

Work In Progress: From Face-to-Face to Online Learning Environments: A Transition to a Learner-centered Approach

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Abstract

Having students in an online environment, either partially or fully, requires the instructor to learn new knowledge and skills that are crucial to succeed in creating high quality online learning environments. In this paper, we (an engineering instructor who is learning how to teach in online environments and an instructional designer who has supported several instructors facing this challenge) will share our experience in the re-development of one online learning course to make it learner-centered, inclusive (embracing diversity), engaging, etc. We will share the issues the instructor had with his online teaching course and how, with the support of the instructional designer, these difficulties can be addressed using different instructional strategies.

Introduction and motivation

Online education is booming. Faculty all over the world are starting to upload their content to the web to provide learning opportunities for students beyond their classrooms. Having students in an online environment, either partially or fully, requires the instructor to learn new knowledge and skills that are crucial to succeed in creating high quality online learning environments because, as the famous quote from Joel Barker says, "When a paradigm shifts, everyone goes back to zero" and then "your past success guarantees nothing [1]."

This is a reflective paper, in which I, the instructor (the first author), will narrate my experience on transitioning from teaching in a face-to-face classroom to teach fully in an online environment. It will also explain how the support of an instructional designer (the second author) can make this transition smoother.

About me, "the instructor"

Before becoming an online instructor, I taught in face-to-face classrooms using teacher-centered practices and more recently the learner-centered (flipped classroom) teaching paradigms. My courses have been small (10-20 students) and large (120 students). To begin, I will briefly describe the typical teaching practices in these paradigms that I practiced.

I started to teach in the same way I was taught, using the traditional teacher-centered approach. I usually asked my students to read different papers or book chapters before class. In-class, I usually started with a quiz. Then, I gave a lecture about the topic of the readings. After class, I assessed their development of skills and knowledge with homework, tests, and final exams.

After several years, I worked on making my courses learner-centered, to allow students to work on problems relevant for them, and have discovered that flipped classrooms help facilitate this. A learner-centered approach requires that students are engaged and become responsible for their own learning process and that the instructor becomes a facilitator of their learning, instead of being the center of their learning process. When I taught using the flipped-classroom learning environment, my students watched videos outside of the classroom and took online quizzes to test their understanding. In the classroom, students applied their learning by completing individual or team activities and projects, with my guidance, on their own chosen topics of interest.

The main problem

The main problem when you transition from one paradigm to another is that, as explained at the beginning, your expertise and previous success in one paradigm, does not imply your immediate success in the new one. In my case, I struggled to implement a learner-centered approach when transitioning from face-to-face teaching to an online environment. Teaching an online class is a completely different experience and I also had a much larger class size (more than 400). I had to excel not only as a course coordinator, subject matter expert, and facilitator of learning experiences, but also as a manager and mentor of undergraduate peer mentors (AKA undergraduate teaching assistants). Therefore, the big question that arose was: *How can I succeed in all of these roles to create an effective online learning environment*?

Issues in online teaching due to my transition from face-to-face

In my first experience as an online instructor, I taught the course using teaching strategies of the flipped classroom. As explained above, I had videos for my students to watch. However, most of them were not recorded by me, but instead by other instructors, or they were from Lynda.com (a well-known training site recently purchased by LinkedIn). I also included assignments and, like in the flipped classroom, offered support to my students, this time through discussion boards. However, this did not work as well as in the flipped classroom. The flipped classroom was smaller, and it was easy to interact with students face-to-face because while they work on their assignments or projects, I could walk around the classroom offering help, guidance, and answering student questions. In the online environment, contact with students is indirect and asynchronous most of the time. I offered discussion boards, emails, and online office hours to offer the same help, guidance, and question answering I offered in the flipped classroom, but students' and my experience was different. Serving students in the online environment have additional challenges in terms of the service students expect from their instructor. Some students expect almost instantaneous responses whenever they post a question or turn in assignments. Failing in providing this feedback within students' time expectation could influence students' perception of teaching availability and facilitation of learning [2].

In addition, in large, online courses, reaching all students requires exploring other strategies because it is practically impossible to interact directly with every single student. In fact, in my first time teaching online, although I felt that I was interacting with many students, I did not interact with most of them. I came to this realization by analyzing the course statistics provided by the Learning Management System (Canvas). Evidently, I interacted directly with approximately 100 students, and with many of them, I interacted several times. The interactions that did occur seemed to go well, as seen in this student comment from the course evaluation, "Great course. I enjoyed how engaged the instructor was and how quick he responded to students' questions throughout the semester. I definitely learned a lot."

However, the course had more than 500 students. Therefore, more than 400 students never interacted with me directly. These students limited their interaction with the course to the course videos, which, as explained above, were mostly not created by me. They also developed their assignment deliverables based solely on the written instructions available, and never asked questions on discussion boards. Additionally, the undergraduate teaching assistants held office hours and provided feedback on graded assignments. Given the lack of direct interaction between the students and me, students felt that I was not teaching them. The following student comments exemplify this perception:

the instructor wasn't involved in teaching this class

The professor didn't actually teach in this course. Instead, we learned through Lynda videos and more provided by the other professor who handled mathematical concepts and computations on Excel.

there is no learning done due to our professor. Everything I have learned was on my own or because I was referenced to another website.

the professor added none of his own knowledge to the course, he relied on outside sources like Lynda.com to teach it for him.

Regarding the instructions, I have observed that, when teaching face-to-face, it is not only easy to provide further clarification on the assignment instructions and even correct mistakes on-thego but your audience also easily forgets that situation. As explained above, not all the students ask questions about the instructions, and my clarifications on the instructions were seen by students as instruction modifications. For example, in trying to make sure that students succeed in doing the assignments, I decided to write an extensive and detailed instructions document. Although I tried to anticipate possible questions when I was creating them, I still received several specific questions not addressed in the original instructions. My first reaction was to add further clarification and details to the instructions. Students interpreted this as, "Instructions never clear and are constantly being changed just days before the due date."

The third problem I have experienced in the course is students' perception of the low relevance of the course content. One student commented, "This course was barely useful, as I learned close to nothing new about Word, Excel, and PowerPoint." Another stated, "Overall, the content of the course was insulting to the intelligence of college students and nothing useful was learned." It is likely that this perception also negatively affected their overall satisfaction level. The literature discusses that students' engagement and perception of relevance is a crucial success factor when designing learner-centered environments. It is necessary to pay careful attention to "students' knowledge, skills, attitudes, and beliefs that learners bring to the classroom [3]." Additionally, engaging students requires one to create an environment of inclusivity (embracing diversity) and a sense of community that allows students to learn from each other [3], [4]. However, this is particularly difficult in large online courses because it is practically impossible to connect with every single student and follow his/her progress in detail.

The literature has also reported other problems that instructors face when shifting from face-toface to online learning environments that I too have experienced. For example, the time needed for the "significant upfront planning and organization" because materials should be loaded before the semester starts [2]. This is one of the issues that explains my struggle with the communicating assignment instructions. Another is translating and modifying materials from the regular classroom to the web-based environment [5] which was another challenge I faced because I originally created instructions that could be explained in face-to-face interaction, instead of finding a way to make them self-explanatory. Literature also mentioned that faculty "struggle with a lack of support and/or resources to design appropriate materials [6]." In this regard, I must add that my home institution through the UFIT Center of Instructional Technology provides such support. However, faculty do not use their services as they should, maybe in part, as it was my case, ignorance of its existence because I was a new faculty member.

Course re-design mediated by the instructional designer

The instructional designer (ID) has been crucial in the transformation of the course since implementing solutions for the issues identified above requires a deep understanding of the University of Florida policies on curriculum design and assessment of the programmatic student learning outcomes. In addition, the ID is knowledgeable of the quality standards for online courses provided by Quality Matters and complemented by the University of Florida. The ID also ensured alignment between the course goals, module-level objectives, and assessment. The creation of module-level objectives was a substantial focus of meetings with the ID. They were written in accordance with the revised Bloom's Taxonomy [7] and were posted at the top of new module overview pages for the students (along with which assessment they aligned to) which also include a weekly to do list.

Increasing the instructor presence in the learning environment

Reducing students' perception of not having guidance in an online class is a key factor for success. With the support of the ID, I have started to implement and test some changes in my interactions. First, I am present in videos in every module to increase students' opportunities to see the way I communicate my ideas. Second, I created module videos to talk about the course relevance for students' future, so they can see my enthusiasm for the subject and the use of the skills taught in the course in their professional practice. Third, I created survey instruments and will discuss their class results on topics such as their cohort's diversity and incoming knowledge. Fourth, in respect to availability, I will offer office hours using video conferencing software (Zoom), instead of only chat interaction. I also started to reply to students' Canvas emails using video messages instead of typed emails. I will continue with the weekly videos in which I remind them about the due dates and discuss activities to keep them on track. Additionally, I'll continue the discussion boards so they can ask me assignment related questions. Through all of these activities, I expect that students will feel that I am concerned and interested in their success. The drawback of providing such an increase in the ways I interact with students is the fact that I need to allocate more time for this course than the one I previously had.

Creating an environment of inclusivity (embracing diversity)

We included in the syllabus a "diversity and inclusion statement" in which I address the needs of minorities and those students with special needs.

I seek to create an environment in which each student is treated equally, fairly and do my best to give you encouragement based on your learning needs, and if necessary, your special needs. This happens regardless of race, gender, ethnicity, sexual orientation, or place of birth. I also seek to provide support and encouragement to minority students like firstgeneration college students, Blacks, Latinos, and those from the LGBTQIA communities. To accomplish this, I would need your help:

- If you have a name and/or set of pronouns that differs from those that appear in your official University of Florida records, please let me know!
- If you feel like your performance in the class is being impacted by your experiences outside of class, please contact me. I want to be a resource for you. Remember that you can also submit anonymous feedback (which will lead to me making a general announcement to the class, if necessary, to address your concerns).
- Although I took training to become an Ally, I consider myself as still in the process of learning about diverse perspectives and identities. If something was said or written in this course (by anyone) that made you feel uncomfortable, please let me know. (Again, anonymous feedback is always an option).

I also connect with local and international students, encouraging them to speak out if my accent is not well understood (which usually happens in both ways in my conversations with people from non-native English speakers like China):

Some local and international students may struggle with my accent, the music of my speaking, or the grammar of my speaking. Since English is my second language, I understand this process of adapting the ear to understand other nationalities accents. I experienced it myself when I was learning English with other non-native English speakers, or when I talk to Americans or other internationals who have Spanish as their second language. Accordingly, feel free to ask for repetition or clarification. I will be happy to provide it.

Beyond addressing inclusion in the syllabus, I also recorded a welcome message that I expect students to watch at the beginning of the semester. In that video, I presented these inclusion ideas again. In addition, I talk about diversity and students' need to get prepared for the global workforce. Being in this course, I say in the video, "will develop your skills of working with non-native speakers of English because English is my second language."

In addition to this, the instructional designer tested the slides and online content to make sure that they complied with the Americans with Disabilities Act and Section 508 of the Rehabilitation Act, using Web Content Accessibility Guidelines 2.0. Accordingly, she checked that the variation in colors in the slides was of sufficient contrast for visually-impaired students. Similarly, she made sure that all the images and webpages have a high accessibility score (via the Ally tool integration) that allows, for example, blind students with screen readers to navigate the content successfully.

Recording of videos

The instructional design service also included studio sessions for high-quality video production using Mediasite (a competitor of Panopto and Kaltura). The instructional designer then coordinated the addition of closed captioning to the videos which would be helpful to those struggling to understand my accent as well as those with hearing impairments. Furthermore, we enabled the option that allows students to send an e-mail to the instructor directly from the video player so they can ask questions about a specific, time-stamped moment in the video. This could increase students' interaction with me as well as motivate them to increase their engagement with the content and improve learning. In addition, we divided the content into smaller chunks so each 10-minute segment could be easily labeled in a meaningful way.

Scaffolding the assignments

The course had five assignments, and each was due approximately every three weeks. One of the students' complaints was that the instructions were too long and difficult to follow and that assignments were long. However, when studying Canvas statistics, it showed that typically students started working on the assignments close to the due dates. The ID suggested changing to a scaffolded approach in which there are weekly deliverables, having essentially the same five assignments, but each divided into two or three mini-assignments instead.

Creating a sense of community that allows students to learn from each other

One way of promoting students' engagement in online environments is making students feel that they are part of a community and that they are by no means isolated. The ID and I implemented opportunities for peer reviews of assignments, class surveys (emulating student response systems), and discussion boards in which students present content to others and receive responses. Some considerations for discussion boards are as follows. Discussion boards need to have a small number of students. I found that usually, students respond to the first original threads they find in the discussion (they do not scroll down for too long), and they do not necessarily go back to respond to another student's response. In my first online class, all students were in the same group and the participation of hundreds of students was ignored. The ID and I are testing if a small number of students in each discussion (20 students per group) is a better approach, and we are evaluating ways to motivate students to respond to other student's responses to promote meaningful conversations about the topics in the discussion (improvements to the prompt and rubric).

Future work

The course development support offered by the UFIT Center of Instructional Technology and Training has the following phases: Design and Development, Implementation, and Evaluate and Revise. We are currently in the design and development phase and will do the implementation soon. In the future, the ID and I will conduct surveys with students and review the course feedback to find other short-term and long-term opportunities to improve the online students' learning experience.

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