A Faculty Transitional Journey from Single Mode to HyFlex Teaching

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My journey of using HyFlex in teaching graduate level courses began in Fall 2013, when I landed at San Francisco State University (SFSU) after accepting an assistant professor's job in the Instructional Technologies (ITEC) program. The ITEC program had been using HyFlex courses to serve both classroom and online students since 2006, and many courses and faculty taught this way, though not all. One of the many things that came flying at me in my first semester as a tenure track faculty was the description of the HyFlex modality, which I thought was both unique and demanding. San Francisco State's definition of HyFlex requires students be provided a classroom-based and online choice of participation each week; it was up to me to decide how to provide the online path, synchronous, asynchronous or both. Faculty are provided the freedom to choose course modality, in consulation with the department and college, though many ITEC courses were expected by students, based on recent history, to follow a HyFlex approach.

Why was HyFlex unique to me?

HyFlex was unique to me because I needed to plan on running three parallel modalities in one single course, i.e., 1) first, face to face (F2F) students in the physical classroom, 2) second, online synchronous students who join the students in the physical classroom during the class time by means of a web conferencing tool. We used Blackboard Collaborate when I started in Fall 2013, and then the university switched to Zoom a few years later, 3) third, students who couldn't be present in either synchronous modality and preferred to complete class activities asynchronously.

Why is HyFlex demanding?

The reason I called using HyFlex approach demanding is because each modality required designing instructional materials that would fulfill the need of students selecting that modality, and could possibly be reused by students in any modality. For example, if I was teaching the use of *IF* functions and its variation in MS Excel, I would plan an in-class walkthrough activity for the F2F students. But if I was using paper-based handouts, I had to digitize them to make them available for the online students. Also, software walkthroughs are challenging to manage between two modalities; especially using a hands-on approach, where students are practicing in front of you and you can provide real time feedback. It is difficult to observe online students practicing on their own machine as well troubleshoot if they run into any issue. Further, it is more demanding for students attending asynchronously because not only would I upload pre-recorded multimedia but also redesign activities and formulate instructions in a way that students can submit their

work as an evidence of class activity completion. Therefore, a single session could require twice and sometimes even more preparation time than class offered using a single modality.

Visual Appearance of a HyFlex Class Session at SF State

A typical scene in my classroom would be: I am stationed at the audio/visual console which acts as the control center for all the communication flow. A class projector mirrors the desktop screen to the students in the classroom and at the same time a web conferencing platform relays the same to the online students. Due to limited classroom technology available in the earlier years of my adoption, the online students could only see the class and me from a particular angle, which was through the built-in camera of the computer monitor. The online students often reported a sense of exclusion due to this limited view of the class.

The Hi-Tech Classroom

Recently, SF State invested significant resources upscaling the technology to create Hi-Tech spaces that are more conducive to implementing a HyFlex approach. The active learning spaces are designed to allow collaborative work between students aided by large SMART TV monitors and movable white boards. There is a fixed 360º view camera that provides a bird's eye of the class and allows the instructor to alter the view as needed. Upgraded audio with a superior quality sound system resolved the audio transmission issues between F2F class students and those attending synchronously online (zooming in). Overall, the complete technology overhaul supports educators offering both synchronous modalities seamlessly, without having to waste significant class time troubleshooting technology.

Painting a Picture of Student Experience based on Anecdotal Information

I constantly seek students' feedback to learn about their experiences, especially with the HyFlex delivery. The students thoroughly enjoy the flexibility of selecting a modality for a class session. In the HyFlex setup I use, a student can select a combination of modalities to attend the fifteen week long course. Some of the advantages I gleaned from students' responses are:

- Ability to network with classmates in the physical space.
- Ability to sometimes being in the comfort of their homes and attend the class.
- Avoid missing classes due to schedule conflicts by using the asynchronous attendance option.

Over the years, I noticed that approximately 50% of students would stay consistent in using the online synchronous modality throughout the course. The remaining 50% typically attend the first few weeks of class in person and then move to the online synchronous options with occasional use of the asynchronous modality. Students rarely used the asynchronous modality, preferring the immediacy and interactive characteristics of synchronous participation.

In my version of HyFlex, I do set a limit of maximum three asynchronous sessions per course. My rationale to impose this limit was mainly to implement quality control measures. I wanted to discourage students from using asynchronous modality as purely a convenience, but encourage them to see their three asynchronous sessions as a luxury to be used sparingly when they had an unavoidable schedule conflict. In the external context, asynchronous attendance is the default option with the non-traditional means of learning, with many platforms competing for students' attention, such as, Udemy, Lynda.com, Khan Academy, and LinkedIn Learning. Although these learning platforms present an ever-persistent means of content deployment, there is always added value in synchronous environments that assimilate the content and support immediate student-to-student and faculty-to-student interaction for engagement and deep learning. I prefer to require this type of learning environment as much as possible to support better student learning.

Benefits and Cautions

I have noticed one primary benefit and I offer two important cautions for those considering a HyFlex approach in their courses.

1. **Increase access –** There is no doubt that the HyFlex approach increases program's reach to the participants that otherwise may not be able to enroll and complete the degree program.
2. **Self-disciplined and control** – In the first few weeks of the class, I present the HyFlex structure of the class. Moreover, I also discuss the rationale for adopting the HyFlex approach as primarily to increase access and not convenience at the cost of losing the in-class interaction. Therefore, students should practice extreme self-discipline in selecting the modality. Selecting the asynchronous modality only to "take a week off from participating in the class activity" should not be the primary driver in the decision-making process.
3. **Extraneous Cognitive Load** – Although I have not conducted a cognitive load experimental study in relation to using a HyFlex approach, over the years students often expressed how browsing through the weekly modality activity option is a time-consuming endeavor. Further, students confessed to have selected the modality after the reading the activity description, perhaps making their decision on too little guidance as to what might be best for their learning (Kirschner, Sweller, & Clark, 2006).

Technology Sophistication and HyFlex Success

Implementing a HyFlex approach is heavily dependent on an important resource key criteria, the audio/visual technology in the classroom. Integrating an effective audio system into a classroom is a huge endeavor, involving buy-in at all levels from the program level up to the university level. Moreover, AV systems involve IT support to troubleshoot issues within minutes, not days. (Not all classroom IT support units can be that responsive.) As a faculty, I try to reach the physical classroom at least 30 minutes before the class start time to ensure the technology is fully operational. In spite of doing that, I would sometimes still run into issues because another faculty who had used the classroom before me may have altered the system settings or the classroom IT unit may have changed the technology configuration in some way which impacted the previous regular procedures. All in all, keeping up with the technology is extremely time consuming and sometimes unfortunately wastes some instructional time.

As I understand adoption, during the first round of HyFlex implementation in a program there is possibly more excitement about the new opportunities available for students (and even faculty). However, as it becomes a more regular phenomenon then it may suffer some "water-down effects" as the initial excitement subsides and the nagging issues (students choosing modality for conveience even when sacrificing learning quality, AV issues in the classroom, etc.) remain. Further, during the post initiation stage, technology upgrades that may be necessary can be an unwelcome budget request when considered among the many other competing department, college and university priorities.

In my opinion, adopting HyFlex should be looked as as a long-term commitment and not a quick fix for a student attendance problem. A systematic (and systemic) readiness check is a must to avoid student and faculty frustration and a consequential abandoning of the approach due to lack support on various fronts.

In promoting the use of HyFlex, supporting the faculty in the following ways may lead to its increased adoption.

LMS integration

In my six years of teaching using HyFlex (regularly in the earlier years and then moving to more occasional use over time), I realized that if the Learning Management System (LMS) were built to integrate the approach naturally with additional capabilities designed to support multiple modes of participation, there might be faster adoption. (Most LMS's are designed primarily to support fully online learning.) For example, LMS systems or support units could provide suggestions to convert a face-to-face activity into asynchronous class activity with built-in context-sensitive help. Another useful function would be tracking students' modality selection and performance. Though some of these functions may be possible in LMS's today, it is often up to each faculty member to figure out how to use them best to support the multiple modes of HyFlex. Perhaps, with recent development advancing the field of learning analytics this can be possible to a greater extent.

Faculty skill set in media development

Teaching with technology poses challenges with regards to the faculty skillset. There are many skills that become imperative if you do not wish to disrupt the class on a regular basis: knowledge of classroom hardware, operating

system and presentation software, and media content development, such as videos and other authoring software development platform. Before teaching a HyFlex class, the faculty should be well prepared to meet not only the challenges of teaching both in the classroom and online, but also in using the provided technology to instruct effectively.

HyFlex is a promising approach that promotes students' autonomy and access to educational opportunities. However, its success is often dependent on the institution's budgetary commitment and faculty time to develop and implement. A university wishing to increase its' students engagement and access by adopting a HyFlex approach should first assess the readiness on both fronts, the technology budget and faculty commitment.

References

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Dr. Merchant is the winner of the Robert Gagne Instructional Design Award (2012) awarded by the Association of Educational Communication and Technology Organization (AECT) for her outstanding dissertation. She has been the recipient of the Presidential Service Award three times from for her exceptional service to the AECT's Design and Development Division, where she served in the leadership for four consecutive years. Dr. Merchant was the finalist of the PacifiCorp Design and Development Competition (2012). She also won the Certificate of Merit Award (2012) for a game she developed for students of nursing education.