my Hydrology course is the ability to design and implement a hydrological study. This is also the learning outcome students struggle with the most. To engage this objective, I assign 1-2 peer “research activities” in the first half of the semester. In these activities, I review the available “tools,” i.e., specific models and equations that students have learned and then present a research question that could be answered with those tools. I divide the students into groups of 2 or 3 and then **provide some guiding questions:**

1. What is the conceptual model of your system?
2. How can you convert your conceptual model into a quantitative model?
3. What data will you need to make that conversion and where will you get it?

Then, I ask the students to work in their groups to **outline a procedure** they would use to answer their research question. I try to emphasize that the objective is to outline a strategy, not to find the solution (for now).

In the next class period (50 minutes), each group **presents their strategy** to the class and through an iterative, peer-review process, we work as a team to **synthesize a single approach** that we can all agree on. For the next class period, students will **apply** this method and submit their solutions.

I like to use this strategy because it really gets students thinking about the hydrological system as a whole instead of focusing on individual pieces or equations, and this is where I finally start to hear a lot of critical thinking. Furthermore, it gives an opportunity to demonstrate in a practical matter that many of the methods applied in Hydrologic research are models, not precise solutions, and that there are many ways to approach the same question. The goal is not to find the “right” method, per se, but to find an approach that is deemed most acceptable among peers.

### Meet the Faculty



**Stephanie DeVries**  
**Biology, Geology, and**  
**Environmental Science**

# SCAFFOLDING AND STAGES

## PHASES, FEARS, AND SUCCESSES

**Three Phases:** I inherited a 3 phase assignment in my Family Life Studies (FLS) on-line course that I love and I think the students do too (I think).

**Phase 1:** I ask the students to create an **outline** of at least 3 major Fundamentals of Laparoscopic Surgery topics and how they relate to the student.



**Phase 2:** The students create a **story-board** that further evaluates our topics in relation to their own upbringing/ experiences.

**Phase 3:** This is actually two parts: students create a **video** and upload it to YouTube and then **share the link in a discussion board** where other students will watch and respond.



### Meet the Faculty



**Lynette Carlson**

**Health & Human  
Performance**

**The Scary Part:** The videos are usually the scary part! Through this process, they use a lot of different technologies and they usually panic, but I think these are helpful to be familiar with in this age of technology! Actually, I'm surprised by how students fear new technology.

**Struggles and Joys:** In the end, students report struggling with some of the phases but they enjoy applying the course material to their life and upbringing.

# SCAFFOLDING AND STAGES

## SELF-REFLECTIVE AND SELF-REFLEXIVE

**A New Process:** Documentation and reflection are essential aspects to a creative practice, so it is common for graphic design programs to have students make books or binders that collect their research, sketches/drafts, and final work. These collections are incredibly useful to the individual students but to almost no one else. Instead of treading this well-worn path, I developed **a new process book assignment**. The process books are still the culmination of a project's work, but the students distill the documentation. They are required to make something new that communicates the steps for going from nothing, to idea, to finished work.

**The Prompt:** “Your book will include the process of making each of the projects throughout the semester, but it will be about the larger narrative of your creative process as a graphic designer. Your objective is not to showcase ‘finished work’. Instead, aim to give readers a sense of how you think, how you generate ideas, and how you approach design problems.”

**Reflect and Codify:** These self-reflective and self-reflexive documents give students a chance to develop self-knowledge and to practice communicating about their work — invaluable professional skills that can impact their early career.

### Meet the Faculty



**Derek Witucki**

**Art**

**Free to Be Themselves:** I find that students engage with this project the most out of any that I have done. Every time I have implemented a variation of this project and its strategies, the students tell me that they feel like they are free to be themselves in my classroom. I think this is because it gives them the structure to reconcile their professional and personal identities. The act becomes a form of mentoring which the students use to openly express themselves. That alone keeps many engaged, but I've also seen several underperforming and seemingly unengaged students use the projects to levy self-criticism, to identify their obstacles, and to give themselves a roadmap for their later success.

# SCAFFOLDING AND STAGES

## GIVE THEM THE TOOLS!

**Achievable Projects:** Part of my job as a Studio Librarian is to help disciplinary faculty members design **multimedia assignments** for their classes. I find that one of the easiest ways to engage students with a multimedia project is to make it something achievable. So many faculty members will tell students to “just do something creative!” for an assignment, without giving specific guidelines. By leaving the project so open to interpretation, students will often shut down and leave the project to the last minute. Instead, giving them a specific assignment or a couple of options can make students much more engaged. It also makes it much easier to come up with rubrics that can cover multiple types of projects when there aren’t dozens of possible projects!

**Scaffold Pieces:** I have also found that it’s much easier to scaffold larger concepts when you keep the pieces small. This semester, I worked with someone teaching from ENGL 1020 classes who wanted to give a variety of options for the multi-modal project. When we talked about what the instructor wanted the students to get out of the project, she wanted them to focus on research and not worry so much about writing. Since they will have plenty of writing later in the semester, she wanted this to be a smaller project where they start using the research skills they learned at another library session.

### Meet the Faculty



**Sarah Kantor**

Library

**Give Them the Tools!:** Finally, not to toot the Studio horn too much, but I think that if you want students to be engaged in an assignment, you need to give them the tools to do it. Every day I see students come to work on a multimedia project and say “I don’t know technology.” I had two students say it today alone. They don’t think of taking pictures for Instagram as the same as taking pictures for an assignment, and they don’t think they can edit photos on a computer even if they can do it in VSCO. Giving them the resources to do these projects, including where to go for help, is the difference between a student who cares about the assignment and a student who just wants to get the assignment done.

# SCAFFOLDING AND STAGES

## PROCESS, PRACTICE, PIZZA, PITCHES AND PRIZES

**A Three-Step Process:** In Entrepreneurship, our educational mission is to help our students to develop their entrepreneurship skills. We use a three-step process for skill-building: impart knowledge (theory and concepts), provide opportunities to practice that knowledge, and provide feedback on this practice.

**By Way of Example:** As an example of how this works, if I am teaching our course on New Venture Creation, I am providing students with information about business modeling, Lean Startup customer identification, engagement strategies, tactics, revenue models, networking strategies, etc. I can then break them into teams and task them, using a tool called the Business Model Canvas, to use what they have learned to develop a business model (how a business makes money) for a business concept with which they will work.

**Practice and Pizza:** I require them to prepare both a written business model and a pitch presentation (including a slide deck), which they will make at the end of the semester. Along the way, I am giving them feedback on their efforts to practice their knowledge. I also require them to engage in selected activities at CIE, in particular "co-working", which brings student entrepreneurs from across campus, faculty and members of the community's entrepreneurial ecosystem together weekly to informally discuss their business challenges over pizza.

### Meet the Faculty



**Tom Lyons**  
Marketing &  
Entrepreneurship

**Pitches and Prizes:** I also encourage them to participate in CIE's pitch competitions, which occur twice annually and offer prize money to the winners. This allows them to practice their pitch in a larger setting outside the classroom and get feedback from local entrepreneurs (the competition judges). In this way, assignments are meaningful and engaging because it is clear to the students why they are doing what they are doing. They can clearly see the path from theory to practice and how that can help them to achieve their goals.

## **II. FIRST-HAND OBSERVATION AND CASES**

# FIRST-HAND OBSERVATION AND CASES

## STUDENTS AS OBSERVERS

**Students Can Make Observations:** One of the key learning outcomes for my Paleontology course is that students can make observations about a fossil assemblage and use those observations to inform their interpretations of the organisms and the environment in which those organisms were living/fossilized. I've found that it can be helpful to let students make observations about a topic before I introduce the topic with a lecture. When I can, I look for/create assignments that encourage students to make observations of a phenomenon and use those observations to make interpretations about the topic.

**Tracks in the Sand:** This week, I started our discussion on trace fossils. I used an activity in lab that allowed me to set up a set of organism tracks in sand to introduce the topic. They were tasked with using the tracks to determine which organism make the tracks, what that organism may look like, and how that organism was interacting with its environment (and other organisms). I gave them no previous information. Instead, I let them explore the tracks and formulate their own ideas. I then introduced trace fossils and what they are. Later this week, I'll start to lecture and do an activity that teaches the students what we can learn from footprints. When they turn in their descriptions of the organisms and environment (founded in their observations), I'll show them what was used to make the tracks.

**Observations that Inform Creativity:** I like this approach because it gives them a chance to be creative and show me their thought process, but it is also how we, as geologists, approach the topic in the field. We first have to observe the tracks to make any inferences as to what the organism was or what it was doing. They've spent one lab period exploring and I'll fill in the knowledge in lecture that will allow them to write up their interpretation of the track set they saw. There is not a "right" answer in this case. The students are allowed to be as creative as they want to be as long as they use their observations to inform that creativity.

### Meet the Faculty



**Ashley Manning-Berg**

**Biology, Geology,  
and Environmental  
Sciences**

# FIRST-HAND OBSERVATION AND CASES

## FINANCE: THE MOVIE PROJECT

One of the assignments that I often use in my finance and economics classes is the “Movie Project.” I ask students to prepare a short review of a movie explaining what issue it is dealing with. I don’t expect a long critical review explaining the actors, director, etc. (rather only the central theme is expected). However, I want my students to explain in detail a minimum of 5 “ideas/concepts/topics in finance” that the movie covers (and this is be the main part of the project, carrying 80% weight). I generally assign 2-3 movies each semester and give students over two months for this project. During the course of my class, I often bring up these movies and students immediately get engaged and start connecting the movies to the concepts in the textbook. I feel that this further broadens their understanding by observing the applicability of “textbook material” in other places.

### Meet the Faculty



**Nilesh Sah**

**Finance & Economics**

## THE PIRATE MOVIE

### Meet the Faculty



**Don Warrington**

**Mechanical  
Engineering**

**The Pirate Movie:** I stumbled onto something that I plan to follow up on next semester. In Fluid Mechanics Laboratory, we do an experiment on Buoyancy and Stability using a small boat in a large pan of water. Because my family has a tradition of both “fun and profit” on the water that goes back 150 years, I tend to use many nautical terms when describing the boat and how to use it. Usually that brings puzzlement, but recently I tried to illustrate the terms better, and they took to it, telling me it was like being in a pirate movie! I plan to follow up on this next semester, when I’m supposed to teach three sections of this lab.

# FIRST-HAND OBSERVATION AND CASES

## TEACHING WITH M&MS

The ever delicious and ever useful candy, M&Ms, have been a great addition to my research methods class. There are a number of ways in which we can learn from M&Ms, like probability and statistics. However, I specifically use them to teach sampling methods. I end up buying fun-sized candy bags (two per student, one for enjoyment and one for learning). The assignment asks if each bag of M&Ms is an accurate random sample. It's fun, it gets students excited, and it's an activity that will teach them in a practical way. Just started doing this, but so far, students have been positive.

### Meet the Faculty



**R.J. Groh**  
**Political Science & Public Services**

## TOURISM CASE-STUDY

**Impact Case-Study:** I am a tourism professor and luckily Chattanooga is an emerging tourism destination that hasn't gone down a wrong path. It is evolving but still maintains its original social and cultural fabric. This makes Chattanooga a great place to understand how tourism changes the old and brings in the new. So once in every three class sessions, I have a case-study session where students have to find relevant cases within or around Chattanooga and lead the classroom discussion. I noticed that students are much more engaged when discussing how their city is affected by tourism and what they like or hate about the change. I do step in whenever I feel that there is a need to relate the case to past or future learning. I feel that the cases that are intimate to students' everyday lives help them see how classroom knowledge is actually applicable to understanding real-world phenomena.

### Meet the Faculty



**Dongoh Joo**  
**Health & Human Performance**

# FIRST-HAND OBSERVATION AND CASES

## PORTFOLIOS AND INTERVIEWS



**A Professional Portfolio:** One of my classes is oriented around professional development for art department seniors, and the primary assignment for the semester is the development of an individual portfolio of what are considered standard professional materials. Class time involves a mix of lectures, group work and one-on-one meetings to help the students with specific components of this project. Assignments include researching upcoming opportunities in their field and adding them to a shared document online, sharing images of their work and getting feedback from their peers on the best material for their portfolios, and developing project proposals and pitching them to the class.

**Professional Interviews:** One assignment that particularly engaged the students is an assignment to interview several individuals in their field about their work and their career trajectory. Beforehand, they developed the questions they wanted to ask and shared with me for feedback, and then afterwards they reported back to me and the class. I could not have predicted how illuminating this would be for students, and it also gave them an opportunity to establish or deepen connections with professionals in their field.

### Meet the Faculty



**David Court**  
**Art**

# **THE WALKER CENTER FOR TEACHING AND LEARNING AT UTC**

## **MISSION**

The mission of the Grayson H. Walker Center for Teaching and Learning is to promote teaching excellence and innovation that cultivates student engagement, learning, and success.

## **SERVICES**

### **FACULTY DEVELOPMENT**

WCTL offers faculty training and support for best practices in teaching and learning. Seminars, workshops, webinars, book clubs, and one-on-one consultations are offered each semester on pedagogy and experiential learning. The annual Instructional Excellence Conference is an example of our ongoing commitment to faculty development.

### **TECHNOLOGY INTEGRATION**

WCTL provides instructor support for UTC Learn and other types of technology, such as video development and captioning.

### **TEACHING AND LEARNING INSTITUTE**

A semester-long course designed for new and existing faculty focuses on instructional design and delivery best practices.

### **TEACHING AND ASSESSMENT**

WCTL provides assistance on course-design based on Quality Matters standards. The Center also offers classroom observations and small-group instructional diagnosis.

### **ORIENTATIONS**

WCTL offers orientations for new and adjunct faculty. The Center also provides new student orientation sessions on experiential learning.

### **EXPERIENTIAL LEARNING**

UTC's experiential learning platform promotes hands-on experience that builds competence in creative and critical thinking for students beyond the classroom.

