

# Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

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Since 2006, many institutions of higher education have been developing student-directed hybrid course design models, using a variety of "brand" names: HyFlex, Peirce Fit, hybrid flexible, flex, and more. These courses provide alternatives to one-size-fits-all design and empower students to decide how they will participate in class activities - online or face to face, helping them learn more effectively and efficiently. Hybrid flexible courses have become a cost-effective approach to build online teaching and learning capacity, facilitate graduation and improve student performance, allowing students to choose their own mix of in-class and online participation modes.

Hybrid flexible designs incorporate **four core values**:

1. *learner control: student decides which mode to participate in*
2. *equivalent learning: all modes lead to effective learning of same outcomes*
3. *reusability: reuse instructional materials and activities*
4. *accessibility: students have full access to all modes (network, knowledge, materials)*



This short paper accompanies a panel presentation at OLC Innovate 2016 in which six institutions present a summary of their hybrid flexible approach; course design principles, evolution of the delivery model at their institution, key research conducted, and rationale for students, faculty and administration choosing to implement. Challenges and current initiatives associated with implementation and adoption are discussed, concluding with an interactive discussion of ongoing research.

## **Hybrid Flexible Cases**

**San Francisco State University** has more than 4,000 students attending HyFlex courses every semester. These courses fall into two primary variations: 1) highly interactive seminar-type courses (often at the graduate level), and 2) large lecture-based courses (undergraduate level). HyFlex enables students to make their own self-determined choices, based on their individual needs, learning styles, and schedules. The HyFlex approach helps with recruitment and retention since programs are attracting new student populations without giving up their core constituencies, and can retain students who move away from the region. Several graduate programs are using HyFlex courses to extend their student service areas to include the entire state of California and beyond.

**Peirce College** initiated a flexible course delivery pilot in AY2014-15. During the pilot, 11 courses (equating to 165 students) were offered in the flexible format, now known as Peirce Fit. Student satisfaction surveys were deployed following each piloted course, and the results provide highlights and student perceptions of the Peirce Fit flexible delivery: (n=88) 91% overall student satisfaction rate; 64% of the students preferred the Peirce Fit flexible delivery over online or on-campus delivery; and 93% of the students would recommend a Peirce Fit course to a friend. Most notably, the absenteeism rate for undergraduate students enrolled in a Peirce Fit course was 4.9%, as compared to 13.1% of non-flexible course, and the absenteeism rate for graduate students was

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4.0% in a Peirce Fit course, as compared to 7.0% in a non-flexible course. In addition to the positive student perceptions, the institution found numerous advantages to offering instruction via flexible delivery; so much so that Peirce College has since adopted the flexible format across the institution as a strategic initiative as part of the 2015-2018 Strategic Plan.

**University of Michigan's Statistics 250** is an introductory statistics course with approximately 2000 students per semester in 6 lectures and over 60 lab sections. Currently one lecture section and one makeup lab section are offered in the HyFlex format. HyFlex at Michigan allows students to make the choice of how they attend lecture on a day-to-day basis. Students choose to attend remotely based on personal decisions and experiences for reasons similar to students at SFSU. Additionally, the remote option is good for students who want to attend lecture when too ill to attend in person or due to travel commitments for university activities or to accommodate tight class schedules. Prior research by Miller, Risser, and Griffiths (2013) at Ohio State found the most important gains for students from choosing their attendance mode were affective in nature. Formal research at Michigan began during the Winter 2016 term and is investigating course performance and affective measures.

**San Diego Christian College** is beginning institutional implementation of Hyflex courses. Implementation has begun in the Adult and Professional Studies' undergraduate programs, specifically in the general education and institutionally required courses. These courses were previously offered only in separate 5 week online and onsite participation modalities, and are now being brought together into the Hyflex approach. Students are able to choose their participation mode according to their life circumstance and learning needs. Offering students shorter, one-at-a-time Hyflex courses, provides the flexibility necessary for student success and retention. The Hyflex approach, along with a shorter course length of 8 weeks (compared to the typical 16 week course), is also being tested in the traditional undergraduate program, with goals of increased overall cost efficiency, facility capacity, and student learning.

**Concordia University, Irvine (CUI)** has been delivering online courses for over a decade in both its Adult Degree Programs and Graduate Programs, creating a virtual campus for learning without boundaries. The University has created the Office of Adult, Graduate, and Online Learning to revise and launch online and blended programs. A major focus has been to develop new ways for online students to interact with faculty in real time environments utilizing live-virtual classroom sessions in all online courses. CUI has begun to pilot HyFlex courses into its existing graduate programs. In addition, three graduate programs will implement an exclusive HyFlex model starting Fall 2016. Future implementation with more graduate and adult degree programs will follow.

**Penn State Lehigh Valley (PSLV)**, one of 23 satellite campuses of The Pennsylvania State University, is a growing commuter campus of about 1,000 students. The focus of PSLV's FlexLearning initiative is to meet the learning needs and preferences of traditional, working, and adult undergraduate students. As a result, FlexLearning has extended our courses to students outside of the normal PSLV coverage area. Since 2013, 18 PSLV faculty members have delivered 88 courses to approximately 2,000 students. The PSLV FlexLearning course design model is similar to HyFlex, however, there are no synchronous course requirements. What makes PSLV FlexLearning unique is the faculty development and course consultation process for instructors. The FlexLearning initiative has expanded from individual course offerings, and we are now expanding to the program level. Initial student and faculty assessment has been conducted at the course level, and future plans include assessment of FlexLearning at the program level.

**Brian Beatty, San Francisco State University, (Faculty and Administrator Perspective)**



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**Why Use HyFlex at SF State?**

HyFlex courses are being used at a growing number of educational institutions, and become a cost effective manner to build online teaching and learning capacity, facilitate graduation and improve student performance. Unlike many other blended approaches, HyFlex courses allow students to choose their own mix of participation modes, either in-class or online, on a weekly or topical basis. Sloan-C identified SF State's HyFlex approach as an Effective Practice, and the Educause Learning Initiative selected it as its plenary session for their 2010 Fall Focus Session Blended Learning: The 21st Century Learning Environment (Beatty, 2008; 2010).

Shrinking budgets, growing enrollments, and a California State University-wide initiative to increase the rate of student graduation have prompted SF State to develop a comprehensive strategy around the delivery of HyFlex courses supported by SF State's integrations of lecture capture technology and the open-source Moodle Learning Management System (LMS). Other technologies, such as Web conferencing, audio podcasts and screencasts are also used to support the HyFlex approach. As part of this strategy, SF State is targeting "bottleneck courses," typically gateway courses, which are preventing students from advancing to graduation, either because these courses are impacted (demand greatly exceeds supply) and students can't gain adequate access to seats, or because these courses present difficult concepts that lead to higher student failure rates.

HyFlex facilitates faster graduation in several ways. Scheduling: Increased access to classes removes classroom space or time conflict limitations. Learning Success: Increased student performance and completion result from unlimited student access to content and activities to master course concepts; faculty intervention and feedback prompted by learner analytics; and student self-determination to align with preferred learning approaches. Student persistence is improved, as students don't need to drop classes due to illness, work, travel, or other conflicts. Earlier completion of graduation requirements means more timely progression to degree.

HyFlex brings about cost savings through reduced demand for facilities. Programs can ramp up to online without providing extensive up-front curriculum development. Automating recording, captioning, and integrating lectures in the LMS mean it can be scaled without additional staff.

**Current Use of HyFlex at SF State**

More than 4,000 students attend HyFlex courses at SF State every semester. These courses fall into two primary variations: 1) highly interactive seminar-type courses (often at the graduate level), and 2) large lecture-based courses (undergraduate level). In other blended learning approaches, in which the faculty and departments decide when the student will attend face-to-face or online, HyFlex enables student to make their own self-determined choices, based on their individual needs, learning styles, and schedules.

In addition to these student benefits, the HyFlex approach can help with recruitment and retention since programs can attract new populations without giving up their core constituencies, and can retain students who move away from the region. At SF State, several graduate programs are using HyFlex courses to extend their student service areas from a traditional Bay Area focus to include the entire state of California and beyond.

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### **Supporting Faculty Adoption**

Currently, work is underway to deploy training resources so that the HyFlex approach can be sustainably scaled within SF State and across partner institutions. These efforts include: a faculty development institute to help faculty convert targeted bottleneck and gateway courses to HyFlex delivery; a virtual resource hub for students, faculty, staff and administrators; an expanded technical infrastructure and support structure for LMS and lecture capture technologies; the development of LMS learner analytics to monitor student success and signal appropriate faculty interventions; and an ongoing research and assessment strategy to ensure the pedagogical, technical, and organizational effectiveness of HyFlex course delivery as a way to improve student completion, persistence, content mastery, and mastery of deeper learning outcomes in a cost-effective way for budget-strapped universities.

### **A Brief Review of HyFlex Research**

HyFlex Student Evaluations regarding learner choice in HyFlex: Learner choice has been proven to be effective in increasing student motivation and performance. Candy (1991, p. 242) found that "learner control is... a complex entity involving control over multiple aspects such as objective-setting, content, method, sequence, pace and evaluation of learning outcomes." HyFlex is an innovative approach to blended learning that has proven to be effective in increasing student satisfaction, engagement, and access (Beatty, 2007; Cole & Robertson, 2006).

Given a choice through the HyFlex format, graduate students in a research study at SF State typically replied with appreciation for the flexibility offered by this delivery method (Beatty, 2007). They also expressed a clear preference for classroom delivery, if it is available and convenient to them. Almost all (86%) stated a preference for the HyFlex course design—ability to create their own blend of online and classroom participation—compared to strictly classroom or online delivery. Ongoing research looks at actual benefits of applying HyFlex practices to large format classes—especially those that act as bottleneck courses preventing students from completing degree goals on time due to insufficient capacity or high failure rates.

### **For More Information**

For more information on SF State's HyFlex journey and evolving model, visit the HyFlex World blog at <http://www.drbrbrianbeatty.com/wordpress/>

For more publications from a variety of sources, see the Bibliography at the end of this paper for more publications addressing hybrid flexible course design.

**Cathy M. Littlefield, Peirce College, Philadelphia, PA**

At Peirce College, our mission is to equip adult learners, in a personalized student-centered environment, to achieve their goals and successfully fulfill workforce needs.

As a small, private non-profit institution committed to adult learners, the College initiated a flexible course delivery pilot in AY2014-15.



**PILOT**

During the pilot, 11 courses (equating to 165 students) were offered in the flexible format, now known as Peirce Fit. Student satisfaction surveys were deployed following each piloted course, and the results provide highlights and student perceptions of the Peirce Fit flexible delivery: (n=88) 91% overall student satisfaction rate; 64% of the students preferred the Peirce Fit flexible delivery over online or on-campus delivery; and 93% of the students would recommend a Peirce Fit course to a friend.

Most notably, the absenteeism rate for undergraduate students enrolled in a Peirce Fit course was 4.9%, as compared to 13.1% of non-flexible course, and the absenteeism rate for graduate students was 4.0% in a Peirce Fit course, as compared to 7.0% in a non-flexible course. In addition to the positive student perceptions, the institution found numerous advantages to offering instruction via flexible delivery; so much so that Peirce College has since adopted the flexible format across the institution as a strategic initiative as part of the 2015-2018 Strategic Plan.

**STRATEGIC INITIATIVE**

As approved in the 2015-2018 Strategic Plan, Peirce Fit was implemented across all degree programs beginning with Graduate Studies, Undergraduate Health Programs, and some General Education courses in Academic Year 2015/2016 and followed by Business, IT, Legal Studies, and the remaining General Education courses in Academic Year 2016/2017.

Two main reasons Peirce College implemented Peirce Fit was first to meet the needs of the students. Likelihood of classes being cancelled due to low enrollment is reduced greatly and time to completion is expected to be reduced as a result more courses being offered, but most importantly, Peirce Fit allows students to choose their preferred learning style with the option to switch back and forth as needed. The other reason Peirce Fit implementation was so important was market differentiation. With approximately 80 two-year and four-year colleges and universities in the greater Philadelphia region, Peirce Fit is providing our students a life-friendly way to earn a degree, using a method unique to this region.

**IMPLEMENTATION TEAM**

An implementation team was created with representation from faculty and administration, and was comprised of sub-teams focused on Marketing & Communications, Instruction, Faculty & Student Support, and Assessment. Each sub-team was, and continues to be responsible for creating, defining, addressing, completing, and updating various charges related to the implementation of Peirce Fit across the institution.

**STUDENT RESPONSE**

Overall, Peirce Fit has been well received, especially from the student perspective. Qualitative data that has been collected via end of course surveys has been *overwhelmingly* positive. Students appreciated the ability to make adjustments to their busy lives at a moment's notice, without worrying about missing class. Many students indicated the desire to interact one on one with peers and instructor, but previously enrolled online because of schedule uncertainty.

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Courses are offered in an accelerated 7/8 week format (session), two sessions per term (semester). In the fall session 2, 440 students were enrolled in Peirce Fit courses.

According to attendance records, of the 440 enrolled, 116 switched delivery method, 224 did not (51% took advantage of the flexibility). \*Due to holidays and city-wide events, some weeks were designated as fully online for all students.

When asked if the Peirce Fit format improved ability to manage work/school/home, 86.1% of the students responded yes (fall and spring sessions to date).

### FACULTY RESPONSE

Overall, the response has been positive, but not without challenges. Two challenges were (1) the perception was that teaching a Peirce Fit course was twice the work; and (2) all courses have to be (or had to be) converted in time for the departmental launch, which was time consuming.

With the pride of small class size, the faculty were concerned with the occurrences of low attendance on campus, specifically, what to do when one or two students attend on campus, or no students attend on campus. Data from the Fall term indicated the percentage of students attending on campus decreased every week (with the exception of the week of Thanksgiving). Data from the spring term (to date) indicated attendance on campus rarely reached 50% of the total enrollment.

HEAT – High Impact Approach to Teaching – saw a slight impact. With a perfect score of 5.0, the average of all non-FIT courses for the fall 2015 was 4.38, while the average score for FIT courses was 4.29. While several factors may contribute to this reduced score, the actual reason for the drop is unclear.

Professional development has been offered to the full faculty and on a departmental basis. Data and perceptions are being collected for ways to improve, technologies to explore, etc, but overall faculty responses have been very positive.

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Learning that fits your life



**Jackie Bryce Miller – Lecturer III and Statistics Education Specialist**  
**Researching the HyFlex+ Instructional Model of Blended Learning**  
**(funded through NSF-DUE-1544337)**

**Background**

My involvement in HyFlex began in 2011 with a Departmental Impact Grant at The Ohio State University. That project, entitled “Too Many Students, Too Little Time,” endeavored to help us deal with the switch from quarters to semesters at Ohio State that brought with it both the demand to teach 50% more students per term and a 20% decrease in the amount of contact hours for the recitation portion of the course.

The final report from the research at Ohio State can be found at <https://odee.osu.edu/sites/default/files/2011igreportstatistics.pdf>, with more information available through links at <https://odee.osu.edu/odee-grants/impact-grant/statistics-1185>. Formal research was published as “Student choice, instructor flexibility: Moving beyond the blended instructional model” (Miller, Risser, and Griffiths, 2013) in *Issues and Trends in Educational Technology* (<https://journals.uair.arizona.edu/index.php/itet/article/view/16464>). I encourage you to check out this paper for detailed results.

**Technology**

At Ohio State, we used Adobe Connect to stream and record videos. Because not all students were connected via Adobe Connect, we could not use the polling module within Adobe Connect to periodically check student understanding of concepts. Thus we looked to web-based polling instruments so that all students (face-to-face and remote) could answer the same poll questions. We used Poll Everywhere for the first year and a half and then switched to Top Hat when the university piloted that technology in Spring 2013. Both Poll Everywhere and Top Hat also provided our backchannel platform.

At University of Michigan, we started with what we knew worked and thus used Adobe Connect and Top Hat. This worked well for us, given that we had a site license for Adobe Connect and a pilot of Top Hat. Beginning in Fall 2015, we switched to the Active Learning Platform (ALP) of Echo360 (also free to students because of site licensing). (See <http://echo360.com/> for details on Echo360.) We would like to continue using the ALP, but there are issues that need to be addressed prior to full scale use of the ALP in our 2000+ student class. Our use of the ALP differs from how others use it in that we need to take into account that not all students are logged in to the ALP and that students take notes in a course pack, rather than within the ALP. In addition, we will need to find a good way to organize the 6 lectures and over 60 labs into folders within the ALP (so that students do not have to sort through a list of all lectures and labs).

**Funding and Research**

Fortunately, Dr. Tailen Hsing and I received funding from the National Science Foundation for our research for two years beginning November 1, 2015 (NSF-DUE-1544337). As a result, our formal research actually began this winter term and will continue (with revisions and improvements) in the fall.

Our overarching research questions are:

1. What are the benefits and challenges of the use of the HyFlex+ model in introductory statistics for students and for the institution?
2. What aspects of the HyFlex+ model contribute to its success or failure in meeting the needs of students and the institution?

These research questions are broken down as follows:

Questions about the students:

1. What mode of attendance do students choose and with what frequency?

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2. Why do students choose the attendance mode they do? Is this choice consistent, or does it vary?
3. What cognitive and non-cognitive student outcomes are affected by the model and how?
4. Is the backchannel equally effective for students in both attendance modes? How and why or why not?

Questions about the institution:

1. Does student attendance choice provide an efficiency for the institution in, for example, the number of instructors or number of rooms required for instruction?
2. What are the costs of the HyFlex+ instructional model, for example, on instructor or GSI time?

### Data Collection

All students in Stats 250 take both a pre- and post-test of both the Survey of Attitudes Towards Statistics instrument (SATS, <http://www.evaluationandstatistics.com/>) and the Comprehensive Assessment of Outcomes in a First Statistics Course test (CAOS, <https://apps3.cehd.umn.edu/artist/caos.html>). We will use both validated instruments to evaluate attitudes and achievements in the course as a whole and then do a comparison for those students who attended in different modes. The students will take their post-tests from April 11-19, 2016, so that data are not yet available. In addition to these instruments, we have access to all student grades for the course.

Two focus groups were set up, one for those who primarily attend lecture remotely and one for those who primarily attend lecture face to face. Those focus groups are being conducted the week of April 4, 2016, so the data are not yet available.

Preliminary attendance data (through March 31, 2016):

Lecture synchronous remote attendance (34 possible lectures)

- 206 unique students have taken advantage of this opportunity
- 108 have attended once or twice; 70 have attended 3-10 times; 20 have attended 11-20 times; 8 have attended 21 or more times (most is 29 times)

Video views of record lectures:

- 151 unique students have watched the video recording
- 46 have watched once or twice; 47 have watched 3-10 times; 40 have watched 11-20 times; 18 have watched 21 or more times (most is 29 times)

HyFlex Makeup Lab attendance (remote and in person, 10 possible labs)

- 279 unique students have taken advantage of this opportunity
- 175 have attended once; 84 have attended twice; and 20 have attended three or more times
- Note: Course policy for makeup labs is that at most two labs may be made up, unless special circumstances arise

### Perceived Limitations and Concerns

I have observed that the percentage of students who attend my lecture at University of Michigan is less than it was at Ohio State. We will need to refine our data collection to find out how these students are getting the lecture material—are they attending another lecture? Listening to my lecture recordings? Listening to a colleague's lecture recordings? Reading the filled-in notes that are posted on Canvas after material has been covered? Not attending? Note that students in the course are allowed to attend any of the six lectures that they like and that attendance is not required.

The backchannel has had less traffic at University of Michigan than it did at Ohio State. Might this be due to confusion of the two modes that can be used (the Q&A feature through the ALP or texting in a question)?

### Bottom Line

Because research is ongoing with HyFlex+ at University of Michigan, please stay tuned for future presentations and papers on the research. If you have any questions, suggestions, or concerns, feel free to contact me at [jabmille@umich.edu](mailto:jabmille@umich.edu). Thank you!



# SAN DIEGO CHRISTIAN

**David Rhoads – Director of Adult and Professional Studies Programs**

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## **Who is SDC?**

- Faith based Liberal Arts college founded in 1970
- 1000 students – 50% Residential and 50% Adult Online and Onsite
- Multiple B.S. and B.A. degrees, California Teacher Credential, and Masters of Arts in Teaching
- Moved the school to a brand new campus in January of 2014

## **Why Hyflex?**

- Impacted campus with limited classroom space – Impacts all programs
- Separate Adult Online and Onsite programs with same course offerings with the potential for lower student counts
- 100% of our students in the Adult program have work or other obligations that get in the way of completion of their degree.
- Most would prefer a face to face learning experience but their schedule/location would not allow consistent campus attendance.

## **How Do We Use Hyflex?**

- Asynchronous Undergraduate (Adult and Residential)
- 5 and 8 Week Hyflex courses

## **Challenges From Faculty**

- My students could not handle that type of flexibility! *Establishing consistent expectations and accountability will lead most to success.*
- What if nobody shows up to my class? *Establishing value in face to face content/activities along with ensuring larger student count will minimize this potential risk. If after implementing these measures you have one student show up, be prepared to serve the student as needed.*

**How Will Hyflex Be Used By SDC in the Future?**

- Once faculty are trained and comfortable with the Hyflex model, optional synchronous sessions will be added to all courses in the APS program.
- More Hyflex courses will be added to APS program
- Masters of Leadership will begin in Fall as all Hyflex
- Fall 2016 study will be conducted that examines potential differences in student performance and satisfaction between 5/8 week Hyflex courses and equivalent 16 week residential courses.
- Expected outcome of study = no significant statistical difference between modalities.  
Potential use of resulting data = will be used as evidence to move more traditional courses to the Hyflex model and therefore save money and classroom space.



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**ABOUT CUI**

- Lutheran, nonprofit university accredited by: WASC, CCNE, CAATE, CTC
- Enrollments: 1,592 Undergraduate (48% reside on campus); 2454 Graduate
- Faculty: 88 Full Time (Student:Faculty = 20:1)

**THE NEED**

With over 60% of students and graduate programs, Concordia University Irvine has developed various programs to try to meet the needs of these students. Originally, programs took the form of accelerated seated modalities but have recently been converted to more online and blended programs. Although these models provided more ways for more students to have access to our programs, there are still gaps presented in these more standardized blended and online models. The need for a more flexible programs where students can come to class or study online as their schedule dictates has become a need we are working to address.

**THE MODELS**

Concordia University Irvine currently offers three different types of HiFlex (S.E.A.M.) models. Please refer to the images below to see how each model works.

**Masters in Business Administration**  
(Semi HiFlex)



**RN-BSN**  
(HiFlex A Model)



**Master's of Science in Nursing**  
(HiFlex S Model)



**THE IMPACT**

Concordia University Irvine is guided by the Great Commission of Christ Jesus and the Lutheran Confessions and exists to empower students through the liberal arts and professional studies for lives of learning, service and leadership. This mission has been served by the development and deployment of HiFlex programs. Although still in their beta stages, these programs show promise in reaching populations that would otherwise not be able to attend CUI. A recent example was in our MBA program where a student from France was able to attend the Live Virtual Sessions which provided her an opportunity to interact with the professor and the students in the physical classroom at the same time.

**THE ISSUES**

One of the major issues CUI has experienced with our HiFlex programs has centered around the lack of resources needed for faculty training and development. Thus, faculty who have taught in these models are having a steep learning curve and are still trying to figure out their own style of teaching in these courses. This problem is highlighted with the HiFlex–S model since faculty are having to manage both in class students and virtual students who are attending the class via Adobe connect synchronology. Concordia is confident that as we continue to move forward with HiFlex models many of the obstacles we have experienced will be overcome through continued professional development and collaboration among faculty.



**PennState**  
Lehigh Valley

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## FLEXLEARNING AT PENN STATE LEHIGH VALLEY

Penn State Lehigh Valley is a small campus, part of a large University. Through its long history, Penn State Lehigh Valley has traditionally offered the benefits of small classes, personal contact with faculty, and a sense of community among students, faculty, and staff. This type of environment can prove crucial to the success of many students, including those who have difficulty with purely online courses that demand a high degree of motivation and self-discipline. Maintaining that special ingredient of personal interaction is essential to the campus mission of providing a supportive learning environment for all students.

The concept of FlexLearning arose from the need to meet the various learning needs and scheduling constraints of our diverse student population. Many Penn State Lehigh Valley (PSLV) students struggle to balance the demands of school with employment and family responsibilities. Some work full-time or commute from long distances. A class schedule offering flexibility, when academic requirements overlap with life obligations, can make all the difference for these students.

### The FlexLearning Solution

As we looked for a way to meet the needs of our students, it quickly became clear that *flexibility in learning* had to be the focus; hence, the term FlexLearning. The FlexLearning model developed at Penn State Lehigh Valley provides students with the best of both worlds – the scheduling flexibility of online classes and the rich personal interaction and direct support of face-to-face meetings – by letting them choose their participation mode. From class to class, students have the option to participate either on-campus at the scheduled time, or online when their schedule permits. Flexibility also accommodates different learning needs and preferences. For example, some students find they are more comfortable engaging in discussions online than they are in class. If a student learns best with guidance and personal interaction, then a face-to-face FlexLearning option may be the best choice.

We have found that most students in FlexLearning courses choose a combination of classroom and online attendance, and do so for a variety of reasons. If some course materials are familiar to a student, he or she may decide to participate online for those classes, and come to class for new material. Some students actually choose *both* the online and in-class options when particularly challenging material is being covered. Others want the social interaction of being in class and on-campus, and they use the online option only when they are ill, need to work, or have other issues that prevent them from attending class.

The benefits of a smaller campus and close personal connections between students and the instructor cannot be underestimated. We recommend that students attend class whenever possible, but when circumstances prevent them from doing so, FlexLearning allows them to continue their studies unimpeded. Whether students learn on-campus or online, courses are designed to provide many opportunities for interaction with faculty and with other students in their class.

### FlexLearning Course Design

The FlexLearning design model at PSLV takes advantage of the four HyFlex principles outlined by Dr. Brian Beatty, but there are also two very specific requirements: 1) students must be able to move from online to in-class participation throughout the semester, and 2) there are no synchronous participation requirements. The course must be available in a fully-online format for those students who choose that option. The instructor must design activities and assessments in such a way that the student is not required to attend at a scheduled time. Other than that, faculty can choose how to organize their course, select the learning tools and technologies they want to use, and decide which strategies to employ as they deliver their FlexLearning course.

### FlexLearning Faculty Preparation

All of this flexibility for students presents some course design challenges for instructors. As with traditional courses, faculty at Penn State Lehigh Valley have the freedom to design their FlexLearning courses as long as they maintain the two requirements mentioned previously. Giving the faculty some flexibility allows them to teach in a manner they think best suits their subject matter and their students. Faculty are given advice and support in their choice of tools and technologies by the campus Instructional Designers and Information Technology personnel.

To ensure that the FlexLearning courses offered at PSLV incorporate best practices for flexible course delivery and meet course quality standards, faculty who choose to teach FlexLearning courses are required to take a series of at least three professional development courses from among the following:

- OL2200-LV (Preparing Your Course for FlexLearning Delivery)
- OL2000 (Effective Online Teaching)
- OL2700 (Online Presence)
- OL4000 (Course Authoring)

The OL2200-LV course provided by PSLV, *Preparing your Course for FlexLearning Delivery*, helps faculty to think about how they can most effectively design their FlexLearning course. Design is important because we don't want them to feel like they are teaching two separate courses. The other three OL (Online Learning) courses listed are offered by Penn State World Campus Online Faculty Development.

Since training and preparation of a FlexLearning course involve substantial time and effort, each participating faculty member receives a nominal monetary incentive for developing and delivering a FlexLearning course for the first time.

### FlexLearning Review Team

A FlexLearning Team consisting of two instructional designers and two faculty members serves as the support group for the FlexLearning faculty. Before any course may be offered as FlexLearning, the instructor consults with the FlexLearning Team, presenting a syllabus, the FlexLearning Course Review Rubric (a course self-evaluation), and a two-week sample of the course.

### Summary

Since our first FlexLearning courses in Spring of 2013, PSLV has delivered more than 40 FlexLearning courses (115 sections) by 17 faculty members with more than 2,150 undergraduate enrollments. We are planning on offering several programs at our campus with a Program Online Completion Option. FlexLearning courses play a significant role in the development of that online completion option. FlexLearning has also led to the development of a Digital Peer Group – a group of FlexLearning and online faculty who meet regularly to share ideas and learn from each other's experiences.

### For More Information

For more information on Penn State Lehigh Valley's FlexLearning initiative, visit our website at [lehighvalley.psu.edu/flexlearning](http://lehighvalley.psu.edu/flexlearning).



## Instructional Support Services Perspective

Maggie Beers

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### Faculty & Student Demographics

Changing faculty and student demographics now include non-traditional students and millennial faculty and students, and these populations expect campuses to provide high quality curricular engagements and enterprise level academic technology support systems that conform to their experiences outside of the campus.

Non-traditional students, who may attend part-time, work full-time, have dependents, or be single parents, require increased flexibility and efficiencies to complete their studies. Millennial faculty and students bring new attitudes and aptitudes to college campuses, most notably with respect to technology and customer service. In general, millennials' learning preferences tend toward teamwork, experiential activities, structure, and the use of technology. Millennials want their technology to have more functionality, interoperability, and innovation, and they want their customer service systems to be agile, responsive, and personalized.

New models of course delivery present unlimited possibilities for a university to rethink and reinvent the ways that it is delivering its core mandate of teaching and learning, and HyFlex course delivery approaches are one way to meet the needs of non-traditional students, as well as millennial faculty and students.

### Academic Technology Unit

Residing within Academic Affairs, Academic Technology (AT) is independent of the central IT department and holds as its mission to *"support and advance effective learning, teaching, scholarship, and community service with technology."* To best support faculty, AT has expanded its service portfolio to provide services wherever teaching and learning touch technology, including:

- Enhanced classroom design and installation
- Video and media services
- Web-based technology applications
- Faculty development programming and course redesign grants
- Instructional design and curriculum development support, and
- Help desk support for students and faculty

## Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

### Technology Implementation Factors

Higher education organizational trends influencing academic technology implementations point to increased accountability in terms of the performance, educational value, and ease of use of the technologies and services provided. To this aim, Academic Technology dedicates attention and resources to the following three intersecting elements and ensures they are in place prior to any large scale implementation:

- *Technology Infrastructure*: provides a reliable, scalable, and robust technological solution for creating, hosting, and archiving HyFlex compatible learning activities and resources. Technology categories include LMS, Lecture Capture, Web and Video Conferencing, Video Streaming, and Academic Integrity tools.
- *Educational Best Practices*: collects and shares best teaching and learning practices related to instructional design and curriculum development for HyFlex offerings. Integrates universal design for learning principles to ensure accessibility for all.
- *Student and Faculty Support Systems*: offers comprehensive and tailored pedagogical and technical support for faculty and students as they develop, deliver or engage with HyFlex learning models. Includes help desk support and support documentation for faculty and students, faculty development programming, resources, and consultations.

### Faculty Development Programs

Although HyFlex approaches may provide opportunities to reach more students in more accessible and flexible ways, they also present challenges for faculty who need assistance and support as they experience the culture shift and increased workload that may initially come with a transition to HyFlex learning. To support faculty in their ongoing professional development, Academic Technology has implemented this range of initiatives and programming in support of HyFlex, and other technology-enabled teaching and learning modalities:

- *Strategic and Emergent Teaching and Learning Initiatives*: investigates and develop state-of-the-art models of excellence in teaching and learning in both virtual and physical environments.
- *Faculty Development Programming*: develops and delivers a wide range of faculty development opportunities that correspond to the needs, schedules, and learning preferences of all tenure-track and adjunct faculty members. These include one and two-day institutes, one-on-one consults, lunch-and-learns, and technology boot-camps.
- *Technology-Enabled Curriculum Development*: provides faculty members, departments, and colleges with comprehensive support to develop classroom-based, hybrid, HyFlex and online courses and programs.
- *"Faculty Fellows" and "Student eTerns"*: takes advantage of the broad range of teaching and learning expertise offered by Faculty Fellows and Student "eTerns" to provide individualized support from within their own disciplines.
- *ePortfolio and Assessment Support*: explores, supports, and advances a comprehensive range of assessment strategies that help faculty actively engage students in high impact practices, help ensure academic integrity, and provide faculty members with learner analytics and early warning data so they can reach out to help struggling students.
- *Communications and Outreach*: leverages the multiple information channels available to students, faculty and staff to effectively communicate complex and useful information about Academic Technology's technologies, support, and services, in clear, concise, and meaningful ways— ultimately improving their success.
- 

### Faculty Transformation

Academic Technology Institutes are a popular faculty development offering for faculty interested in transitioning their courses into a HyFlex model. These institutes are based on a transformative faculty development model that offers a problem-based learning approach to curriculum design and redesign for tech-enhanced, hybrid, HyFlex, and online course delivery. In this model, small cohorts of faculty members participate in a 2-day summer or winter institute designed to explore a variety of class delivery options and take advantage of technologies and pedagogical strategies to share content, facilitate interactivity, and assess student outcomes. Each faculty



## Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

member is later assigned an instructional design consultant to continue personally meaningful projects over the academic year.

As illustrated in their comments below, faculty members have reported that their participation in these institutes has helped them improve teaching evaluations, increased their morale, raised their confidence, provided them the skills to meet the needs of millennial learners, and/or lowered their resistance to online learning approaches, ultimately increasing their desire to further explore innovative uses of technology, such as HyFlex, in their teaching:

- *Morale:* "I was very impressed by the caliber of the presenters. Such smart folks, and so committed to what they are doing. It also gave me hope to see the engagement of my colleagues. It's easy in these difficult budget times to become disheartened at SF State, and coming in contact with faculty who made two days free to attend the institute, and who shared their really interesting ideas, made me feel that I am among like-minded individuals."
- *Meeting Student Needs:* "The insights into the expectations and way of thinking of millennial students were most helpful to me. Now I can see that providing instant feedback, exploiting a multitasking environment, etc. can have a didactic value. I'd like to experiment with clickers and wikis."
- *Time Management and Efficiencies:* "Attending this workshop, I learnt that using different forms of technology in teaching is not as difficult as I used to assume earlier. Once you get streamlined, then it's probably a more efficient way of teaching, delivering content and grading."
- *Faculty Apprehension Towards Online Learning:* "Thank you all for making me feel comfortable. I walked into the room believing that you guys were trying to have technology take my place in the classroom. I also had fear because I felt ignorant about all these tools. Knowing that you are here to help me as I implement some of the strategies and tools I am learning through AT gives me confidence to follow through with what I intend to implement with the students."

### Final Comments

Today's students and faculty need our university and its support services to accommodate flexible schedules, alternative course locations, different learning preferences, various levels of background preparation, unequal access to technology, and much more. The HyFlex course model is an innovative and effective way to address these challenges and can provide a meaningful and engaging experience if faculty and students are provided proper preparation and support. Academic Technology continues to strive to meet the emerging needs of faculty and students by systematically supporting technologies and approaches that foster and enable engaging teaching and learning experiences both in and out of the physical or virtual classroom, to ultimately improve curricular and co-curricular success.

*For more information about SF State's Academic Technology services, please visit our website: <http://at.sfsu.edu>*

If you'd like to stay connected to our growing "hybrid flexible" community, please complete a hybrid flexible experience survey and include your contact information: [http://bit.ly/hyflex\\_survey](http://bit.ly/hyflex_survey) Thank you!

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# Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

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Since 2006, many institutions of higher education have been developing student-directed hybrid course design models, using a variety of "brand" names: HyFlex, Peirce Fit, hybrid flexible, flex, and more. These courses provide alternatives to one-size-fits-all design and empower students to decide how they will participate in class activities - online or face to face, helping them learn more effectively and efficiently. Hybrid flexible courses have become a cost-effective approach to build online teaching and learning capacity, facilitate graduation and improve student performance, allowing students to choose their own mix of in-class and online participation modes.

Hybrid flexible designs incorporate **four core values**:

1. *learner control: student decides which mode to participate in*
2. *equivalent learning: all modes lead to effective learning of same outcomes*
3. *reusability: reuse instructional materials and activities*
4. *accessibility: students have full access to all modes (network, knowledge, materials)*



This short paper accompanies a panel presentation at OLC Innovate 2016 in which six institutions present a summary of their hybrid flexible approach; course design principles, evolution of the delivery model at their institution, key research conducted, and rationale for students, faculty and administration choosing to implement. Challenges and current initiatives associated with implementation and adoption are discussed, concluding with an interactive discussion of ongoing research.

## **Hybrid Flexible Cases**

**San Francisco State University** has more than 4,000 students attending HyFlex courses every semester. These courses fall into two primary variations: 1) highly interactive seminar-type courses (often at the graduate level), and 2) large lecture-based courses (undergraduate level). HyFlex enables students to make their own self-determined choices, based on their individual needs, learning styles, and schedules. The HyFlex approach helps with recruitment and retention since programs are attracting new student populations without giving up their core constituencies, and can retain students who move away from the region. Several graduate programs are using HyFlex courses to extend their student service areas to include the entire state of California and beyond.

**Peirce College** initiated a flexible course delivery pilot in AY2014-15. During the pilot, 11 courses (equating to 165 students) were offered in the flexible format, now known as Peirce Fit. Student satisfaction surveys were deployed following each piloted course, and the results provide highlights and student perceptions of the Peirce Fit flexible delivery: (n=88) 91% overall student satisfaction rate; 64% of the students preferred the Peirce Fit flexible delivery over online or on-campus delivery; and 93% of the students would recommend a Peirce Fit course to a friend. Most notably, the absenteeism rate for undergraduate students enrolled in a Peirce Fit course was 4.9%, as compared to 13.1% of non-flexible course, and the absenteeism rate for graduate students was

## **Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids**

4.0% in a Peirce Fit course, as compared to 7.0% in a non-flexible course. In addition to the positive student perceptions, the institution found numerous advantages to offering instruction via flexible delivery; so much so that Peirce College has since adopted the flexible format across the institution as a strategic initiative as part of the 2015-2018 Strategic Plan.

**University of Michigan's Statistics 250** is an introductory statistics course with approximately 2000 students per semester in 6 lectures and over 60 lab sections. Currently one lecture section and one makeup lab section are offered in the HyFlex format. HyFlex at Michigan allows students to make the choice of how they attend lecture on a day-to-day basis. Students choose to attend remotely based on personal decisions and experiences for reasons similar to students at SFSU. Additionally, the remote option is good for students who want to attend lecture when too ill to attend in person or due to travel commitments for university activities or to accommodate tight class schedules. Prior research by Miller, Risser, and Griffiths (2013) at Ohio State found the most important gains for students from choosing their attendance mode were affective in nature. Formal research at Michigan began during the Winter 2016 term and is investigating course performance and affective measures.

**San Diego Christian College** is beginning institutional implementation of Hyflex courses. Implementation has begun in the Adult and Professional Studies' undergraduate programs, specifically in the general education and institutionally required courses. These courses were previously offered only in separate 5 week online and onsite participation modalities, and are now being brought together into the Hyflex approach. Students are able to choose their participation mode according to their life circumstance and learning needs. Offering students shorter, one-at-a-time Hyflex courses, provides the flexibility necessary for student success and retention. The Hyflex approach, along with a shorter course length of 8 weeks (compared to the typical 16 week course), is also being tested in the traditional undergraduate program, with goals of increased overall cost efficiency, facility capacity, and student learning.

**Concordia University, Irvine (CUI)** has been delivering online courses for over a decade in both its Adult Degree Programs and Graduate Programs, creating a virtual campus for learning without boundaries. The University has created the Office of Adult, Graduate, and Online Learning to revise and launch online and blended programs. A major focus has been to develop new ways for online students to interact with faculty in real time environments utilizing live-virtual classroom sessions in all online courses. CUI has begun to pilot HyFlex courses into its existing graduate programs. In addition, three graduate programs will implement an exclusive HyFlex model starting Fall 2016. Future implementation with more graduate and adult degree programs will follow.

**Penn State Lehigh Valley (PSLV)**, one of 23 satellite campuses of The Pennsylvania State University, is a growing commuter campus of about 1,000 students. The focus of PSLV's FlexLearning initiative is to meet the learning needs and preferences of traditional, working, and adult undergraduate students. As a result, FlexLearning has extended our courses to students outside of the normal PSLV coverage area. Since 2013, 18 PSLV faculty members have delivered 88 courses to approximately 2,000 students. The PSLV FlexLearning course design model is similar to HyFlex, however, there are no synchronous course requirements. What makes PSLV FlexLearning unique is the faculty development and course consultation process for instructors. The FlexLearning initiative has expanded from individual course offerings, and we are now expanding to the program level. Initial student and faculty assessment has been conducted at the course level, and future plans include assessment of FlexLearning at the program level.

**Brian Beatty, San Francisco State University, (Faculty and Administrator Perspective)**



have

**Why Use HyFlex at SF State?**

HyFlex courses are being used at a growing number of educational institutions, and become a cost effective manner to build online teaching and learning capacity, facilitate graduation and improve student performance. Unlike many other blended approaches, HyFlex courses allow students to choose their own mix of participation modes, either in-class or online, on a weekly or topical basis. Sloan-C identified SF State's HyFlex approach as an Effective Practice, and the Educause Learning Initiative selected it as its plenary session for their 2010 Fall Focus Session Blended Learning: The 21st Century Learning Environment (Beatty, 2008; 2010).

Shrinking budgets, growing enrollments, and a California State University-wide initiative to increase the rate of student graduation have prompted SF State to develop a comprehensive strategy around the delivery of HyFlex courses supported by SF State's integrations of lecture capture technology and the open-source Moodle Learning Management System (LMS). Other technologies, such as Web conferencing, audio podcasts and screencasts are also used to support the HyFlex approach. As part of this strategy, SF State is targeting "bottleneck courses," typically gateway courses, which are preventing students from advancing to graduation, either because these courses are impacted (demand greatly exceeds supply) and students can't gain adequate access to seats, or because these courses present difficult concepts that lead to higher student failure rates.

HyFlex facilitates faster graduation in several ways. Scheduling: Increased access to classes removes classroom space or time conflict limitations. Learning Success: Increased student performance and completion result from unlimited student access to content and activities to master course concepts; faculty intervention and feedback prompted by learner analytics; and student self-determination to align with preferred learning approaches. Student persistence is improved, as students don't need to drop classes due to illness, work, travel, or other conflicts. Earlier completion of graduation requirements means more timely progression to degree.

HyFlex brings about cost savings through reduced demand for facilities. Programs can ramp up to online without providing extensive up-front curriculum development. Automating recording, captioning, and integrating lectures in the LMS mean it can be scaled without additional staff.

**Current Use of HyFlex at SF State**

More than 4,000 students attend HyFlex courses at SF State every semester. These courses fall into two primary variations: 1) highly interactive seminar-type courses (often at the graduate level), and 2) large lecture-based courses (undergraduate level). In other blended learning approaches, in which the faculty and departments decide when the student will attend face-to-face or online, HyFlex enables student to make their own self-determined choices, based on their individual needs, learning styles, and schedules.

In addition to these student benefits, the HyFlex approach can help with recruitment and retention since programs can attract new populations without giving up their core constituencies, and can retain students who move away from the region. At SF State, several graduate programs are using HyFlex courses to extend their student service areas from a traditional Bay Area focus to include the entire state of California and beyond.

## Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

### Supporting Faculty Adoption

Currently, work is underway to deploy training resources so that the HyFlex approach can be sustainably scaled within SF State and across partner institutions. These efforts include: a faculty development institute to help faculty convert targeted bottleneck and gateway courses to HyFlex delivery; a virtual resource hub for students, faculty, staff and administrators; an expanded technical infrastructure and support structure for LMS and lecture capture technologies; the development of LMS learner analytics to monitor student success and signal appropriate faculty interventions; and an ongoing research and assessment strategy to ensure the pedagogical, technical, and organizational effectiveness of HyFlex course delivery as a way to improve student completion, persistence, content mastery, and mastery of deeper learning outcomes in a cost-effective way for budget-strapped universities.

### A Brief Review of HyFlex Research

HyFlex Student Evaluations regarding learner choice in HyFlex: Learner choice has been proven to be effective in increasing student motivation and performance. Candy (1991, p. 242) found that "learner control is... a complex entity involving control over multiple aspects such as objective-setting, content, method, sequence, pace and evaluation of learning outcomes." HyFlex is an innovative approach to blended learning that has proven to be effective in increasing student satisfaction, engagement, and access (Beatty, 2007; Cole & Robertson, 2006).

Given a choice through the HyFlex format, graduate students in a research study at SF State typically replied with appreciation for the flexibility offered by this delivery method (Beatty, 2007). They also expressed a clear preference for classroom delivery, if it is available and convenient to them. Almost all (86%) stated a preference for the HyFlex course design—ability to create their own blend of online and classroom participation—compared to strictly classroom or online delivery. Ongoing research looks at actual benefits of applying HyFlex practices to large format classes—especially those that act as bottleneck courses preventing students from completing degree goals on time due to insufficient capacity or high failure rates.

### For More Information

For more information on SF State's HyFlex journey and evolving model, visit the HyFlex World blog at <http://www.drbrianbeatty.com/wordpress/>

For more publications from a variety of sources, see the Bibliography at the end of this paper for more publications addressing hybrid flexible course design.



**Cathy M. Littlefield, Peirce College, Philadelphia, PA**

At Peirce College, our mission is to equip adult learners, in a personalized student-centered environment, to achieve their goals and successfully fulfil workforce needs.

As a small, private non-profit institution committed to adult learners, the College initiated a flexible course delivery pilot in AY2014-15.



**PILOT**

During the pilot, 11 courses (equating to 165 students) were offered in the flexible format, now known as Peirce Fit. Student satisfaction surveys were deployed following each piloted course, and the results provide highlights and student perceptions of the Peirce Fit flexible delivery: (n=88) 91% overall student satisfaction rate; 64% of the students preferred the Peirce Fit flexible delivery over online or on-campus delivery; and 93% of the students would recommend a Peirce Fit course to a friend.

Most notably, the absenteeism rate for undergraduate students enrolled in a Peirce Fit course was 4.9%, as compared to 13.1% of non-flexible course, and the absenteeism rate for graduate students was 4.0% in a Peirce Fit course, as compared to 7.0% in a non-flexible course. In addition to the positive student perceptions, the institution found numerous advantages to offering instruction via flexible delivery; so much so that Peirce College has since adopted the flexible format across the institution as a strategic initiative as part of the 2015-2018 Strategic Plan.

**STRATEGIC INITIATIVE**

As approved in the 2015-2018 Strategic Plan, Peirce Fit was implemented across all degree programs beginning with Graduate Studies, Undergraduate Health Programs, and some General Education courses in Academic Year 2015/2016 and followed by Business, IT, Legal Studies, and the remaining General Education courses in Academic Year 2016/2017.

Two main reasons Peirce College implemented Peirce Fit was first to meet the needs of the students. Likelihood of classes being cancelled due to low enrollment is reduced greatly and time to completion is expected to be reduced as a result more courses being offered, but most importantly, Peirce Fit allows students to choose their preferred learning style with the option to switch back and forth as needed. The other reason Peirce Fit implementation was so important was market differentiation. With approximately 80 two-year and four-year colleges and universities in the greater Philadelphia region, Peirce Fit is providing our students a life-friendly way to earn a degree, using a method unique to this region.

**IMPLEMENTATION TEAM**

An implementation team was created with representation from faculty and administration, and was comprised of sub-teams focused on Marketing & Communications, Instruction, Faculty & Student Support, and Assessment. Each sub-team was, and continues to be responsible for creating, defining, addressing, completing, and updating various charges related to the implementation of Peirce Fit across the institution.

**STUDENT RESPONSE**

Overall, Peirce Fit has been well received, especially from the student perspective. Qualitative data that has been collected via end of course surveys has been *overwhelmingly* positive. Students appreciated the ability to make adjustments to their busy lives at a moment's notice, without worrying about missing class. Many students indicated the desire to interact one on one with peers and instructor, but previously enrolled online because of schedule uncertainty.

## Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

Courses are offered in an accelerated 7/8 week format (session), two sessions per term (semester). In the fall session 2, 440 students were enrolled in Peirce Fit courses.

According to attendance records, of the 440 enrolled, 116 switched delivery method, 224 did not (51% took advantage of the flexibility). \*Due to holidays and city-wide events, some weeks were designated as fully online for all students.

When asked if the Peirce Fit format improved ability to manage work/school/home, 86.1% of the students responded yes (fall and spring sessions to date).

### FACULTY RESPONSE

Overall, the response has been positive, but not without challenges. Two challenges were (1) the perception was that teaching a Peirce Fit course was twice the work; and (2) all courses have to be (or had to be) converted in time for the departmental launch, which was time consuming.

With the pride of small class size, the faculty were concerned with the occurrences of low attendance on campus, specifically, what to do when one or two students attend on campus, or no students attend on campus. Data from the Fall term indicated the percentage of students attending on campus decreased every week (with the exception of the week of Thanksgiving). Data from the spring term (to date) indicated attendance on campus rarely reached 50% of the total enrollment.

HEAT – High Impact Approach to Teaching – saw a slight impact. With a perfect score of 5.0, the average of all non-FIT courses for the fall 2015 was 4.38, while the average score for FIT courses was 4.29. While several factors may contribute to this reduced score, the actual reason for the drop is unclear.

Professional development has been offered to the full faculty and on a departmental basis. Data and perceptions are being collected for ways to improve, technologies to explore, etc, but overall faculty responses have been very positive.

**PEIRCE FIT**  
Learning that fits your life



**Jackie Bryce Miller – Lecturer III and Statistics Education Specialist**  
**Researching the HyFlex+ Instructional Model of Blended Learning**  
**(funded through NSF-DUE-1544337)**

**Background**

My involvement in HyFlex began in 2011 with a Departmental Impact Grant at The Ohio State University. That project, entitled “Too Many Students, Too Little Time,” endeavored to help us deal with the switch from quarters to semesters at Ohio State that brought with it both the demand to teach 50% more students per term and a 20% decrease in the amount of contact hours for the recitation portion of the course.

The final report from the research at Ohio State can be found at <https://odee.osu.edu/sites/default/files/2011igreportstatistics.pdf>, with more information available through links at <https://odee.osu.edu/odee-grants/impact-grant/statistics-1185>. Formal research was published as “Student choice, instructor flexibility: Moving beyond the blended instructional model” (Miller, Risser, and Griffiths, 2013) in *Issues and Trends in Educational Technology* (<https://journals.uair.arizona.edu/index.php/itet/article/view/16464>). I encourage you to check out this paper for detailed results.

**Technology**

At Ohio State, we used Adobe Connect to stream and record videos. Because not all students were connected via Adobe Connect, we could not use the polling module within Adobe Connect to periodically check student understanding of concepts. Thus we looked to web-based polling instruments so that all students (face-to-face and remote) could answer the same poll questions. We used Poll Everywhere for the first year and a half and then switched to Top Hat when the university piloted that technology in Spring 2013. Both Poll Everywhere and Top Hat also provided our backchannel platform.

At University of Michigan, we started with what we knew worked and thus used Adobe Connect and Top Hat. This worked well for us, given that we had a site license for Adobe Connect and a pilot of Top Hat. Beginning in Fall 2015, we switched to the Active Learning Platform (ALP) of Echo360 (also free to students because of site licensing). (See <http://echo360.com/> for details on Echo360.) We would like to continue using the ALP, but there are issues that need to be addressed prior to full scale use of the ALP in our 2000+ student class. Our use of the ALP differs from how others use it in that we need to take into account that not all students are logged in to the ALP and that students take notes in a course pack, rather than within the ALP. In addition, we will need to find a good way to organize the 6 lectures and over 60 labs into folders within the ALP (so that students do not have to sort through a list of all lectures and labs).

**Funding and Research**

Fortunately, Dr. Tailen Hsing and I received funding from the National Science Foundation for our research for two years beginning November 1, 2015 (NSF-DUE-1544337). As a result, our formal research actually began this winter term and will continue (with revisions and improvements) in the fall.

Our overarching research questions are:

1. What are the benefits and challenges of the use of the HyFlex+ model in introductory statistics for students and for the institution?
2. What aspects of the HyFlex+ model contribute to its success or failure in meeting the needs of students and the institution?

These research questions are broken down as follows:

Questions about the students:

1. What mode of attendance do students choose and with what frequency?

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2. Why do students choose the attendance mode they do? Is this choice consistent, or does it vary?
  3. What cognitive and non-cognitive student outcomes are affected by the model and how?
  4. Is the backchannel equally effective for students in both attendance modes? How and why or why not?
- Questions about the institution:

1. Does student attendance choice provide an efficiency for the institution in, for example, the number of instructors or number of rooms required for instruction?
2. What are the costs of the HyFlex+ instructional model, for example, on instructor or GSI time?

### Data Collection

All students in Stats 250 take both a pre- and post-test of both the Survey of Attitudes Towards Statistics instrument (SATS, <http://www.evaluationandstatistics.com/>) and the Comprehensive Assessment of Outcomes in a First Statistics Course test (CAOS, <https://apps3.cehd.umn.edu/artist/caos.html>). We will use both validated instruments to evaluate attitudes and achievements in the course as a whole and then do a comparison for those students who attended in different modes. The students will take their post-tests from April 11-19, 2016, so that data are not yet available. In addition to these instruments, we have access to all student grades for the course.

Two focus groups were set up, one for those who primarily attend lecture remotely and one for those who primarily attend lecture face to face. Those focus groups are being conducted the week of April 4, 2016, so the data are not yet available.

Preliminary attendance data (through March 31, 2016):

Lecture synchronous remote attendance (34 possible lectures)

- 206 unique students have taken advantage of this opportunity
- 108 have attended once or twice; 70 have attended 3-10 times; 20 have attended 11-20 times; 8 have attended 21 or more times (most is 29 times)

Video views of record lectures:

- 151 unique students have watched the video recording
- 46 have watched once or twice; 47 have watched 3-10 times; 40 have watched 11-20 times; 18 have watched 21 or more times (most is 29 times)

HyFlex Makeup Lab attendance (remote and in person, 10 possible labs)

- 279 unique students have taken advantage of this opportunity
- 175 have attended once; 84 have attended twice; and 20 have attended three or more times
- Note: Course policy for makeup labs is that at most two labs may be made up, unless special circumstances arise

### Perceived Limitations and Concerns

I have observed that the percentage of students who attend my lecture at University of Michigan is less than it was at Ohio State. We will need to refine our data collection to find out how these students are getting the lecture material—are they attending another lecture? Listening to my lecture recordings? Listening to a colleague's lecture recordings? Reading the filled-in notes that are posted on Canvas after material has been covered? Not attending? Note that students in the course are allowed to attend any of the six lectures that they like and that attendance is not required.

The backchannel has had less traffic at University of Michigan than it did at Ohio State. Might this be due to confusion of the two modes that can be used (the Q&A feature through the ALP or texting in a question)?

### Bottom Line

Because research is ongoing with HyFlex+ at University of Michigan, please stay tuned for future presentations and papers on the research. If you have any questions, suggestions, or concerns, feel free to contact me at [jabmille@umich.edu](mailto:jabmille@umich.edu). Thank you!

# SAN DIEGO CHRISTIAN

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## **Who is SDC?**

- Faith based Liberal Arts college founded in 1970
- 1000 students – 50% Residential and 50% Adult Online and Onsite
- Multiple B.S. and B.A. degrees, California Teacher Credential, and Masters of Arts in Teaching
- Moved the school to a brand new campus in January of 2014

## **Why Hyflex?**

- Impacted campus with limited classroom space – Impacts all programs
- Separate Adult Online and Onsite programs with same course offerings with the potential for lower student counts
- 100% of our students in the Adult program have work or other obligations that get in the way of completion of their degree.
- Most would prefer a face to face learning experience but their schedule/location would not allow consistent campus attendance.

## **How Do We Use Hyflex?**

- Asynchronous Undergraduate (Adult and Residential)
- 5 and 8 Week Hyflex courses

## **Challenges From Faculty**

- My students could not handle that type of flexibility! *Establishing consistent expectations and accountability will lead most to success.*
- What if nobody shows up to my class? *Establishing value in face to face content/activities along with ensuring larger student count will minimize this potential risk. If after implementing these measures you have one student show up, be prepared to serve the student as needed.*

**How Will Hyflex Be Used By SDC in the Future?**

- Once faculty are trained and comfortable with the Hyflex model, optional synchronous sessions will be added to all courses in the APS program.
- More Hyflex courses will be added to APS program
- Masters of Leadership will begin in Fall as all Hyflex
- Fall 2016 study will be conducted that examines potential differences in student performance and satisfaction between 5/8 week Hyflex courses and equivalent 16 week residential courses.
- Expected outcome of study = no significant statistical difference between modalities. Potential use of resulting data = will be used as evidence to move more traditional courses to the Hyflex model and therefore save money and classroom space.



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**ABOUT CUI**

- Lutheran, nonprofit university accredited by: WASC, CCNE, CAATE, CTC
- Enrollments: 1,592 Undergraduate (48% reside on campus); 2454 Graduate
- Faculty: 88 Full Time (Student:Faculty = 20:1)

**THE NEED**

With over 60% of students and graduate programs, Concordia University Irvine has developed various programs to try to meet the needs of these students. Originally, programs took the form of accelerated seated modalities but have recently been converted to more online and blended programs. Although these models provided more ways for more students to have access to our programs, there are still gaps presented in these more standardized blended and online models. The need for a more flexible programs where students can come to class or study online as their schedule dictates has become a need we are working to address.

**THE MODELS**

Concordia University Irvine currently offers three different types of HiFlex (S.E.A.M.) models. Please refer to the images below to see how each model works.

**Masters in Business Administration**  
(Semi HiFlex)



**RN-BSN**  
(HiFlex A Model)



**Master's of Science in Nursing**  
(HiFlex S Model)



**THE IMPACT**

Concordia University Irvine is guided by the Great Commission of Christ Jesus and the Lutheran Confessions and exists to empower students through the liberal arts and professional studies for lives of learning, service and leadership. This mission has been served by the development and deployment of HiFlex programs. Although still in their beta stages, these programs show promise in reaching populations that would otherwise not be able to attend CUI. A recent example was in our MBA program where a student from France was able to attend the Live Virtual Sessions which provided her an opportunity to interact with the professor and the students in the physical classroom at the same time.

**THE ISSUES**

One of the major issues CUI has experienced with our HiFlex programs has centered around the lack of resources needed for faculty training and development. Thus, faculty who have taught in these models are having a steep learning curve and are still trying to figure out their own style of teaching in these courses. This problem is highlighted with the HiFlex–S model since faculty are having to manage both in class students and virtual students who are attending the class via Adobe connect synchronology. Concordia is confident that as we continue to move forward with HiFlex models many of the obstacles we have experienced will be overcome through continued professional development and collaboration among faculty.





**PennState**  
**Lehigh Valley**

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## FLEXLEARNING AT PENN STATE LEHIGH VALLEY

Penn State Lehigh Valley is a small campus, part of a large University. Through its long history, Penn State Lehigh Valley has traditionally offered the benefits of small classes, personal contact with faculty, and a sense of community among students, faculty, and staff. This type of environment can prove crucial to the success of many students, including those who have difficulty with purely online courses that demand a high degree of motivation and self-discipline. Maintaining that special ingredient of personal interaction is essential to the campus mission of providing a supportive learning environment for all students.

The concept of FlexLearning arose from the need to meet the various learning needs and scheduling constraints of our diverse student population. Many Penn State Lehigh Valley (PSLV) students struggle to balance the demands of school with employment and family responsibilities. Some work full-time or commute from long distances. A class schedule offering flexibility, when academic requirements overlap with life obligations, can make all the difference for these students.

### The FlexLearning Solution

As we looked for a way to meet the needs of our students, it quickly became clear that *flexibility in learning* had to be the focus; hence, the term FlexLearning. The FlexLearning model developed at Penn State Lehigh Valley provides students with the best of both worlds – the scheduling flexibility of online classes and the rich personal interaction and direct support of face-to-face meetings – by letting them choose their participation mode. From class to class, students have the option to participate either on-campus at the scheduled time, or online when their schedule permits. Flexibility also accommodates different learning needs and preferences. For example, some students find they are more comfortable engaging in discussions online than they are in class. If a student learns best with guidance and personal interaction, then a face-to-face FlexLearning option may be the best choice.

We have found that most students in FlexLearning courses choose a combination of classroom and online attendance, and do so for a variety of reasons. If some course materials are familiar to a student, he or she may decide to participate online for those classes, and come to class for new material. Some students actually choose *both* the online and in-class options when particularly challenging material is being covered. Others want the social interaction of being in class and on-campus, and they use the online option only when they are ill, need to work, or have other issues that prevent them from attending class.

The benefits of a smaller campus and close personal connections between students and the instructor cannot be underestimated. We recommend that students attend class whenever possible, but when circumstances prevent them from doing so, FlexLearning allows them to continue their studies unimpeded. Whether students learn on-campus or online, courses are designed to provide many opportunities for interaction with faculty and with other students in their class.

### FlexLearning Course Design

The FlexLearning design model at PSLV takes advantage of the four HyFlex principles outlined by Dr. Brian Beatty, but there are also two very specific requirements: 1) students must be able to move from online to in-class participation throughout the semester, and 2) there are no synchronous participation requirements. The course must be available in a fully-online format for those students who choose that option. The instructor must design activities and assessments in such a way that the student is not required to attend at a scheduled time. Other than that, faculty can choose how to organize their course, select the learning tools and technologies they want to use, and decide which strategies to employ as they deliver their FlexLearning course.

### FlexLearning Faculty Preparation

All of this flexibility for students presents some course design challenges for instructors. As with traditional courses, faculty at Penn State Lehigh Valley have the freedom to design their FlexLearning courses as long as they maintain the two requirements mentioned previously. Giving the faculty some flexibility allows them to teach in a manner they think best suits their subject matter and their students. Faculty are given advice and support in their choice of tools and technologies by the campus Instructional Designers and Information Technology personnel.

To ensure that the FlexLearning courses offered at PSLV incorporate best practices for flexible course delivery and meet course quality standards, faculty who choose to teach FlexLearning courses are required to take a series of at least three professional development courses from among the following:

- OL2200-LV (Preparing Your Course for FlexLearning Delivery)
- OL2000 (Effective Online Teaching)
- OL2700 (Online Presence)
- OL4000 (Course Authoring)

The OL2200-LV course provided by PSLV, *Preparing your Course for FlexLearning Delivery*, helps faculty to think about how they can most effectively design their FlexLearning course. Design is important because we don't want them to feel like they are teaching two separate courses. The other three OL (Online Learning) courses listed are offered by Penn State World Campus Online Faculty Development.

Since training and preparation of a FlexLearning course involve substantial time and effort, each participating faculty member receives a nominal monetary incentive for developing and delivering a FlexLearning course for the first time.

### FlexLearning Review Team

A FlexLearning Team consisting of two instructional designers and two faculty members serves as the support group for the FlexLearning faculty. Before any course may be offered as FlexLearning, the instructor consults with the FlexLearning Team, presenting a syllabus, the FlexLearning Course Review Rubric (a course self-evaluation), and a two-week sample of the course.

### Summary

Since our first FlexLearning courses in Spring of 2013, PSLV has delivered more than 40 FlexLearning courses (115 sections) by 17 faculty members with more than 2,150 undergraduate enrollments. We are planning on offering several programs at our campus with a Program Online Completion Option. FlexLearning courses play a significant role in the development of that online completion option. FlexLearning has also led to the development of a Digital Peer Group – a group of FlexLearning and online faculty who meet regularly to share ideas and learn from each other's experiences.

### For More Information

For more information on Penn State Lehigh Valley's FlexLearning initiative, visit our website at [lehighvalley.psu.edu/flexlearning](http://lehighvalley.psu.edu/flexlearning).



## Instructional Support Services Perspective

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### Faculty & Student Demographics

Changing faculty and student demographics now include non-traditional students and millennial faculty and students, and these populations expect campuses to provide high quality curricular engagements and enterprise level academic technology support systems that conform to their experiences outside of the campus.

Non-traditional students, who may attend part-time, work full-time, have dependents, or be single parents, require increased flexibility and efficiencies to complete their studies. Millennial faculty and students bring new attitudes and aptitudes to college campuses, most notably with respect to technology and customer service. In general, millennials' learning preferences tend toward teamwork, experiential activities, structure, and the use of technology. Millennials want their technology to have more functionality, interoperability, and innovation, and they want their customer service systems to be agile, responsive, and personalized.

New models of course delivery present unlimited possibilities for a university to rethink and reinvent the ways that it is delivering its core mandate of teaching and learning, and HyFlex course delivery approaches are one way to meet the needs of non-traditional students, as well as millennial faculty and students.

### Academic Technology Unit

Residing within Academic Affairs, Academic Technology (AT) is independent of the central IT department and holds as its mission to *"support and advance effective learning, teaching, scholarship, and community service with technology."* To best support faculty, AT has expanded its service portfolio to provide services wherever teaching and learning touch technology, including:

- Enhanced classroom design and installation
- Video and media services
- Web-based technology applications
- Faculty development programming and course redesign grants
- Instructional design and curriculum development support, and
- Help desk support for students and faculty

## Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

### Technology Implementation Factors

Higher education organizational trends influencing academic technology implementations point to increased accountability in terms of the performance, educational value, and ease of use of the technologies and services provided. To this aim, Academic Technology dedicates attention and resources to the following three intersecting elements and ensures they are in place prior to any large scale implementation:

- *Technology Infrastructure*: provides a reliable, scalable, and robust technological solution for creating, hosting, and archiving HyFlex compatible learning activities and resources. Technology categories include LMS, Lecture Capture, Web and Video Conferencing, Video Streaming, and Academic Integrity tools.
- *Educational Best Practices*: collects and shares best teaching and learning practices related to instructional design and curriculum development for HyFlex offerings. Integrates universal design for learning principles to ensure accessibility for all.
- *Student and Faculty Support Systems*: offers comprehensive and tailored pedagogical and technical support for faculty and students as they develop, deliver or engage with HyFlex learning models. Includes help desk support and support documentation for faculty and students, faculty development programming, resources, and consultations.

### Faculty Development Programs

Although HyFlex approaches may provide opportunities to reach more students in more accessible and flexible ways, they also present challenges for faculty who need assistance and support as they experience the culture shift and increased workload that may initially come with a transition to HyFlex learning. To support faculty in their ongoing professional development, Academic Technology has implemented this range of initiatives and programming in support of HyFlex, and other technology-enabled teaching and learning modalities:

- *Strategic and Emergent Teaching and Learning Initiatives*: investigates and develop state-of-the-art models of excellence in teaching and learning in both virtual and physical environments.
- *Faculty Development Programming*: develops and delivers a wide range of faculty development opportunities that correspond to the needs, schedules, and learning preferences of all tenure-track and adjunct faculty members. These include one and two-day institutes, one-on-one consults, lunch-and-learns, and technology boot-camps.
- *Technology-Enabled Curriculum Development*: provides faculty members, departments, and colleges with comprehensive support to develop classroom-based, hybrid, HyFlex and online courses and programs.
- *"Faculty Fellows" and "Student eTerns"*: takes advantage of the broad range of teaching and learning expertise offered by Faculty Fellows and Student "eTerns" to provide individualized support from within their own disciplines.
- *ePortfolio and Assessment Support*: explores, supports, and advances a comprehensive range of assessment strategies that help faculty actively engage students in high impact practices, help ensure academic integrity, and provide faculty members with learner analytics and early warning data so they can reach out to help struggling students.
- *Communications and Outreach*: leverages the multiple information channels available to students, faculty and staff to effectively communicate complex and useful information about Academic Technology's technologies, support, and services, in clear, concise, and meaningful ways— ultimately improving their success.

### Faculty Transformation

Academic Technology Institutes are a popular faculty development offering for faculty interested in transitioning their courses into a HyFlex model. These institutes are based on a transformative faculty development model that offers a problem-based learning approach to curriculum design and redesign for tech-enhanced, hybrid, HyFlex, and online course delivery. In this model, small cohorts of faculty members participate in a 2-day summer or winter institute designed to explore a variety of class delivery options and take advantage of technologies and pedagogical strategies to share content, facilitate interactivity, and assess student outcomes. Each faculty

## Hybrid Flexible Course and Program Design: Models for Student-Directed Hybrids

member is later assigned an instructional design consultant to continue personally meaningful projects over the academic year.

As illustrated in their comments below, faculty members have reported that their participation in these institutes has helped them improve teaching evaluations, increased their morale, raised their confidence, provided them the skills to meet the needs of millennial learners, and/or lowered their resistance to online learning approaches, ultimately increasing their desire to further explore innovative uses of technology, such as HyFlex, in their teaching:

- *Morale*: "I was very impressed by the caliber of the presenters. Such smart folks, and so committed to what they are doing. It also gave me hope to see the engagement of my colleagues. It's easy in these difficult budget times to become disheartened at SF State, and coming in contact with faculty who made two days free to attend the institute, and who shared their really interesting ideas, made me feel that I am among like-minded individuals."
- *Meeting Student Needs*: "The insights into the expectations and way of thinking of millennial students were most helpful to me. Now I can see that providing instant feedback, exploiting a multitasking environment, etc. can have a didactic value. I'd like to experiment with clickers and wikis."
- *Time Management and Efficiencies*: "Attending this workshop, I learnt that using different forms of technology in teaching is not as difficult as I used to assume earlier. Once you get streamlined, then it's probably a more efficient way of teaching, delivering content and grading."
- *Faculty Apprehension Towards Online Learning*: "Thank you all for making me feel comfortable. I walked into the room believing that you guys were trying to have technology take my place in the classroom. I also had fear because I felt ignorant about all these tools. Knowing that you are here to help me as I implement some of the strategies and tools I am learning through AT gives me confidence to follow through with what I intend to implement with the students."

### Final Comments

Today's students and faculty need our university and its support services to accommodate flexible schedules, alternative course locations, different learning preferences, various levels of background preparation, unequal access to technology, and much more. The HyFlex course model is an innovative and effective way to address these challenges and can provide a meaningful and engaging experience if faculty and students are provided proper preparation and support. Academic Technology continues to strive to meet the emerging needs of faculty and students by systematically supporting technologies and approaches that foster and enable engaging teaching and learning experiences both in and out of the physical or virtual classroom, to ultimately improve curricular and co-curricular success.

*For more information about SF State's Academic Technology services, please visit our website: <http://at.sfsu.edu>*

If you'd like to stay connected to our growing "hybrid flexible" community, please complete a hybrid flexible experience survey and include your contact information: [http://bit.ly/hyflex\\_survey](http://bit.ly/hyflex_survey) Thank you!

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