

Bimodal Flexible (ByFlex) Course Design

BIMODAL FLEXIBLE (BYFLEX) COURSE DESIGN

KERRI SHIELDS

Kerri Shields
Toronto



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ABOUT THIS BOOK

Concept

Higher education institutions are realizing that students want and need flexible options for attending and participating in courses. During the COVID years, the world saw that many jobs could be done online. We also saw how many college and university courses and programs could be completed online and still produce quality graduates. This set a precedent for employees to expect more flexible options upon their return to the workplace. It also set a precedent for students to request more flexible options upon their return to campuses. Educational institutions can reach more students by offering flexible learning options and therefore, increase revenue and maintain growth, so it is an attractive option. Students prefer flexible course design because it allows them to have a work-school-life balance and meet their personal, work, and academic goals. Flexible learning is happening and is probably here to stay! The question is, “How much flexibility should an institution build into course design in order to meet the needs of their students?” This book examines this question and provides a suggestion for bimodal flexible (ByFlex) course design as the preferred choice.

Author

As a college professor for more than 20 years, I have had the opportunity to work on many projects and have been a member of many committees. I have designed, developed, and delivered many courses including in-classroom, online, blended, and hybrid. I have also been a program coordinator and course lead. These experiences have helped me develop skills in designing and developing courses. I have noticed over the years that there was, and still is, a need to provide students with flexible options for attendance and participation in courses in order to support student success. I find myself wondering if the HyFlex course model is too high maintenance, and I wonder if there is another flexible course model that would meet students’ needs yet at the same time be easier to instantiate and deliver. I envision a course that offers both synchronous and asynchronous options for students and allows them to switch between delivery modes as they prefer or need to. The bimodal flexible (ByFlex) course model may be the answer.

I will try my best to update the book content from time to time and check that videos or resources do not become obsolete or outdated.

I hope you find the information in this book interesting.

Sincerely,

Kerri Shields

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- Tables are used to structure information and not for layout. Tables include row and column headers. Row and column headers have the correct scope assigned. Tables include a caption. Tables avoid merged or split cells. Tables have adequate cell padding.
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- Font size is 12 points or higher for body text in PDF documents. Font size can be enlarged to 200 percent in Webbook or Ebook formats without needing to scroll side to side.
- In addition to the web version, this book is available for download in a variety of file formats including PDF, EPUB (for eReaders), and Common Cartridge (LTI Links).

eCampus Ontario

eCampusOntario is a provincially-funded non-profit organization that leads a consortium of the province’s publicly-funded colleges, universities, and indigenous institutes to develop and test online learning tools to advance the use of education technology and digital learning environments.²

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(Note: This list of sources used is NOT in APA citation style instead the auto-footnote and media citation features of Pressbooks were utilized to cite references throughout the chapter and generate a list at the end of the chapter.)

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CHAPTER 1: WHAT ARE BIMODAL FLEXIBLE COURSES?

What is Flexible Course Design?

Many colleges and universities had to quickly develop online courses for delivery during the COVID pandemic in order to maintain operations and continue to serve students. As students returned to classes on campus, institutions recognized that there was still a need to provide students with flexible options for how they attend and participate in courses. Flexible courses allow students to customize a school-work-life balance that supports their specific situation and needs.

Many of us have experienced online courses or on-campus courses over the years. Some of us have experienced hybrid (or blended) courses wherein part of the course may have been offered online while other parts were offered in the classroom. Few of us have probably experienced a truly flexible course, such as a trimodal or a bimodal course. In these types of courses, students have choices for every class session whether to attend in person or participate online (either synchronously or asynchronously).

Flexible courses enhance inclusivity by building student-centered, self-directed learning, and empowering students to choose how and when they learn. Flexible courses align with the practice of Universal Design for Learning (UDL)—“The primary focus is on finding ways to teach the material to the many types of learners in a classroom. Teachers plan lessons to address a wide range of needs and strengths. There’s no “typical” student.”¹ When flexible courses are designed, developed, and delivered well they can reduce barriers to participation. Flexible options support the needs of marginalized learners but also benefit all learners.

What is the Bimodal Flexible (ByFlex) Course Model?

The term bimodal means two modes, and in flexible course design, it means two delivery modes that are offered within the same course. As educational institutions continue to review flexible course delivery it may become evident that the bimodal flexible course model is one of the course models that can support students’ needs as well as institutional goals.

Some institutions, such as Concordia University define a bimodal course as “Everyone participates in a single synchronous (live) class session: the professor and a portion of students participate in person while the remainder of students participate remotely. This is what is referred to as a bimodal classroom because it allows faculty to make teaching and learning possible by combining two groups of learners. Students can attend class in-person when on campus, or they can attend virtually online via Zoom when located remotely.”²



This student is learning online while waiting for a dance lesson.

The University of Ottawa agrees with Concordia University in its definition of a bimodal course. “This approach is a combination of two distinct, real-time (synchronous) teaching spaces. The first is a physical space (in a classroom on campus) with an instructor present and a reduced number of students. The second is a virtual space using a web conferencing technology (Zoom or MS Teams) with students who choose to take the course remotely.”³

In these two examples (above), the type of bimodal model being used allows students a choice between two modes of synchronous learning for each session over the duration of the course. While this does provide flexibility for students who prefer (or need to) to stay home to learn, it does not allow flexibility in meeting times as students must meet with the professor as the classes are scheduled by the institution. This can be an issue for some students, such as those who live in a different time zone, have small children at home, or have a full-time career. This model for bimodal flexible course design may not be flexible enough to meet students’ needs.

Does it seem a bit limited in flexibility to only offer students a choice between two synchronous delivery modes? Would a bimodal course design not provide more flexibility if it offered an option between synchronous or asynchronous attendance and participation? What if it also allowed students to vary their choice each week, for each class? That might be rather flexible, don’t you agree?

Currently, there has been little research done in the area of flexible courses that combine one synchronous and one asynchronous component in a single course, although, the following article does discuss blending these options within an online course. There does not appear to be any mention of a bimodal course that combines an on-campus synchronous delivery with an online asynchronous option. “While research into and adoption of online learning has increased, this article explores a particular aspect of online learning—the blending of synchronous and asynchronous online learning into what we label bichronous online learning. We contend that the blend of synchronous and asynchronous online learning potentially reduces some of the challenges of

asynchronous online learning alone, including a lack of immediacy, community, interaction, and audiovisual communication.⁴

Refer to Table 1.1 for the definition of synchronous and asynchronous.

Table 1.1 Definitions: Synchronous and Asynchronous Course Delivery

Synchronous Online	Synchronous In-Classroom	Asynchronous
Students and their educator(s) are online at the same time.	Students and their educator(s) are in a classroom or lab on campus.	Students are online, but not at a specific time. Educators are not online at the same time as students.
Typically uses a virtual classroom/chat room. May use an online conferencing tool such as Zoom or Teams. May or may not use cameras and audio. No need to commute.	Face-to-face delivery and interactions, discussions, etc. take place. May use a screen and projector to share information.	Students set their own pace for learning (within deadlines) and take control of their learning. They can prioritize what they learn. No need to commute.
Immediate feedback.	Immediate feedback.	Feedback is not in real-time, not immediate.
Can be less isolating than asynchronous for students. The educator helps motivate students and guides and directs them on what needs to be accomplished by due dates.	Not isolating because of the face-to-face experience. The educator helps motivate students and guides and directs them on what needs to be accomplished by due dates.	Can be isolating for students. Students need to be self-motivated and disciplined enough to keep up with the course activities and due dates.
Students choose WHERE but not WHEN to learn.	Students do NOT choose WHERE or WHEN to learn.	Students choose WHERE and WHEN to learn.

Definition: Bimodal Flexible (ByFlex) Course Model

A Bimodal flexible (ByFlex) course model offers students two options for attending and participating in courses, online or on campus. Then, offers two options again, synchronously or asynchronously. It provides students with flexibility in how they prefer to attend and participate in courses from session to session throughout the course duration. This allows students to customize

a school-work-life balance that works for their specific situation and needs. The two ByFlex options are listed below and also depicted in Figure 1.1 below.

1. Each student chooses for each course class session to either learn on campus (in person) at the time the course is scheduled, at the same time as the educator, OR to learn online asynchronously at a time the student prefers.
2. Each student chooses for each course class session to either learn online synchronously at the time the course is scheduled, at the same time as the educator, OR to learn online asynchronously at a time the student prefers.

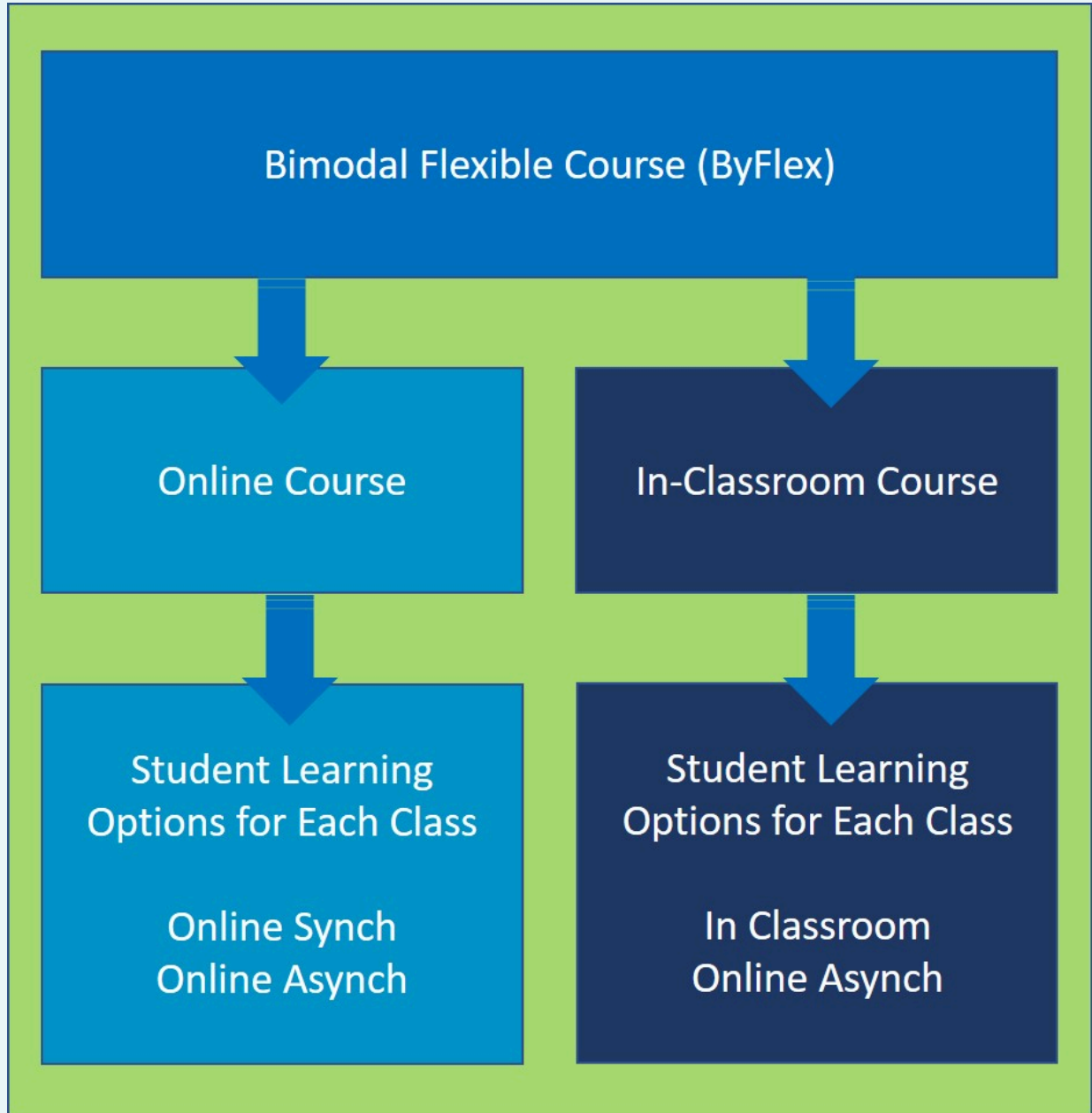


Figure 1.1 Bimodal Flexible (ByFlex) Course Model, by Kerri Shields

To make bimodal courses more flexible, the two modes offered for learning should be synchronous and asynchronous, with a choice for students for each class session. When flexible courses are designed for two different groups of learners (synchronous and asynchronous) supportive learning materials and resources must be created for both groups. “Blending synchronous and asynchronous allows us to gain the unique benefits from each modality while overcoming the unique limitations”.⁵ Students who are living in different time

zones, who may be ill, who may have to go to work, or who may have small children at home might prefer to attend the course asynchronously. This does, however, involve more planning and designing within the course learning management system (LMS) because course learning materials, resources, and weekly flow of content need to be available, clear, and directive so that students can self-direct through the LMS learning modules and meet the course learning objectives. It provides students with self-paced learning while adhering to the course schedule and deadlines.

What are the Four Principles for HyFlex Course Design?

Brian J. Beatty established four principles for HyFlex course design which include Learner Choice, Equivalency, Reusability, and Accessibility.⁶ These principles can be applied similarly to ByFlex course design.



“Beatty’s Four Fundamental Values for HyFlex” by Cambrian College is licensed under CC BY-NC-SA 4.0

1. **Learner Choice:** Provide meaningful alternative participation modes and enable students to choose between participation modes daily, weekly, or topically.
2. **Equivalency:** Provide learning activities in all participation modes which lead to equivalent learning outcomes.
3. **Reusability:** Utilize artifacts from learning activities in each participation mode as “learning objects’ for all students.
4. **Accessibility:** Equip students with technology skills and equitable access to all participation modes.

What are the Advantages of the ByFlex Course Model?

What’s great about the ByFlex course model is that it takes what institutions already offer, courses online or courses on campus, and adds an asynchronous option for student attendance and participation. Bimodal (ByFlex) courses offer more flexibility to students than traditional courses do, but not quite as much flexibility as trimodal (HyFlex) courses. ByFlex course design provides the flexibility students need, while HyFlex course design may be providing more than students need or will utilize, at a higher cost, with few additional benefits in comparison to ByFlex. ByFlex may not have as many challenges as HyFlex because it removes the dual delivery of two synchronous groups of learners at the same time. Due to some of the inherent challenges with HyFlex,

many colleges and universities only offer one or two courses within a program in HyFlex delivery mode, the remaining courses are offered in less flexible delivery modes (i.e., online, in-classroom, hybrid/blended).

Additional Resources

1. Explaining the difference between Hybrid and HyFlex Teaching Models
2. What's the Difference Between Asynchronous and Synchronous Learning?
3. Blended Learning vs Flexible Learning – What's The Difference?
4. Flipping the Classroom Script: Flipped Learning vs. Traditional Classroom Learning
5. The difference between Universal Design for Learning (UDL) and traditional education
6. Online Classes vs Traditional Classes – What's The Difference?
7. Distance Learning vs Traditional Learning – Pros and Cons
8. Why HyFlex Course Delivery Doesn't Always Work
9. Bichronous Online Learning: Blending Asynchronous with Synchronous Learning

References

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CHAPTER 2: WHICH FLEXIBLE COURSE DESIGN IS BEST FOR INSTITUTIONS?

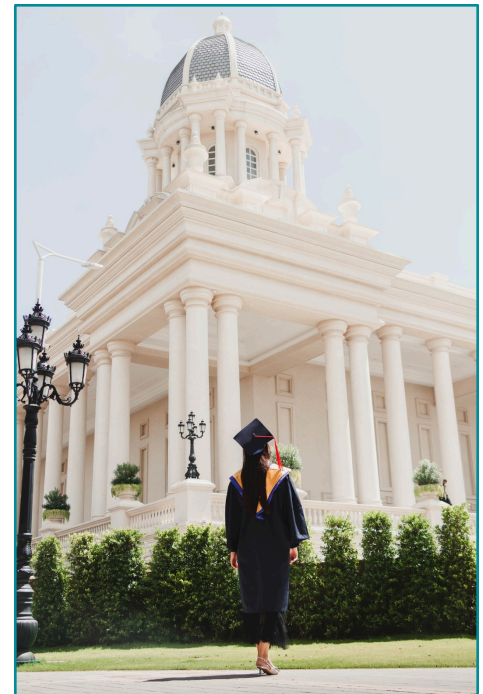
What is the Institutional Perspective?

During COVID colleges and universities rushed to provide online options for students to attend classes because the in-person restrictions would mean that institutions could end up in a very risky situation. Now that the world is on the other side of the pandemic, institutions wonder how they might continue to provide flexible learning options for students.

Institutions recognize the need students have for flexibility due to the many obligations students have beyond their academic studies. Students deal with many demands and stresses in life which may cause them to miss a class or two throughout the duration of a course. For example, some learners have jobs and families to manage, some live far from campus or out of the province/country, and some may become ill from time to time.

Colleges and universities continuously seek to increase enrollment because students come, graduate, leave the institution, and go out to work (or come back sometimes), and then more students are needed in order to keep operations going. Offering flexible options for student attendance and participation support institutions in their recruitment efforts.

David Rhoads is the director of teaching excellence and digital pedagogy at Vanguard University in Costa Mesa, Calif., and has been teaching and leading in the areas of educational technology and hybrid pedagogy for over a decade. Here is what David says about the HyFlex model, “I wholeheartedly believe that HyFlex is the future of higher education, but I also believe that many professors are intimidated by the time required to learn, design and build these types of courses efficiently and effectively. Faculty can get overwhelmed at the prospect of learning how to use new technologies in the classroom — and trusting that those technologies will work during their classes. The additional time required to design and teach a HyFlex



A higher education institution with a graduate outside.

course that meets learning objectives for up to three different sets of students at the same time — live on-campus, live online, and asynchronous online — must also be considered.”¹

Johnny Lee, a learning technologist, at Ravensbourne University, London shares some of the institutional benefits of the HyFlex course model.”As a way for higher education institutions to extend their reach to diverse learners all over the world, hyflex teaching overcomes the limits of physical classrooms, particularly for smaller institutions such as Ravensbourne University London, which offer courses like fashion, design and architecture that need plenty of space for hands-on work. The hyflex model also facilitates partnerships with industry by allowing busy academic experts and leading industry figures worldwide to share their experience with our students online. This helps students build their networks with industry and equips them with the core knowledge employers and society seek.”²

Educause published an article in 2022 discussing the importance of incorporating flexible learning into higher education. “Although HyFlex seems like a simple concept, it can be extremely complex to implement successfully. Executing a HyFlex model involves much more than embedding videoconferencing equipment and network and internet connectivity into an existing physical classroom. HyFlex merges the dichotomy of in-person and online learning. The goal of HyFlex is to make the online and in-person experiences equal for students. Participation in the class is necessary regardless of where and how students attend. The online experience should not be a lesser version of the in-person experience; it should be an alternative to it.”³

What are the Types of Flexible Course Models?

There are several types of flexible course models and institutions need to determine which types they can support and maintain best based on institutional resources. They also should consider which types of flexibility their students value most. Educause published an article in 2022 about the importance of higher education staying relevant. “Higher education can remain relevant only by adopting new technologies and teaching strategies that provide the most flexibility to students. If colleges and universities choose to adopt a HyFlex strategy, they should plan on investing time and money in its implementation. After everything that has happened over the past two years, can higher education institutions and educators afford not to invest in doing things a bit differently? Today’s workforce is more flexible than ever because of the pandemic, and teaching and learning should be in alignment with workforce needs to prepare students for their professional lives.”⁴

Refer to Table 2.1 below for a description of the types of flexible course models.

Table 2.1 Types of Flexible Course Models

Hybrid	Blended	HyFlex Classroom (Synch/Asynch)	Bimodal (Synch)	ByFlex Classroom (Synch/Asynch)	ByFlex Online (Synch/Asynch)
Hybrid classes replace a portion of traditional face-to-face instruction with online activities (such as video lectures, online discussions, or projects). Online interactions can be synchronous or asynchronous.	Blended learning combines in-person classes and interaction with supplemental online educational elements. Online learning materials are not intended to replace face-to-face class time (unlike hybrid courses), but instead, materials are designed to build upon what was covered in class.	Hybrid-flexible, or HyFlex courses, integrate face-to-face classes with an online learning experience. HyFlex courses differ from hybrid and blended courses in that students are given the choice to attend classes in person, on campus, via video conferencing, or asynchronously online and can switch between these options from class to class. Educators are teaching two groups of learners while providing equitable learning resources and experiences for three groups of learners within the learning management system (LMS).	Students participate in synchronous learning for each class, either in person, on campus, or via video conferencing from anywhere in the world. Educators are teaching two groups of learners at one time. Ottawa University has offered this course model. ⁵	Students participate in each class either synchronously in person, on campus, or asynchronously online. Educators are teaching one group of learners while providing equitable learning resources and experiences for both groups of learners with the learning management system (LMS).	Students participate in each class either synchronously via video conferencing or asynchronously online. Educators are teaching one group of learners while providing equitable learning resources and experiences for both groups of learners with the learning management system (LMS). This course model may also be referred to as bichronous online learning. ⁶

Table 2.1 is adapted from Dhami, H. (2021, July 14). *Hybrid, blended, or HyFlex: Which is the right fit for you?* Top Hat.⁷

Delivery Modes

Hybrid or Blended

A hybrid or blended course is a type of course that combines face-to-face and online learning. It means that some class sessions are held in a physical classroom, while others are conducted through web-based platforms (e.g., video lectures, online discussions, or activities).

Blended courses are a form of blended learning, which is any learning model that integrates traditional and virtual methods.⁸ These are the third most flexible course models for students and have been available for some years.

Trimodal (HyFlex)

Trimodal is often referred to as HyFlex and is a hybrid course that permits flexible student attendance. Students may attend fully online, either synchronously or asynchronously, or attend on campus, in person. Usually, students are permitted to vary their choice for attendance from week to week, session to session. This is the most flexible course model for students available today.

Bimodal (ByFlex)

ByFlex is a hybrid course that permits flexible student attendance. Students in an online course may attend fully online, either synchronously or asynchronously, while students enrolled in an on-campus course may attend fully in person or online asynchronously. Usually, students are permitted to vary their choice for attendance from week to week, session to session. This is the second most flexible course model for students available today. Refer to Figure 2.1 for a comparison between the HyFlex and ByFlex flexible course models.

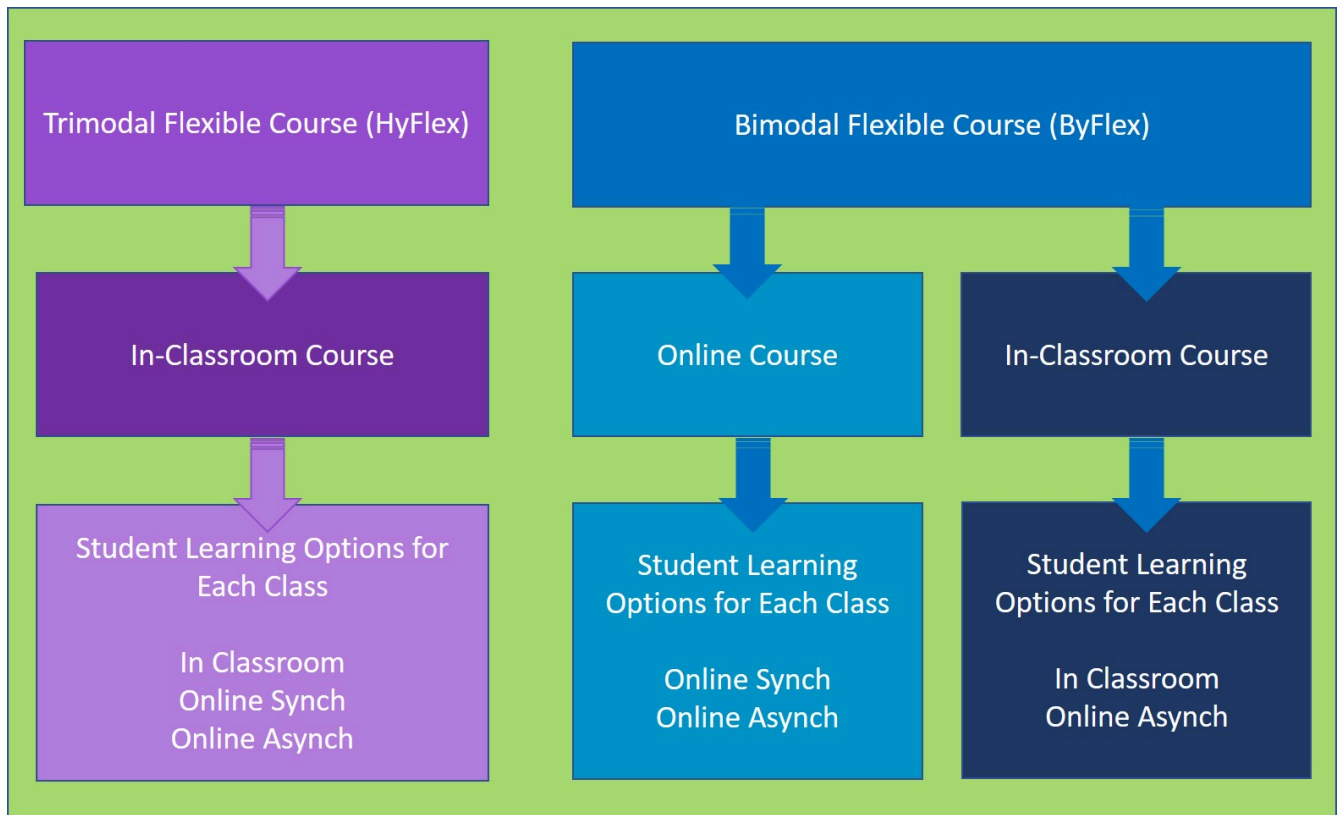


Figure 2.1 Trimodal (HyFlex) versus Bimodal (ByFlex) Course Model, by Kerri Shields

Student Participation

Synchronous

Learning at a scheduled class time (either online or on campus, in a classroom), guided by the professor.

Asynchronous

Learning at a time the student prefers, self-guiding through the course materials and objectives.

How Can Institutions Plan for the HyFlex Course Model?

There are a few things for institutions to consider when planning for HyFlex course delivery.

1. **Budget:** It is expensive for institutions to install the required technology in classrooms in order to facilitate concurrent in-person and virtual synchronous sessions. There are costs involved with training faculty and ongoing costs as new faculty are onboarded. There are costs to having the IT team support the educator in the classroom when technology fails. There are costs in maintaining the equipment and costs of obsolescence and replacing technologies going forward.
2. **Physical Space:** Classrooms are needed for HyFlex delivery and it's expensive to fit labs/rooms with the equipment needed to deliver this type of flexible course, so with a limited number of classrooms, how many will be used for HyFlex course delivery? Will there be enough classrooms? Will only a few courses be offered in HyFlex mode?
3. **Educator Skills:** Educators may not have the technical skills to manage the equipment effectively/efficiently. They may not have the teaching experience or skills to blend two different learner groups into one cohesive class session. They may be reluctant to support HyFlex as they may not value online learning and more specifically asynchronous learning. They may believe students will only learn best in a classroom with the professor, as this is the traditional way learning has been done. They may be comfortable teaching in a traditional manner and are not capable (e.g., lacking skills) or willing (e.g., fearful of change or failure, conflicting beliefs or values) to be innovative and experiment with new approaches. They may be reluctant to support HyFlex as they feel it is excessive or superfluous, while other, simpler, delivery methods would suffice and still offer students flexibility.
4. **Equity and Access:** Will each of the learning groups have equitable experiences and access to the learning materials, resources, and educators? The asynchronous students may be disadvantaged if the learning management system (LMS) is not designed well. The synchronous online students may experience equipment malfunction on their own devices, or the classroom equipment may not function optimally, resulting in a less-than-equitable experience for this group of learners. If the educator spends too much time working with the equipment, the on-campus, in-person students may become bored or disengaged, they may also be resistant to working with the online students as they view them as a separate group of learners. Time zone differences for online students must be considered. The ability of all students to access the equipment needed for student success in online courses (either synchronous or asynchronous) must also be considered.
5. **International Students:** Government regulations (IRCC) for international students may require students to be studying in Canada for at least 50% of their courses and 50% of their courses must be “in-class” in order for international students to obtain a post-graduate work permit. This would be a



Higher Education Administrator

concern for institutions with a high number of international students enrolled in flexible courses that may NOT qualify as “in-class”. The IRCC does change the regulations from time to time and it loosened restrictions during COVID then began to tighten them again. For example, Seneca College, as of September 2023, qualifies the term “in-class” as follows, “At least 50 per cent of your program must be completed in class. This includes in-person, hybrid or flexible program delivery.”⁹ Time zone differences and students access to the equipment needed for student success in online courses (either synchronous or asynchronous) are two things to consider pertaining to course delivery modes. IRCC regulations may be a guide that will help institutions determine the number of flexible and/or online courses in relation to the number of on-campus, in-class courses to offer.

How Can Institutions Plan for the ByFlex Course Model?

There are a few things for institutions to consider when planning for ByFlex course delivery.

1. **Budget:** It is not any more expensive than what institutions do now because many institutions already offer on-campus courses as well as online courses. There is no trendy, cutting-edge, or sophisticated equipment required to continue to do what we have been doing. There may be some training for educators required, but not as elaborate or lengthy as with HyFlex. There may be some costs involved in having the IT team support the educator in the classroom when technology fails, but no more than what is currently needed. Should institutions convert current traditional on-campus courses for ByFlex delivery, there may be some additional IT support needed (e.g., more laptops/devices for educators and students who are now utilizing the online components of the courses). There is still some cost to maintain the equipment and the cost of obsolescence and replacing technologies going forward, but less than with HyFlex.
2. **Physical Space:** ByFlex comes with two options, either on campus, in-person delivery coupled with the option for online asynchronous learning; or, online synchronous delivery coupled with the option for only asynchronous learning. On-campus delivery requires a classroom or lab, but these do not require upgrades just for the delivery mode, and online delivery does not require classroom/lab scheduling but will require the educator and students to have a laptop/device to participate in the course.
3. **Educator Skills:** Because the LMS is designed prior to courses being scheduled, the educator does not require any technical skills beyond what we have seen before and throughout the COVID pandemic. With that said, they may have little experience teaching online courses and may need some support or training to build those skills. They may be reluctant to support ByFlex as they may not value online learning and more specifically asynchronous learning. They may believe students will only learn best in a classroom with the professor, as this is the traditional way learning has been done. They may be comfortable teaching in a traditional manner and are not capable (e.g., lacking skills) or willing (e.g., fearful of change or failure, conflicting beliefs or values) to be innovative and experiment with new

approaches. On the other hand, some educators may already be offering students flexible options within assignment design, attendance, and assessment proctoring which is part of the ByFlex course design. Educators may not realize they are already delivering some ByFlex options.

4. **Equity and Access:** Will each of the learning groups have equitable experiences and access to the learning materials, resources, and educators? The asynchronous students may be disadvantaged if the learning management system (LMS) is poorly designed. There is no disadvantage for on-campus students as the courses will run as they always have (with the benefit of flexible attendance). As well, time zone differences for online students and the ability of all students to access the equipment needed for student success in online courses (either synchronous or asynchronous) must be considered.
5. **International Students:** Government regulations (IRCC) for international students may require students to be studying in Canada for at least 50% of their courses and 50% of their courses must be “in-class” in order for international students to obtain a post-graduate work permit. This would be a concern for institutions with a high number of international students enrolled in flexible courses that may NOT qualify as “in-class”. The IRCC does change the regulations from time to time and it loosened restrictions during COVID then began to tighten them again. For example, Seneca College, as of September 2023, qualifies the term “in-class” as follows, “At least 50 per cent of your program must be completed in class. This includes in-person, hybrid or flexible program delivery.”¹⁰ IRCC regulations may be a factor that will help institutions determine the number of flexible and/or online courses in relation to the number of on-campus, in-class courses to offer.

What are the Benefits of Flexible Course Design for Institutions?

Below is a list of some of the benefits institutions may experience from offering flexible courses. Both HyFlex and ByFlex are good course models. The institution needs to determine which course model is doable given the current resources, strategies, and goals.

1. **Fail-safe:** The online options within HyFlex and ByFlex do provide a built-in fail-safe for times when in-class teaching isn’t possible (i.e., COVID, educator illness, and no classroom availability).
2. **Increases Enrollment:** Flexible options allow institutions to reach international students as well as domestic students who may not be able to travel to the college or university.
3. **Higher Student Retention and Success:** When students have flexible options for attendance and participation they can better customize a school-work-life balance and encounter fewer issues that may pressure them to withdraw from school.
4. **Higher Student Satisfaction:** Students should be more satisfied with the courses (if well designed) and feel that the school, educator, and course design supported their needs, thus, completing KPI and Class Climate surveys with higher ratings.

5. **Positive Image:** Offering flexible courses may help the institution create a positive public image (if done well).
6. **Remain Competitive:** Since COVID, many higher education institutions are offering flexible courses. To stay relevant and competitive institutions that are not currently offering flexible courses will need to consider this.
7. **May Increase Government Funding:** Government funding is based on specific key performance indicators which measure institutional performance. In Ontario, Canada, the Government reviews graduate employment, graduate satisfaction, employer satisfaction, and graduate rates for each public higher education institution. Depending on what is being measured, the institution may or may not receive additional funding. “Key Performance Indicators (KPIs) are measurements mandated by the Ontario government that tell us how well we’re meeting the needs of graduates and employers.”¹¹

Additional Resources

1. HyFlex is Not the Future of Learning
2. HyFlex Learning: Viable Beyond Emergencies?
3. HyFlex Learning: Pros, Cons and the Future
4. Explaining the difference between Hybrid and HyFlex Teaching Models
5. What’s the Difference Between Asynchronous and Synchronous Learning?
6. Marketing HyFlex Courses: 7 Strategies to Engage Non-Traditional Students
7. What are the Benefits of Flexible Learning?
8. Research Report: Experiencing the HyFlex Model

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(Note: This list of sources used is NOT in APA citation style instead the auto-footnote and media citation features of Pressbooks were utilized to cite references throughout the chapter and generate a list at the end of the chapter.)

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CHAPTER 3: WHICH FLEXIBLE COURSE DESIGN IS BEST FOR EDUCATORS?

What is the Educator's Perspective?

Delivering any course with a flexible design requires more consideration and work from the educator. Institutions need to consider their educators and whether or not their faculty have the skills to teach flexible courses, and if not, determine what type of training may be required. The administration would also need to consider how educators might perceive being asked to teach a flexible course.

- Would it be considered as more work with no additional pay?
- Would it be viewed as too challenging and not worth the effort, either from a technology management point of view or from the point of view of managing two or three separate groups of learners within the same course?
- Would it be welcomed as an opportunity for learning and personal growth?
- Would it be dismissed as a delivery mode due to concerns pertaining to academic honesty issues within the asynchronous option?
- Would educators welcome the opportunity to support student needs even if it may require additional time, effort, or personal training?

Managers should approach this with a change management lens because not everyone accepts change readily. If educators do not have the skills or are against the concept, flexible courses may not run as smoothly as hoped and students may end up having a negative experience.

Watch the video below by Husan Aldamen, Associate Professor of Accounting, to hear his considerations for HyFlex learning options as they pertain to institutions, educators, and students.¹ Transcript for “Hyflex Learning” Video [PDF–New Tab]. Closed captioning is available on YouTube.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/byflex/?p=32#oembed-1>

MiraCosta College Survey

The College received **147 responses from educators** who were surveyed on HyFlex teaching and learning. There were four takeaways from the HyFlex survey results. First, most faculty respondents had an interest in a 2-in-1 version of HyFlex, but not in the original 3-in-1 model. Second, faculty identified several areas of concern regarding working conditions: increased compensation, in-classroom IT support, and faculty well-being and choice. Third, faculty interested in the HyFlex modality identified three top professional learning areas: preparing course content, using technology in the classroom, and managing a classroom across multiple modalities. Fourth, faculty shared several areas of concern regarding academic and professional matters: examples of effective teaching need to be shared, more research is needed on student engagement and retention in HyFlex courses, and faculty in disciplines should decide what makes pedagogical sense.²

Brief Summary

“Since it was developed at San Francisco State University, the HyFlex model has been adopted at institutions around the world. Cambrian College in Ontario offers HyFlex courses for graduate programs in business analytics, crime analytics, and community and health services navigation. The University of Michigan offers courses including a statistics course in the HyFlex format. Delgado Community College in New Orleans has been working to incorporate HyFlex into its curriculum.”³ Many of these and other institutions have studied the pros and cons of the HyFlex course model and have gathered and compiled insights gained from educator feedback. Below is a brief summary of some of the challenges experienced by educators.

What did educators find challenging about their HyFlex course experience?

1. Educators struggled to teach equitably both to students in the physical classroom and to those studying remotely.⁴
2. Educators have to not only manage different styles and different modalities of learning but basically manage different classroom communities all within one class, which is not only more difficult for educators, it also takes a lot more time.⁵
3. Educators experienced pedagogical challenges of how to modify assignments and activities for face-to-face students versus those that are online.⁶
4. Educators observed a power dynamic between students that are face-to-face, who may dominate the conversation versus the students who are online who want to engage in the conversation.⁷
5. Educators found it challenging to anticipate how many students are going to be face-to-face versus how many students are going to be online.⁸
6. Educators had concerns about how to do active learning activities and build class community.⁹
7. Educators found it challenging to manage technology difficulties (e.g., the camera doesn't work, the projector breaks down, audio issues, poor Internet connections).¹⁰

How Do Educators Feel About HyFlex?

Below are some quotes from educators about their experiences with, or feelings toward, HyFlex (trimodal) course delivery.

“Honestly, I’d rather do totally online or totally face-to-face. Having some students in person and some students online is a literal nightmare in a class that’s focused on discussions, group practice, and readings. I had to do it last semester and it was like pulling teeth to get the online students involved. Also, having to divide my attention equally between online and in-person students was insanely difficult since I naturally tend to want to concentrate on the people in front of me. We also couldn’t walk around the classroom or anything while lecturing because the camera was static. I had to lecture behind a podium and I’m usually super animated while lecturing.” Reddit User 1, 2021¹¹

“I’m currently teaching intro levels courses in the Hyflex format. It certainly presents more work from a tech perspective because I have to launch Zoom from the terminal, make sure the camera and microphone are working, join Zoom from my iPad so I can use that as a de facto “board”, and remember to record. On top of that, I’ll have to switch screen sharing back and forth between the terminal and my iPad depending on what program I’m using. That being said, it really doesn’t seem to have changed the experience that much. Yes, all exams are now in take-home format but the actual in-class teaching is largely the same. Some students are actually more likely to ask questions over in chat than in-person.” Reddit User 2, 2021¹²

“Literally everyone I know who has taught following this model has hated it and felt like it was a ton of additional work. Plus in all cases, the majority of their students stopped coming to class after a few weeks so they were showing up to teach in person for just a couple of students. Everyone else was black squares online or not there at all because they were relying on the recording. Sounds like a nightmare and I am glad I was able to keep my classes fully online.” Reddit User 3, 2021¹³

“Given that you are definitely not being paid 3x as much, I think it’s a bad idea. I think in this case quality of instruction method trumps quantity.” Reddit User 4, 2021¹⁴

“Managing in-class teaching plus live streaming plus recording sounds like an anxiety attack in the making. How can genuine teaching and learning happen when our attention is so split?” Reddit User 5, 2021¹⁵

“Hyflex has changed the way I work – with respect to flexibility and equity. The beauty of the Hyflex model is that it provides choice for learning preference and equal opportunity for every student to participate, which opens up opportunities for learning and connection. Many of our students learn differently; some need more one-on-one attention and some prefer to work independently. By giving these different options of being in class with the instructor or being in the comfort of their homes, we can provide for these learning opportunities.”¹⁶

Why is Resistance Futile?

While many educators today work tirelessly to design learning materials and activities that will engage students and support their learning journey, some educators may be fearful of the rapid encroachment of technology taking over the classroom. Some educators may be resistant to change, or fear losing their job to a robot (e.g., AI, automated systems, LMS). Resistance is futile because technology will continue to advance and educators will need to either keep up with the times or become obsolete.

If we take a look at what history has taught us, companies that did not embrace new technologies or failed to innovate went out of business or lost a lot of money but then pivoted and made a come-back (e.g., BlockBuster, Polaroid, Tower Records, Compaq, Victor Company (VHS tapes), etc.). Colleges and universities also must innovate in order to keep up with societal changes in order to stay in business. For example, many people today no longer have a home phone, instead, they use cell phones. Many people today have home computers or laptops which we did not have in the 80s or early 90s then with the proliferation of the Internet, people started connecting to information online. Today most people expect to use the Internet to connect with friends, work, and school. If institutions do not allow students to do that, learners will seek out other ways to learn or invest their money at other institutions that will allow them to learn in the course delivery mode they prefer. “At some point, you will see a revolution in education like you will in everything else.”¹⁷

“During the early days of the pandemic, ‘people stood up Zoom classrooms’ and ‘they put a lot of video lectures up online,’ said Jeff Borden, the chief academic officer for D2L, a company that creates online learning software. ‘That’s fine. That was important to get people through.’ Now, however, Borden stressed, colleges and universities have the opportunity to move beyond these makeshift models. They can work to build more durable online learning platforms that meet the needs of a range of learners who must access coursework at different times and in different formats to suit their particular goals and lifestyles.”¹⁸

Many educators already offer students some flexibility in assignment design, attendance, and assessment proctoring, which means it would only be a small shift to move fully into ByFlex delivery mode. Some educators already use the asynchronous LMS design even when teaching on campus, in the classroom, which allows their students to access the learning materials at the times they cannot attend class due to illness, appointment, or such. Offering flexibility to students, supporting their needs, and allowing students to make choices (UDL) is what the ByFlex course model is all about.

How are Educators Supported?

It is important for institutions to support educators in designing and delivering bimodal (ByFlex) or trimodal (HyFlex) courses. The University of Windsor, Center for Teaching and Learning (CTL) appears to do this well, “HyFlex teaching provides choice to learners in their mode of engagement with the learning. Learners have the choice to attend classes in face-to-face or online modalities. The University of Windsor provides over 20 classrooms with live-streaming capabilities and 15 mobile HyFlex units. This site is a joint project between the Office of Open Learning, the Centre for Teaching and Learning, and IT Services, who are supporting HyFlex instructors and students”.¹⁹

Seneca College’s Teaching and Learning Center provides courses, support, and resources to educators who are designing and developing flexible courses. “If you are going to be teaching a Flexible course, the best place to start is with the next offering of the professional development course, “FunFlex: The Fundamentals of Flexible Course Design and Delivery.” This is an online, asynchronous course, meaning that you can complete the three course modules on your own schedule, at times that work for you. The course is facilitated by a member of the Teaching & Learning Centre team, and also connects you to a Community of Practice on Microsoft Teams where you can share resources with colleagues.”²⁰

Many educators in higher education are seeking ways to make their courses more flexible. You are not alone. The HyFlex course model has been around since 2005 when Brian J. Beatty first coined the term and he has continually improved the model over the years incorporating advances in technology. It may be that your institution has decided to move ahead with HyFlex delivery and you will become a part of that. To prepare yourself it would be wise to connect with the Teaching and Learning Center at your institution, take a course, read some articles, watch some videos, and then practice with the classroom technology.

It may be that your institution determines that HyFlex may be too expensive or too difficult to implement on a large scale and instead decides to move forward with the bimodal, ByFlex, course model, or a combination of both models. It may be that in the absence of a formal institutional plan, and after you (the educator) have



Educators receiving support for course development.

researched and practiced delivery, you decide that HyFlex is too much for you to manage; although, you would like to offer some flexibility to students in how they attend and participate in your courses. If that is the case, then consider if a bimodal, ByFlex, delivery will be enough to support your goals and meet your students' needs.

What are the Benefits of ByFlex Course Design for Educators?

Educators may receive the following benefits from delivering bimodal flexible (ByFlex) courses.

1. **Provides a Fail-Safe:** The online options within ByFlex do provide a built-in fail-safe for times when in-class teaching isn't possible (i.e., COVID, educator illness, and no classroom availability). While ByFlex has two options (synchronous and asynchronous), within two options for delivery (on campus or online), the educator could easily switch between modes. For example, if the educator is ill and decides to offer that class online synchronously instead of commuting to the campus, they could email their manager and their students to let them know and switch the class from on-campus to online synchronous. Students who would normally travel to the campus, could either stay home and attend online synchronously or, if they do not have an appropriate device to support their learning from home, they could travel to the campus as they usually would and use a campus computer to attend the synchronous session. If the educator is too ill to provide a synchronous session online, then either the educator or staff could send an email to the students letting them know there will be no synchronous class that day and directing them to the weekly learning module in the asynchronous LMS design so students could complete the learning activities assigned for that week.
2. **Reduces Time for Course Preparation:** After the course is developed in the LMS, it will be fully equipped with many learning materials, the course outline/syllabus, a weekly or topical flow of content, videos, assignments, possibly discussion boards, games for learning, etc. Therefore, the educator will not need to do a lot of preparation for each class. This is especially helpful for new-to-the-course educators.
3. **Maintains Consistency Across Sections:** Having the LMS designed is great for all educators (and students) teaching the same course because all course sections will provide the same content to students across sections. This consistency helps with program quality reviews, reduces student complaints, and helps ensure a high-quality course.
4. **Improves Skillset:** As educators design, develop, and deliver flexible courses they grow their skills in online delivery, UDL design, innovation, and curriculum design. These skills are transferrable. While change can be frightening at times educators who embrace change, work through the challenges, will be proud of their accomplishments, and have new skills when they come out the other side.
5. **Reduces Stress:** Educators have the course materials posted in the LMS which reduces the feeling of scrambling each week to quickly post learning materials. Of course, educators may add to the LMS

materials at any point, but knowing that the majority of content is already available to students takes some pressure off educators so they can focus on adding value to the content and providing an engaging synchronous delivery.

Additional Resources

1. HyFlex Course Design and Teaching Strategies
2. My Do-It-Yourself HyFlex Classroom Experience
3. Hybrid and Flexible: A Professor's Guide to Hyflex Teaching
4. Impact of the Bimodal (both synchronous) Format on Teaching and Learning at the University of Ottawa
5. The Cengage Guide to Teaching Online

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CHAPTER 4: WHICH FLEXIBLE COURSE DESIGN IS BEST FOR STUDENTS?

Which Elements of Online Learning Do Students Value Most?

McKinsey & Company **surveyed more than 7,000 students in 17 countries** to find out which elements of online higher education they value most. “All students we surveyed had moved to online classes during the pandemic, and almost 65 percent of them said they want aspects of their learning experience to remain virtual. Even in France, which had the lowest share, more than half of students said they wanted some learning elements to remain virtual.”¹

Survey results indicate that overall students appreciated the flexibility and convenience of online learning. “Our survey found that what students value most in online learning did not vary significantly across age groups, field of study, or level of education (undergraduate versus graduate). Online attributes that are expensive to implement, such as virtual reality (VR), simulations, and sophisticated visual content, are not ranked highly by most students. Students in 16 of the 17 countries said that having a very well-organized online course with a clear path and a step-by-step guide to achieving their goals was among their five most important elements. Students identified the top three learning features that should remain or become virtual: recording classes and making them available to watch later, easy access to online study materials, and flexibility that enables students to work and study. Some students still hesitate to enroll in fully remote programs and the top three reasons identified include fear of becoming more distracted by studying online, getting bored if the learning experience is not motivating, and lacking the discipline to complete the online program.”²

Which Factors Affect Students' Attendance Choices?

At a public, 4-year, open-access university, **876 students were given a choice** of how they would like to attend class, in person, online, or live stream, and all 876 chose in person, yet were provided attendance flexibility due to the pandemic. “This unique situation provided a research opportunity to explore the self-regulatory, motivational, and contextual factors that affected students’ attendance choices as well as their academic outcomes (pass/withdrawal) and perceptions of satisfaction. Results showed that 70% of students took advantage of the opportunity to flex and strongly valued the convenience, choice, and time savings. They were satisfied with connections to instructors. They were less satisfied with connections to peers, fluency between attendance modes, and technology performance. Generally, students performed well in the HyFlex courses with pass rates and withdrawal rates of 88% and 2%, respectively, for both Fall 2020 and Spring 2021 terms.”³



A student completing a survey.

What are Students' Perceptions of HyFlex Courses?

An article published by Taylor & Francis with the results of an undergraduate **student survey which included 305 students**, assessed technological strategies, instructional strategies, and student perceptions about the HyFlex courses students attended during the COVID-19 pandemic. “Students indicated that most of their classes during the Spring 2021 semester were a mix of in-person and online, and professors used Google Meet for classes, and the learning management system (LMS) for assignments, syllabi, and rubrics. Student perceptions about their HyFlex classes indicated that they felt challenged in their classes and that course materials were available to them “during” and “after” class. Students also felt a lack of “connection” with other students in the class and were unsure if HyFlex improved their learning. Two open-ended questions generated comment themes with students indicating the need for classroom flexibility, classroom engagement, instructor communication, leveraging technology, and minimizing distractions.”⁴

How Do Students Perform in HyFlex Courses?

“Another study of MBA students published in *The Interactive Learning Environment* examined student outcomes in a Hyflex course. This study found that Hyflex classrooms effectively closed the achievement

gap between online and in-person students. Traditionally, students who attend in-person classes outperform online students by 9%. The researchers concluded that students in Hyflex classes who chose in-person learning performed just as well as they did in traditional classrooms, and students who chose the online option performed significantly better than they did in fully online classes.”⁵

Which Course Delivery Mode Do Students Prefer?

“A study published in *The Journal of Teaching Social Work* found that students stated that they preferred the face-to-face model for learning; however, they actually participated in the asynchronous model more than they predicted they would. Despite their stated preferences, only 17% of students participated only in face-to-face classes. Surprisingly, no students chose to participate in the synchronous model.”⁶

What Do Students Say about HyFlex Courses?

Many higher education institutions have studied the pros and cons of the HyFlex course model and have gathered and compiled insights gained from student feedback. Below is a brief summary of some of these findings.

What did students like about their HyFlex course experience?

1. Freedom to choose whether or not to attend class in person. Some students with longer-term health issues such as injury and disability, mentioned that they would not have been able to attend courses without flexible options.⁷⁸
2. Flexibility to view lectures, read materials, and learn at their own pace helped students understand the concepts better. Gaining access to the recorded class lesson was an incentive to attend online, especially for international students, who made extensive use of the auto-transcription.⁹¹⁰¹¹
3. Not having classes cancelled completely if staff or students were suddenly unable to attend in-room due to illness or transport strike action.¹²¹³
4. Reduced stress when running late and being worried about running late because students know they won't make it on time.¹⁴
5. Reduced pressure during busy weeks because students know they have the option to stay home and do their school work, and regain the time it would have taken to commute to campus.¹⁵
6. Not having to commute, especially in the winter time, might be better for the environment due to less pollution.¹⁶

What did students find challenging about their HyFlex course experience?

1. Some students felt more distracted studying online.¹⁷
2. There was not enough interaction with their classmates. Some online students felt in-room students ignored them to a greater extent compared to when all were attending entirely in-room or online. Hand-raising and reaction emoji use by students was not always noticed.¹⁸¹⁹²⁰
3. Access to appropriate devices and technology issues/failures such as poor audio/visual, both with student devices as well as with the educators' inability to manage the technology effectively.²¹²²²³²⁴²⁵

What Were the Results of the ByFlex Pilot Study?

Kerri Shields (author) has been a professor at Centennial College for more than 20 years and has gained much experience in designing, developing, and delivering courses for various modalities (online, hybrid, and in-classroom). Professor Shields ran a pilot study offering bimodal (ByFlex) courses to students enrolled in two different courses during the winter 2023 semester. There were no comparisons done regarding course withdrawal rates in this pilot study. There were comparisons done on course failure rates between the ByFlex courses delivered in winter 2023 and the same courses delivered over the previous five years in other modalities, and the failure rates were about the same.

Course 1: There were 38 students enrolled in a Microsoft Excel course (2nd semester, undergraduate), and the class sessions were scheduled to meet two hours per week in a computer lab on campus plus two hours per week online synchronously. This was already a hybrid course format with fully synchronous sessions, but to make it even more flexible, the option for asynchronous attendance and participation was provided.

Course 2: There were 18 students enrolled in a Management Information Systems course (5th semester, undergraduate), and the class sessions were scheduled to meet online for two, two-hour sessions each week (fully synchronous online). To make this course more flexible, the option for asynchronous attendance and participation was provided.

A survey for student feedback was sent out to all students to capture student satisfaction, delivery mode preferences, and student likes and challenges. There were 10 students who responded from course 1 (38 enrolled), and 8 students who responded from course 2 (18 enrolled). Surprisingly, both groups, 2nd-semester students and 5th-semester students responded similarly.

What did students think about their flexible course experience?²⁶

2nd-semester 10 respondents

- 50% said they prefer taking an online course to an on-campus course.
- 70% said they attended both synchronous sessions each week.

- 50% said they did watch the recording from the online session each week only on the days they did not attend the online synchronous session.
- 10% said they did review the recordings of the online session even if they did attend the synchronous online session.
- 20% said they did not usually review the recording from the online session, but sometimes they did.
- 70% said they did review the written class summary posted in the news feed within the LMS even if they did attend the synchronous session.
- 10% said they reviewed the written class summary posted in the news feed within the learning management system (LMS) only on the days they did not attend the class synchronously.
- 90% said the course design in the LMS was informative and easy to follow.
- 40% said the ByFlex course design was helpful to them because it allowed them to do other tasks during the scheduled class time, then get the classwork done in the evenings.
- 30% said they liked having a choice for each session with the ByFlex course design, and they liked that the professor recorded the sessions in case they could not attend.
- 30% said they think all courses should offer the option to attend in person (online or in the classroom) or work asynchronously if the student wishes to do so, as long as the student is able to find all the learning tasks and assignments within the LMS.
- 30% said they did well because they kept up with the workload and attended most of the synchronous class sessions.
- 70% said they did well because they could follow the course design and plan their time well which helped them succeed. (No one said they did not do well!)

5th-semester 8 respondents

- 70% of the 5th-semester respondents said they prefer taking an online course to an on-campus course.
- 80% said they attended the online synchronous session often when they needed or wanted to get a better understanding of the course content, needed to ask a question or get support from the professor.
- 30% said they did watch the recording from the online sessions each week only on the days they did not attend the online synchronous session.
- 10% said they did not usually review the recording from the online sessions, but



A ByFlex course on campus yet provides learning materials within the LMS for students who prefer to learn asynchronously.

sometimes they did.

- 30% said they did review the recordings of the online session even if they attend the synchronous online session.
- 10% said they reviewed the written class summary posted in the news feed within the learning management system (LMS) only on the days they did not attend the class synchronously.
- 50% said they did review the written class summary posted in the news feed within the LMS even if they did attend the synchronous session.
- 70% said the course design in the LMS was informative and easy to follow.
- 40% said the ByFlex course design was helpful to them because it allowed them to do other tasks during the scheduled class time, then get the classwork done in the evenings.
- 40% said they liked having a choice for each session with the ByFlex course design, and they liked that the professor recorded the sessions in case they could not attend.
- 10% said they think all courses should offer the option to attend in person (online or in the classroom) or work asynchronously if the student wishes to do so, as long as the student is able to find all the learning tasks and assignments within the LMS.
- 30% said they did well because they kept up with the workload and attended most of the synchronous class sessions.
- 30% said they did well because they could follow the course design and plan their time well which helped them succeed.
- 10% said they don't know what went wrong, and guess they did not plan their time well.
- 10% said they worked too much and didn't put enough time into their studies, and will do better next semester.

Summary of Findings

Although students were asked at the end of the course to complete a feedback survey on course delivery not all students completed the survey. Some students provided comments rather than, or in combination with, answering survey questions.

- Overall feedback from the ByFlex pilot indicated that students appreciated not being penalized with a grade reduction for not attending the in-person sessions.
- Students felt they had control over their schedules and workload and were able to manage a school-work-life balance.
- The professor was using a well-designed asynchronous course within the LMS and did not require additional time or effort to prepare course materials.
- When there were proctored assessments almost all students attended, with few exceptions, as students were provided these proctored dates well in advance.

- A couple of students missed the on-campus proctored assessment date(s) due to illness. These students were asked to take the assessment in a different delivery mode due to the effort involved in trying to schedule an empty classroom for a make-up test date. These students were proctored in Zoom, during the evening instead, and expressed their appreciation for the flexibility on the professor's behalf.
- The professor had some concerns about the sessions where attendance was low, self-doubt, and lowered self-esteem, "Is it me? Am I that boring?" but then soon realized that students appeared to be doing well, submitting what was needed, getting good grades, using email as needed, and asking for help when needed.
- The professor's self-esteem improved when it became obvious that students were progressing well and utilizing the LMS materials, following directions, reading the news posts, and attending the proctored sessions whenever they could or preferred to. There appeared to be nothing to worry about because after the final grades were submitted, there were NO students who failed the Microsoft Excel course. After examining the same course final grades over the past five years, with the same size enrollment of 40 in a course (approximately), the number of students who failed on average each semester ranged from zero to four. It appeared that the ByFlex course was doing pretty well.
- Within the Management Information Systems course, two students failed the course. After comparing failure rates over the previous five years, the failure rate for the pilot was consistent with zero to two students failing each semester. Interestingly in the feedback survey results when students were asked if they understood why they passed or failed, there was one response stating they failed due to working too much and not keeping up with their studies, and another response stating that the student didn't know what went wrong and will do better next time. While the surveys were anonymous, one might deduce that these two responses came from the two students who failed the course.
- There was one class whereby the professor was ill, so they asked students to join synchronously online instead of in the classroom and that worked well.
- The number of emails received from students asking for the professor's support during the ByFlex course was fewer when compared to other fully online asynchronous courses taught in the past.
- The number of emails received from students asking for the professor's support during the ByFlex course was more when compared to other in-person courses taught, but there were fewer in-person student-support meetings needed.
- Microsoft Excel course attendance for the online weekly session was about the same as the on-campus weekly session. There were a group of students who attended both classes each week, but then there were also different students attending on different weeks. On campus, in-person, attendance in the Microsoft Excel course fluctuated from week to week as follows:
 - Week 1 – 30 of 38 students attended (getting used to ByFlex, the LMS, Due Dates)
 - Week 2 – 20 students attended (students still finalizing timetables)
 - Week 3 – 28 students attended
 - Week 4 – 20 students attended

- Week 5 – 37 attended (a proctored assessment), nearly all attended
 - Week 6 – 20 students attended
 - Week 7 – 9 students attended
 - Week 8 – 7 students attended
 - Week 9 – 18 students attended (a proctored industry exam, half the class was scheduled)
 - Week 10 – 20 students attended (a proctored industry exam, the other half was scheduled)
 - Week 11 – 28 students attended (started a new topic)
 - Week 12 – 7 students attended
 - Week 13 – 10 students attended
 - Week 14 – 37 students attended (a proctored assessment), nearly all attended
- To maintain academic integrity and uphold the quality of the institution’s academic credentials, the Microsoft Excel course with 38 students had 45% of the assessment grades proctored. Proctoring was done in Zoom and it worked well. Students were informed of proctoring dates and format during week 1 of the course.
 - The Management Information Systems course attendance for the fully online synchronous, two meetings per week, fluctuated. In a class size of 18 students, most classes saw 7-12 attend synchronously online. Although, in one week there were only 4 students in attendance. The remaining students were working asynchronously. All synchronous sessions were recorded and posted in the LMS for all learners.
 - To maintain academic integrity and uphold the quality of the institution’s academic credentials, there were two proctored tests within the Management Information Systems course (18 students). These were weighted at 25% for each of the two tests. Students were informed of the proctoring dates and methods early in the course. Respondus LockDown Browser with a camera was used and each exam was open/available for students to access for the duration of one week. Students selected the best time to complete the exam over the one-week timeframe.
 - The professor recommends that all ByFlex courses include some proctored assessments (as deemed necessary) which, depending on the ByFlex mode, will be done on campus or online. Online assessments may be proctored either by using an online conferencing tool such as Zoom or Teams or by using a proctoring software/service such as ProctorU, Examity, or Respondus LockDown Browser (with or without a camera).

How Can Students Make Asynchronous Learning Work?

Watch the “Asynchronous Learning: How to Make It Work” YouTube video below to hear from one student, Brooke Wolfe, from Grand View University who provides tips for students taking online asynchronous courses (or courses with flexible options for asynchronous participation). The message this student shares is not only good advice for students but also provides educators with some insight into what works for students. Brooke shares the strategies to stay organized and to meet course learning objectives. The benefit of hearing student

feedback is that it allows educators to consider ways in which they might make it easier, clearer, or more engaging for students in asynchronous courses.²⁷ Transcript for “Asynchronous Learning: How to Make It Work” Video [PDF–New Tab]. Closed captioning is available on YouTube.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/byflex/?p=35#oembed-1>

What are the Student Benefits of Flexible Course Design?

Students may receive the following benefits from enrollment in a flexible course.

1. **Flexibility:** Students can work on their studies at a time that is convenient for them. They can take care of other obligations as needed and still be successful in the course.
2. **Self-Pace:** Sometimes the educator may be teaching too quickly or too slowly, but with an asynchronous course option, students can self-pace, review, and really absorb the concepts, although, usually within set deadlines (due dates).
3. **More Resources:** Students have access to many learning materials and resources within the LMS. Often, more than they would have in a course offered solely synchronously.
4. **Review:** Students are able to review materials in the LMS at any time throughout the course. They can access materials from past weeks and review something they may have only skimmed the first time.
5. **Skills Development:** When students learn on their own schedule and at their own pace, they develop certain workplace skills including time management, attention to detail, problem-solving, and determination.
6. **Reduced Stress:** The flexibility and control over when and where to study may reduce stress for students who are rushed to get to synchronous classes. Students are able to customize a school-work-life balance. Students who are shy do not need to participate in front of others, they can participate asynchronously if they prefer.
7. **Improved Success:** Students are better able to complete courses due to the flexible design. They may not need to withdraw from courses due to not being able to attend in person, instead, they will be able to learn asynchronously using the resources posted in the LMS.
8. **Improved Satisfaction:** Students may feel a higher degree of satisfaction with the course as well as with themselves because they have the ability to control their progress and performance better with a flexible course than with other types of delivery modes.
9. **Empowerment:** Students who have control over their learning choices and are accountable for their

choices may feel empowered.

10. **Money and Time Savings:** Reduces costs of commuting, and recaptures the time saved by not commuting.
11. **Increases Access:** Offering an asynchronous option in courses, allows some students increased access to learning and learning materials who might otherwise not be able to access learning at all.
12. **Enhances Learning:** With the many resources posted in the LMS students gain additional learning opportunities and are able to review as they need to for a richer experience and gain a better grasp of the curriculum being taught.

Additional Resources About the Student Perspective

1. My Do-It-Yourself HyFlex Classroom Experience
2. What Do Students and Faculty See in a HyFlex Classroom?
3. Sample Student Feedback Survey for ByFlex Course
4. One Student's View of HyFlex
5. Student Perceptions about HyFlex/Hybrid Delivery of Courses during the COVID-19 Pandemic
6. HyFlex Learning from an Undergraduate Student's Perspective: Positives and Pitfalls
7. One Size Doesn't Fit All: HyFlex Lets Students Choose
8. Adopting HyFlex in higher education in response to COVID-19: students' perspectives

References

(Note: This list of sources used is NOT in APA citation style instead the auto-footnote and media citation features of Pressbooks were utilized to cite references throughout the chapter and generate a list at the end of the chapter.)

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CHAPTER 5: HOW ARE BIMODAL FLEXIBLE (BYFLEX) COURSES DESIGNED AND DELIVERED?

What are the Institutional Considerations for Offering ByFlex Courses?

What do administrators need to do in order to offer students bimodal flexible courses?

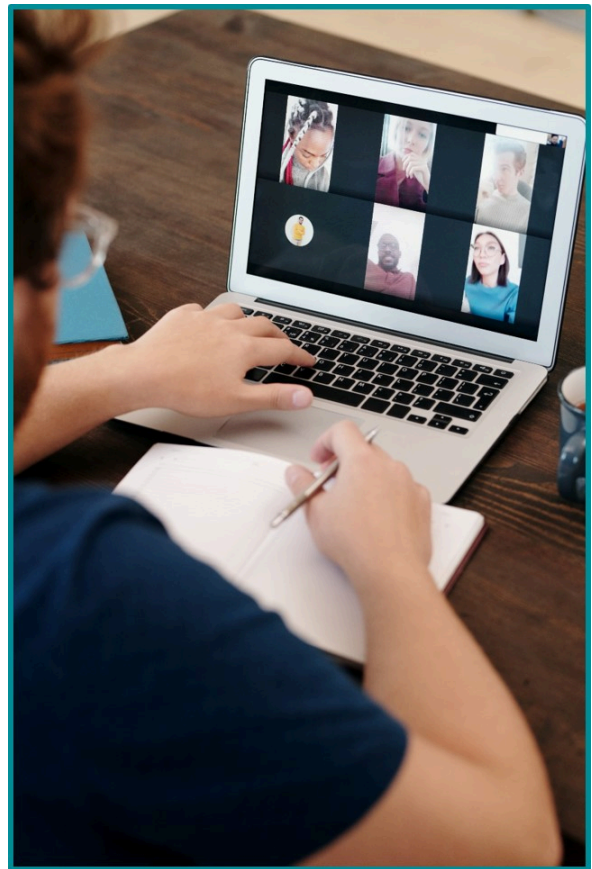
1. **Approve the Plan and Budget:** Decide on the bimodal flexible (ByFlex) course model and gain approval for implementation. Determine a timeline for the project by considering how much will be done (how many courses will be designed and developed or redesigned and revised) and how quickly it will be done (for example, over one semester to be delivered in the next). Approval may require collaboration with the IT department, Scheduling Department, Registrar's office, and/or the President's office, as specific to the institution's organizational structure.

2. **Check Scheduling System:** Ensure there is an option, such as BFX, to represent the bimodal flexible delivery of a course. Once updated in the scheduling system, ensure that the change appears in the registration system for students. If the scheduling system doesn't do what you need it to do, then revise the scheduling system. Institutions should not be altering processes or operational goals in order to fit within the limitations of an outdated scheduling system, instead, institutions should be modifying or replacing outdated systems in order to support the processes and tasks that need to be done. Updating the system may require collaboration with the IT department, Scheduling Department, Registrar's office, and/or the President's office, as specific to the institution's organizational structure.

3. **Collaborate with the IT Department:** Ensure the IT department is prepared to support educators. This support should already be in place as the IT department has been providing support for on-campus courses and online courses for some time and ByFlex courses are simply what institutions already have in place but with an added asynchronous option.

4. **Check the Supporting Equipment:** Ensure campus classroom and lab equipment are working efficiently to support on-campus course delivery. Ensure educators have access to laptops or devices they will use to deliver on-campus and online courses. Decide how students will access laptops (e.g., loan program, bring-your-own-device, on campus). Determine what type of IT support will be provided (e.g., personal devices, on-campus, loaned devices, downloadable software). It is important students know the technical requirements for any course before they enroll in the course. This should already be in place, as institutions have been offering on-campus courses for many years, and offering online courses at least since COVID, if not before. If not, technical requirements information may need to be added to the institution's website and on the course outline/syllabus.

5. **Collaborate with the Center for Teaching and Learning:** Ensure the institution's Center for Teaching and Learning (CTL) is prepared to support educators. This should already be in place because this is the same support the CTL department has been providing educators in course design and development for years. Although, if there is a plan to develop many ByFlex courses over a short time



An educator delivering a bimodal flexible course, teaching an online synchronous session, and recording for asynchronous learners.

period, the institution needs to ensure there are enough staff in CTL to support the project.

6. **Schedule Educator Training:** Determine if educators require additional training on universal design for learning (UDL) or on best practices for blending synchronous and asynchronous course options. The Center for Teaching and Learning will support educator training.
7. **Assign a Course Development Team:** Ensure the ByFlex courses to be delivered are designed and developed within the learning management system (LMS) by a course development team. Follow the institution's best practices for asynchronous course design. Follow the institution's best practices for incorporating Universal Design for Learning (UDL).

The Center for Teaching and Learning will support educators in developing courses. A course development team usually consists of one, two, or three people, each bringing specific, yet different skills and knowledge to the team. A course development team might consist of a Subject Matter Expert (SME), Curriculum Specialist (CS), and Instructional Designer (ID), although these titles may vary. The team may be one person, when/if the one person has all the skills necessary to do the job. Refer to Figure 5.1 for a brief description of the role of each team member. If too many people are on the team, it may slow progress. If the people on the team do not have the right skillsets it may result in a sub-standard course being developed which may not work well for educators or students. It is a

challenge to build quality content for online asynchronous and on-campus, in-person, delivery because if the online asynchronous option is seen as less effective or engaging than face-to-face classes, online asynchronous students will be disadvantaged and that delivery option will become underutilized, and students may provide negative feedback about their experience. Therefore, educators and institutions must ensure that both delivery approaches are equally effective and easy to access.

8. **Schedule ByFlex Courses:** Schedule ByFlex courses and assign educators to either classrooms/labs for on-campus delivery, or assign educators to online synchronous delivery. Either way, there will be synchronous delivery combined with an asynchronous participation option for students within the course design. Ensure ByFlex delivery is communicated to all stakeholders.

Course Development Team

Subject Matter Expert (SME): A person who knows the course topic very well and is considered a knowledge expert in this area. Often this person is the educator who will teach the course.

Curriculum Specialist (CS): A Curriculum specialist develops instructional materials for the course. They also help guide educators by recommending textbooks and giving them feedback about classroom approaches, content delivery, and instructional strategies. This is a person who understands how CLOs map to PLOs, knows how UDL can be applied to activities and assessments, and can embed institutional mandates for curriculum (e.g., NES, EES, GC&E, EL, etc.).

Instructional Designer (ID): An instructional designer uses a process called ADDIE to design anything from in-person training to online courses. They work with subject-matter experts (SMEs) and curriculum specialists (CS) and identify the target audience's training needs. They have well developed software skills and create instructional manuals, video tutorials, learning simulations, interactive elements using H5P and Web programming.

Figure 5.1 Development Team Roles

How should ByFlex Courses be Designed?

If the educator is working alone, then a great place for educators to start is to connect with the Center for Teaching and Learning within the institution. Often there are best practices, tutorials, and staff available to guide educators through the process of designing flexible options within courses.

The LMS should be designed with asynchronous learners in mind, with the understanding that this type of design will support all learners (both synchronous and asynchronous).

Refer to the Quality Matters Rubric for guidance on what should be included as a best practice. “Who uses this Rubric? The Higher Ed Rubric is intended for use with courses that are delivered fully online or have a significant online component (hybrid and blended courses). Course Designers use the Rubric to aid in the creation of courses designed to meet Standards from the outset. The Rubric is also used to assess the level to which a course meets Standards and highlight areas for improvement. A score of 85% (with Essential Standards being met) qualifies a course to receive a QM Certification for quality course design*. QM Members using this Rubric include Individual Faculty and Instructional Designers, Four-year Accredited Colleges and Universities, and Community Colleges.”¹

The eight General Standards of this Rubric are:

1. Course Overview and Introduction
2. Learning Objectives (Competencies)
3. Assessment and Measurement
4. Instructional Materials
5. Learning Activities and Learner Interaction
6. Course Technology
7. Learner Support
8. Accessibility and Usability

What Do Educators Need to Consider When Delivering ByFlex Courses?

Synchronous and Asynchronous Considerations

Watch the “Synchronous & Asynchronous Delivery Explained” YouTube video from Wichita State University below that shares some considerations for designing synchronous and asynchronous components within a

course.² Transcript for “Synchronous & Asynchronous Delivery Explained” Video [PDF–New Tab]. Closed captioning is available on YouTube.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/byflex/?p=37#oembed-1>

Universal Design for Learning (UDL) Considerations

There are three core principles of UDL:

1. Provide multiple means of representation
2. Provide multiple means of action and expression
3. Provide multiple means of engagement

Some of the key benefits of using UDL in the class:³

1. Improved learning outcomes for all students
2. Increased engagement and participation
3. Reduced achievement gaps
4. Provides an inclusive learning environment
5. Eliminates barriers

Below are a few examples of Universal Design for Learning as they may be applied in a higher education course.⁴

- Providing multiple delivery methods that will motivate and engage all learners (e.g., ByFlex synchronous and asynchronous).
- Posting lesson and assessment learning outcomes or objectives within the LMS.
- Using grading rubrics for assessments.
- Offering students meeting times with the educator to discuss their learning needs.
- Providing regular feedback so students understand how they are progressing and can adjust their performance as they progress through the course.
- Providing flexible workspaces for students. This includes spaces for quiet individual work or small and large group work. If students need to tune out the noise, they can choose to wear earbuds or headphones during independent work.

- Designing a flexible curriculum that is accessible to all learners (e.g., students choose to complete modules A, B, or C depending on their preference).
- Sharing examples that appeal to students with a variety of characteristics with respect to race, ethnicity, gender, age, ability, and interest.
- Ensuring regular, accessible, and effective interactions between students and the instructor.
- Allowing students to turn in parts of a large project for feedback (formative feedback) before the final project is due (summative assessment).
- Ensuring course outlines and learning materials are on an accessible website.
- Offering students choices for how they will complete an assessment (e.g., an oral test as an option to a written test).
- Providing digital and audio texts. Students have many options for reading, including print, digital, text-to-speech, and audiobooks. For digital text, there are also options for text enlargement, along with choices for screen color and contrast. Videos have captions, and there are transcripts for audio.
- Assessing student learning using multiple methods (e.g., reports, presentations, videos, role-play, multiple-choice, essay, electronic quiz, collaboration software, discussion forums, electronic slideshow, etc.).
- Being aware of processes and resources for disability-related accommodation.

Watch the “Universal Design for Learning in Higher Education” YouTube video from Humber College below that shares some considerations for universal design for learning (UDL) within course design.⁵ Transcript for “Universal Design for Learning in Higher Education” Video [PDF–New Tab]. Closed captioning is available on YouTube.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/byflex/?p=37#oembed-2>

Additional Resources

1. HyFlex Course Delivery: A Practical Guide
2. Hybrid-Flexible Course Design
3. Practical Strategies for Incorporating some effective elements of a HyFlex course design into your course, by LSU Online. [YouTube 1:08 hours/minutes]
4. Quality Matters, Course Design Rubric Standards
5. EdTechs and Instructional Designers – What’s the Difference?
6. New to Instructional Design? 45 Essential Terms You Should Know.
7. What Does a Curriculum Specialist Do?

References

(Note: This list of sources used is NOT in APA citation style instead the auto-footnote and media citation features of Pressbooks were utilized to cite references throughout the chapter and generate a list at the end of the chapter.)

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Notes

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<https://www.splashlearn.com/blog/what-is-universal-design-for-learning-how-to-use-udl/>

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CHAPTER 6: HOW ARE BIMODAL FLEXIBLE (BYFLEX) ACTIVITIES AND ASSESSMENTS DESIGNED?

How Were Flexible Course Activities Designed During COVID?

As many institutions moved courses online during the COVID pandemic course development teams utilized technology to support the delivery of course learning activities and assessments.

Example of Flexibility in Communications, Media, Art and Design Courses

Nate Horowitz, Dean, School of Communications, Media, Arts and Design at Centennial College describes how technology helped support course delivery during the COVID pandemic (below).

“Counter intuitively, our Art and Design Fundamentals program, a completely experiential hands on class and studio-based program found that of three sections, two in-person and one virtual; the virtual one was the most successful for the faculty and the students. Those particular students, from all over the globe, loved their virtual classes and studios.

Students also used design software with integrated simple AI to help set up the pre-visualization of tv and film lighting and camera shots and scenes.

Performing Arts’ students used recordings of themselves using Zoom to dance or act or play music separately and record each of themselves at the same size scale, particularly in Dance and then the many individual performances were visually combined.”¹

Example of Flexibility in Genetics and Cell Biology Courses

Concordia University describes how educators were able to deliver a Genetics and Cell Biology Laboratory course throughout COVID. “While we were authorized to offer in-person labs, we had to cut the contact time dramatically to minimize the COVID-19 transmission risk. This was a huge challenge for us. Our lab procedures are, in a sense, like cooking instructions. There are many specific procedures that need to be shown to the students before they can carry out the tasks.”² Prior to this term, these procedural instructions were given by a teaching lab technician and teaching assistants during the lab, but this would need to change. “We came up with the idea to give these instructions entirely online. Then, when the students come to the lab, they can focus only on their lab work. You can think of it as ‘flipped’ instruction. The result? A series of 20 slick, engaging videos including embedded quizzes and activities. We wanted to make sure that the students are actively engaged while watching. Feedback from the students has been great.”³



Student working in laboratory.

Are Flexible Courses the Way of the Future?

During the pandemic, many studies and research were done around flexible course design. In 2020 research findings indicated that possibly flexible course design was beneficial to students, educators, and institutions, but that some courses may not be well aligned for flexible delivery. Educause stated, “Students who must work and/or take care of family can benefit from true HyFlex course designs because the asynchronous pathway can enable them to maintain progress toward their academic goals. The model requires students and faculty alike to rethink their approach to learning and teaching and the role that technology can play. Meanwhile, HyFlex might not be the best fit for lab classes, programs that require synchronous participation, or certain disciplines, such as theater or ceramics. As more institutions implement HyFlex courses, these and other questions will be explored and answered.”⁴

During the pandemic, some institutions may have reduced tuition fees, moved courses online, and offered flexible participation options to students in order to maintain operations. Coming out of the crisis we see that many institutions are continuing to offer online and flexible participation options for students as a competitive strategy. “A number of elite institutions — such as Princeton University, Williams College, Spelman College, and American University — have substantially discounted tuition for their fully online experience in a

historically unprecedented fashion, highlighting pricing pressures and opening up Pandora’s box. This comes after a decade of growth in postsecondary alternatives, including “massively open online courses” (MOOCs), industry-driven certification programs, and coding boot camps. This moment is likely to be remembered as a critical turning point between the “time before,” when analog on-campus degree-focused learning was the default, to the “time after,” when digital, online, career-focused learning became the fulcrum of competition between institutions.”⁵

“The COVID-19 pandemic is also likely to have a lasting effect on lesson design. The constraints of the pandemic provided an opportunity for educators to consider new strategies to teach targeted concepts. Though rethinking of instructional approaches was forced and hurried, the experience has served as a rare chance to reconsider strategies that best facilitate learning within the affordances and constraints of the online context. In particular, greater variance in teaching and learning activities will continue to question the importance of ‘seat time’ as the standard on which educational credits are based — lengthy Zoom sessions are seldom instructionally necessary and are not aligned with the psychological principles of how humans learn. Interaction is important for learning but forced interactions among students for the sake of interaction is neither motivating nor beneficial. The flexibility and learning possibilities that have emerged from necessity are likely to shift the expectations of students and educators, diminishing further the line between classroom-based instruction and virtual learning.”⁶

As observed during the COVID pandemic, higher education institutions can be nimble and pivot course design in reaction to an urgent need. Some educators liked the new course designs developed during COVID, and many continued offering flexible options for students even after they returned to campus. Some educators viewed the online courses developed during COVID as a make-shift, temporary, or stop-gap effort that filled a need at a specific time and they may not have viewed these courses as “well” designed, as some development was rushed and things may have been overlooked or there may not have been enough time to build all the features requested.

Now, imagine how much richer, more engaging, and more effective courses could be if institutions worked proactively and deliberately, rather than being forced to work reactively, in order to provide students with flexible options for how they attend and participate in courses. The institution’s Center for Teaching and Learning (CTL), the instructional designer, and the curriculum specialist can support the educator in exploring ways technology can be used to make learning more flexible for students.

What are the Five Best Practices for Developing ByFlex Courses?

1. Information for the Delivery Mode is provided on the Course Outline and Institution's Website
2. Due Dates are Clearly Visible in the Learning Management System (LMS)
3. News Summaries (with Recordings as applicable) are Posted after Each Class Session
4. Weekly Learning Modules are Posted which Direct Students and Provide Learning Materials
5. Some Proctored Assessments, as Deemed Necessary, are Included with Flexible Options for Completion



Five Best Practices.

1. Delivery Mode Information on Course Outline and Website

When offering ByFlex courses the institution should provide students with delivery mode expectations before they enroll in the courses. ByFlex courses DO require students to be accountable for their decisions. Institutions should provide the participation model and explain the options for attendance with expectations as well as the technical requirements to students. For students who wish to benefit from the online synchronous and/or asynchronous options, they will require good time management skills, self-motivation, some technology skills, and the ability to self-direct through the learning modules. The online option (either synchronous or asynchronous) requires students to have personal technical resources (i.e., a laptop, and possibly a webcam and audio headset) to participate and complete assignments.

For ByFlex courses there are two options, within two options.

Option 1 – ByFlex On Campus, In Person/Online Asynchronously

Students choose session to session to attend either on campus, in person, or attend online asynchronously. This will require students to have access to a device (i.e., computer/laptop) and an Internet connection to work asynchronously. There may be specific technical requirements for the device based on the course learning objectives (e.g., the course may be teaching software that needs to be installed). For on-campus attendance and participation, students use the institution's classrooms and labs and these are usually set up with the software required for learning. If there will be proctored assessments in the classroom, on campus, then students need to be aware of this before they register for the course so they can plan accordingly, but if they do not live nearby

the campus, they might choose an online ByFlex course instead. If there is only one section of a course offered and it is ByFlex on campus, the student who cannot make it to campus, might discuss with the department manager and course educator whether or not it is feasible to study asynchronously and have the proctored assessments done online instead of in the classroom.

Option 2 – ByFlex Online Synchronously/Asynchronously

Students choose session to session to attend either online synchronously or online asynchronously. This will require students to have access to a device and an Internet connection. There may be specific technical requirements for the device based on the course learning objectives (e.g., the course may be teaching software that needs to be installed). If there will be proctored assessments online students need to be aware of this before they register for the course so they can plan accordingly (e.g., work, children, etc.). Of course, the educator may offer flexible options for proctored assessments in order to make the assessments accessible to all learners.

2. Due Dates Clearly Visible

Within the Learning Management System (LMS) students should be able to see assessment due dates for the entire duration of the semester along with the assessment proctoring type so they can plan ahead and ensure they are in-person for the assessments that will be proctored by the educator. Due dates should be displayed on the Assignment Dropbox folders, within the Orientation documents, and within the Course Calendar. This makes it clear to students how many assessments there are in the course, when each assessment is due, and whether or not the assessment is proctored (and if it is proctored, whether or not it is proctored by the educator, another live agent, or a computerized automated service). All due dates apply to both synchronous and asynchronous learners.

3. News Summaries for Each Class Session

After each class session, the educator should post a summary of what was taught, activities conducted, and resources referred to during the class, regardless of whether the class was conducted synchronously online or on campus, in person. Session summaries help students stay on track with what is happening in the course and remind them of upcoming activities, assignments, and due dates.

Below are examples of news summary posts for a Microsoft Excel course which was scheduled as a hybrid course with one 2-hour class session per week meeting online synchronously, and one 2-hour class session per week meeting on campus, in person. The course was delivered in ByFlex mode which offered the students an asynchronous online option for each class (except for a few class sessions that contained proctored assessments). Refer to Figures 6.1 and 6.2.

Figure 6.1

LMS News Summary post after the week 2 online synchronous session for a Microsoft Excel course.

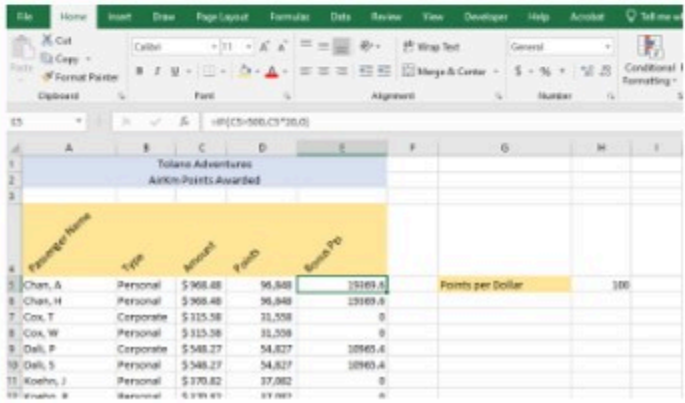
Week 2 Class 2 Wednesday Summary ▾
May 17, 2023 3:55 PM

Today we did the following...

1. There were about 14 students in the online classroom today. Remember that you are responsible and accountable for meeting your learning needs and you are expected to complete the weekly learning module tasks each week. You can access the recording of today's class if you did not attend through the Communication, Zoom menu above.
2. Today we worked on lessons 3 and 4. By the end of this week, students should have completed lessons 1-4.
3. I demonstrated several concepts and examples and worked through some of the exercises in the Excel Associate ebook. In lesson 3, I demonstrated the exercise on page 80, and students either observed or followed along using their own devices. We used the SUM, MIN, MAX, COUNT, COUNTA, and COUNTBLANK functions. Then, I demonstrated the exercise on page 83, the IF function.
4. I demonstrated absolute cell referencing, how to show formulas in the cells, and how to use the function builder to make formulas using functions.
5. I demonstrated formatting concepts from lesson 4 including filling cells with colour, using cell borders, applying number formats, merging and centering cells, aligning cell content vertically, aligning cell content on an angle, wrapping text within a cell, and using cell styles.
6. I did NOT get to the clearing of cell formatting nor did I get to the Conditional formatting, so I will cover these concepts next week, along with lessons 5 and 6.
7. I also reviewed how to access Office 365 to get to Excel. I demonstrated where to download a copy as well. Using Excel 365 does not require you to have any Office program installed on your own device, you can use it in the Cloud. The Ribbon will be slightly different from the ebook version of Excel 2019, but all the buttons are there in the ...More button.
8. I reminded the class they can use the College virtual platform to complete GMetrix exercises and locate the Excel 2019 software in order to complete projects. If/whenever there is an issue with the College virtual platform, you can use Excel 365, or you can use GMetrix and take the test in the cloud (no Office installation is necessary for the cloud tests).
9. See you next week in class on Monday. Thanks to the students who participated today, you asked good questions and gave great answers to my questions. Keep up the good work.

Sincerely,

Professor Kerri



Tollana Advertising					
Airlines Points Awarded					
Passenger Name	Type	Amount	Points	Bonus Pts	Points per Dollar
Chen, A	Personal	\$ 968.48	96,848	10169.6	100
Chen, H	Personal	\$ 968.48	96,848	10169.6	
Cox, T	Corporate	\$ 315.08	31,508	0	
Cox, W	Personal	\$ 315.08	31,508	0	
Dell, P	Corporate	\$ 548.27	54,827	10169.6	
Dell, S	Personal	\$ 548.27	54,827	10169.6	
Koehn, J	Personal	\$ 370.82	37,082	0	
Koehn, B	Personal	\$ 370.82	37,082	0	

Figure 6.1 Example of a News Summary posted after a synchronous class session online.

Figure 6.2

LMS News Summary post after the week 3 on-campus, in-class session for a Microsoft Excel course.

Week 3 Class 2 Class Summary ▾	Jan 27, 2023 2:26 PM
<p>Today we did the following...</p> <ol style="list-style-type: none"> 1. There were 28 students in attendance today. Remember if you do not attend the class you are still responsible for completing the learning tasks. 2. I reviewed conditional formatting from lesson 4 in the Excel Associate 2019 eBook. 3. I reviewed freezing panes, splitting the worksheet, renaming the worksheet, page layout view for headers/footers, page break view, moving and copying worksheets, all from lesson 5 in the Excel Associate 2019 eBook. 4. We started the Web Hits tutorial from lesson 6 in the Excel Associate 2019 eBook and practiced creating and moving a chart. 5. I reviewed the instructions for Project 1, the first assignment. This assignment has a due date of Feb. 10 and the instructions are posted in the Assignments, Assessments, Project 1 folder. You will be submitting 3 separate Excel files for this assignment. 6. I reviewed with the class how to use the virtual connection to the College and discussed how no student should have another person's name in their Excel file submissions as this will result in a ZERO grade. Using virtual computers will help you avoid having someone else's name in your file properties whenever you are using another person's computer or laptop. Now that we have covered this rule, I will expect to see only your name within the files that you submit. If you do not understand this then please email me right away. 7. I reviewed how to use GMetrix and where to access it. It is best when practicing to SAVE your tests and then when you log in the next time to GMetrix you simply go to Tests and go to SAVED tests and continue working on your test. Each student only has 100 attempts at NEW tests, so each time you take a New test you use up one of those 100 attempts. You will be completing the first test with me in our computer lab on campus, on the date shown in our calendar. You can practice all you would like to before this date. I demonstrated how to print to practice and how to print a PDF in GMetrix in order to obtain the grade report for submission. 8. I will see you next Thursday in Zoom. Access the Zoom link under Communication, Zoom, Meetings, or within the Calendar. Our online classes will always be recorded and appear under Communications, Zoom, and Recordings for your review. <p>Sincerely,</p> <p>Professor Kerri</p>  <p>Image Source https://gmetrix.net</p>	

Figure 6.2 Example of News Summary posted after on-campus, in-person class.

Below is an example of a news summary post for a Management Information Systems course which was scheduled as a fully online synchronous course with two, two-hour sessions per week. The course was delivered in ByFlex mode which offered the students an asynchronous online option for each class (except for a few class sessions that contained proctored assessments). Refer to Figure 6.3.

Figure 6.3

LMS News Summary post after the week 12 online synchronous session for a Management Information Systems course.

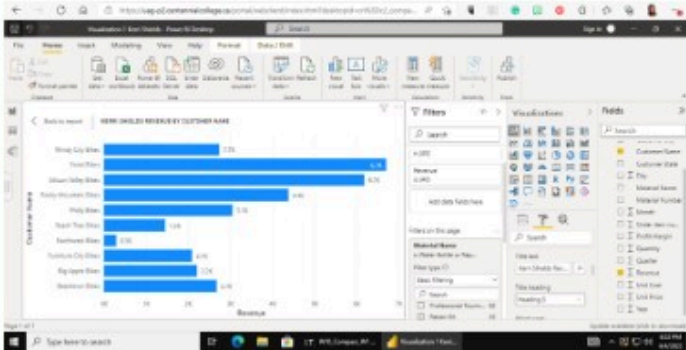
Summary Week 12 Tuesday Class ▾
Apr 4, 2023 4:17 PM

Today we did the following...

1. We worked on Power BI within the College virtual machine and completed the first and second visualizations.
2. We worked on the analysis part of the exercise and we visualized the first five questions/queries and obtained the correct results. We checked the results with the textbook answer key.
3. Students will work on questions 6 thru 14 and complete one additional visualization of their choice put all screen captures into a Word document and submit for grading by the due date of April 9. Remember I am available through email most days. Do not leave technology assignments until the day before it is due to start it. Technology often fails and you need a backup plan.
4. The College computers have Power BI installed and the virtual machines can be accessed from on-campus or any computer around the world, a public library, a friend's device, etc.
5. The Power BI can be installed on your own device if you wish. You can download it for free from Microsoft, but you may end up downloading a more recent version than what the College has installed on the virtual machines at this time, therefore, the screens/menus/toolbars may differ slightly. With that said, I have tested it and you should still be able to complete the assignment.
6. Assignment instructions and data files have been posted for the past week under the Assignments folder.
7. If you have trouble with Power BI you will need to review the tutorial video posted under the Week 12 learning module in the Content document. You might also find tutorials on YouTube and LinkedIn Learning.
8. I did record today's session and if you did not attend class you can watch it by going to the Communication menu, Zoom Recordings.
9. I will see everyone next Tuesday online, access the Zoom link under the Communications menu, Zoom.

Sincerely,

Professor Kerri



Customer Name	Renewal Value
Wing City Store	175
Yonkers	67.5
Shawnee Hills Store	67.5
Northwood Store	67.5
Philly Store	67.5
Park Plaza Store	67.5
Eastwood Store	67.5
Indianola City Store	67.5
Ag Upper Store	67.5
Madison Store	67.5

Image Source Kerri Shields

Figure 6.3 Example of a News Summary posted after a synchronous online class.

4. Weekly Learning Modules

The LMS must be designed with learning modules that direct students to the learning materials and provides the flow of topics for the course. The flow should be the same as that shown on the course outline/syllabus (if there is a flow of topics shown on the course outline). The learning modules may be set up in a week-by-week structure or by topics, or by modules, and the instructional designer as well as the Center for Teaching and Learning can help educators determine which is the best design for their specific course content. Refer to Figure 6.4 for an example of a week-by-week LMS layout.

Within these modules, educators provide key concepts from the weekly lesson, links to resources, videos, interactive games (e.g., Kahoot), quizzes (graded or for self-check), lesson notes (if applicable), slides/presentations (e.g., Nearpod, PowerPoint), etc. as deemed useful for enhancing learning and as needed for providing asynchronous learners accessible content and an equitable learning experience (as compared with the synchronous learners).

The student learning experience is improved when the institution and educators agree on the LMS ByFlex course design and apply it to several courses. This provides a consistent layout/design for students within each of their courses. Gone are the days when the LMS sat empty with just a course outline/syllabus posted; students expect and deserve more than that. The Center for Teaching and Learning, the instructional designer, the curriculum specialist, and the Quality Matters rubric can support and guide educators with these decisions.

Figure 6.4

LMS partial Table of Contents in a weekly format/flow for an online synchronous course teaching Management Information Systems.

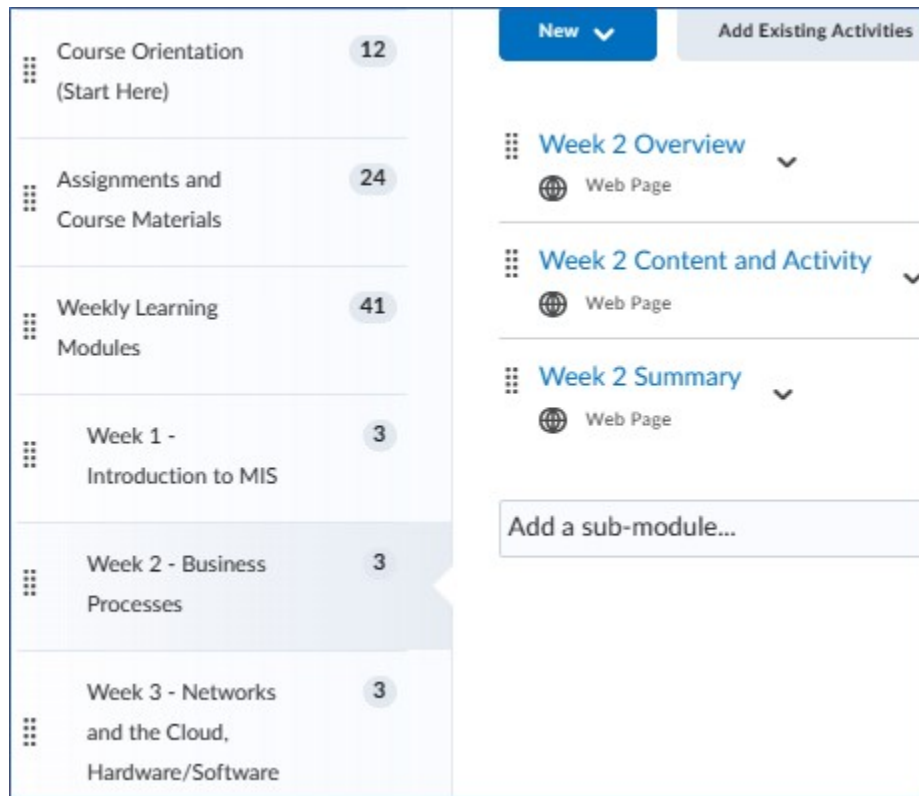


Figure 6.4 Example of LMS layout and weekly content flow.

Watch the video below where Stephanie Moore who teaches at the University of New Mexico offers insights about engaging students in ways that encourage active learning.⁷ Transcript for “Insights on Designing Flexible Courses” Video [PDF–New Tab]. Closed captioning is available on YouTube.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://ecampusontario.pressbooks.pub/byflex/?p=40#oembed-1>

5. Proctored Assessments with Flexibility

In the past, it may have been too difficult for educators to proctor online assessments, never mind checking photo IDs. Some institutions offering asynchronous online courses felt that the courses were asynchronous and therefore, students did not meet at a scheduled time, so proctored assessments could not be done. This is not true today. There are many proctoring services available whereby proctored assessments can be done at a time that is convenient for the student.

Educators must ask themselves the following questions about proctoring assessments.

- Is there a need to proctor this assessment? If so, what is the reason?
- How is this assessment proctored now? Does it work? Does it need to be this way?
- Are there other options for proctoring this assessment?
- Should this type of assessment be changed?

Educators providing online assessments may proctor them, or not, may use a camera for video proctoring, or not, and may use a proctoring service such as ProctorU, Examity, or Respondus Monitor, or not. The educator has to ask the questions above to determine if proctoring is needed, and if so, consider the best way to proctor a specific assessment.

Some educators feel that it is important to proctor some assessments throughout the duration of the course in order to validate students' identities and maintain the integrity of the institutions' program credentials. When educators proctor assessments on campus, they often take attendance and check students' photo IDs. This procedure validates that the student taking the assessment is the student enrolled in the course. For equity across course sections in courses with high enrollment, it would seem logical and equitable that if one group of learners (in the classroom) is being proctored, then so should the other group of learners (online).

Some educators are also concerned with bias and privacy issues when using such proctoring services, but many institutions such as Durham College, the University of Toronto, and the University of Waterloo (examples below), to name a few, do use such proctoring services.

ProctorU University of Waterloo Example

The University of Waterloo is using ProctorU to proctor students in online exams, “To accomplish this the University has contracted ProctorU which leverages automation and artificial intelligence (AI) to provide online proctoring. A live proctor will help you get started with your exam and then will leave while you complete your exam. A live proctor will review your session after you have completed it to make sure the AI did not flag anything innocuous. Then your instructor will review all remaining flags and make any final decisions about issues.”⁸ This institution also provides an option for students who may object to the ProctorU proctoring method, “If you object to writing your exam with an online proctoring service please contact your instructor.”⁹

ProctorU University of Waterloo Privacy

“The Freedom of Information and Protection of Privacy Act (FIPPA) permits universities to collect, use and disclose personal information necessary for the proper administration of the universities and their programs and services. ProctorU implements a high standard of privacy and security and Waterloo has reviewed this through a Privacy Impact Assessment of the use of personal information by ProctorU and a security review of the protections of the data. Waterloo ensures that processes adhere to all Freedom of Information and

Protection of Privacy (FIPPA) guidelines. As part of this, Waterloo has a contract with ProctorU that limits the use of personal information by ProctorU to the purpose of providing the proctoring service. Please also visit ProctorU’s Privacy Policy page which states ProctorU does not use any test-taker’s personal information for any purpose other than for facilitating the proctoring of online exams. We never sell personal information to third parties.”¹⁰

ProctorU University of Waterloo Bias

“The use of proctoring software and artificial intelligence can introduce several types of bias into the test-taking process. Knowing that Waterloo has chosen a multi-pronged approach to minimize these issues as much as possible. No decisions are made by the software: a live proctor is there to begin the exam and verify any identification, a live proctor also reviews any flags of suspicious activity after the exam is written, removing any that are normal behaviour, and finally any remaining flags are reviewed by the instructor or approved Waterloo staff. After that, Waterloo’s normal academic integrity policies are followed.”¹¹

Consider Student Preferences

“Examity is one of the fastest-growing online-proctoring services. But students aren’t all on board with the widespread adoption of these services, and they haven’t been for over a decade.”¹²

“As a former student instructor for the business school, Makenzie Davis was instructed to use Proctorio while teaching at the Salt Lake Center. She recognized the positive and negative aspects of the system. As a student herself, she was “always nervous a roommate would come into my room unannounced,” but as an instructor, she noticed business school applicants felt it created an equal playing field for future major admissions as it would prevent cheating.”¹³

Consider Alternative Proctoring Methods

“These days, many educators are using evidence-based approaches to assessment that eliminate the need for academic surveillance software. Many educators are finding alternatives to a traditional big online final exam. For example: several shorter quizzes throughout a course, online or media presentations, individual or team projects, annotated bibliographies, open book exams — there are lots of alternative and authentic possibilities. One move — removing an online proctored exam — can do so much good: we protect students’ privacy and dignity, and we provide a learning environment based on respect, trust, and above all, LEARNING. Assessment shouldn’t be a game of ‘gotcha.’ It should be about setting students up so they can best show what they now know (and don’t know!) at this point in time.”¹⁴

With live online proctoring, whereby educators use Zoom or Teams or such, educators can schedule flexible times, such as one session in the day, and one in the evening, or the weekend. With smaller class sizes the

educator may allow the students to vote on a day/time for the proctored assessments that best fits their schedules.

Occasionally, when online learners are having technical issues with their devices, educators have offered them an opportunity to join an on-campus course section and take the proctored assessment there. Of course, this only works when the students reside close to the campus.

When there are multiple sections of a course with a team of educators teaching the ByFlex course, students might be offered options to attend proctored assessments, either in an online proctored assessment with another educator (at the time the other course section is completing the assessment) or attend an on-campus proctored assessment with another educator's section. This proctor-sharing across sections of a course and among several educators is a great way to meet the needs of both educators and students.

Consider Accessibility Issues

Students registered with the Center for Accessible Learning may have specific accommodations such as extended time for exams, or electronic tests as opposed to written paper tests or vice versa, or oral exams instead of either paper-based tests or electronic tests.

Consider software and Wifi access for students. Educators may need to be flexible if students will find it difficult to take an online, timed test on a specific day/time, as stated above, there may be other ways students can take the test or demonstrate their knowledge of the material.

Consider Academic Integrity in Online Assessments

Maintaining academic integrity in an online environment is challenging! Most Learning Management Systems (e.g., Blackboard, Moodle, D2L Brightspace, Canvas, etc.) have some ability to create secure exam conditions (consult with the Center for Teaching and Learning). You might also try some of the options listed below to encourage academic integrity.

1. Ensure you have discussed Academic Integrity with students and that they understand the institution's policy and procedures, and provide a link to the policy.
2. Ask students to submit a signed Academic Integrity statement before the exam begins.
3. Add the Academic Integrity policy to the course outline/syllabus.
4. Add the Academic Integrity policy to the front cover of assignment/project instructions.
5. Design assignments that are unique to each student. For example, each student has a different topic, or you allow them to choose the design/colours, etc.
6. Randomize the order of questions within tests/exams and have only one question per page to reduce the chances of sharing answers between students.

7. Randomize the options within each multiple-choice question on quizzes/tests.
8. Change assignments/projects from semester to semester. Do not always use the same assessment/test unless you are using randomized questions.
9. Use a rubric that makes students accountable for their work when working in groups.
10. Plan check-ins and provide formative feedback before the assignment/project is actually due.
11. Provide enough time for students to complete the assignment/project so they don't feel rushed and feel they must copy from a friend in order to meet the deadline.
12. Use Turnitin or a plagiarism checker for longer exam questions or projects. Many higher education institutions already have these tools built into the LMS.
13. Use Respondus LockDown browser or Respondus Monitor (with camera) for online tests. Many higher education institutions have this software already installed within the LMS.
14. Use a proctoring service such as ProctorU or Examity. There is often a fee for this service and payment can be made by each student or the institution can cover this cost.
15. Use proctoring services at a Test Center located at any university or college. There is often a proctoring fee for this service.

The screenshot displays an LMS interface with three items listed in a table-like format:

- Item 1:** Introduction Video to Respondus LockDown Browser. Status: ✓. Includes a "Link" icon.
- Item 2:** Practice Test to Check Settings - Requires Respondus LockDown Browser + Webcam. Status: ✓. Includes a "Quiz" icon and a description: "Use this Practice Test to ensure your audio, video, and LockDown Browser are installed and working."
- Item 3:** Test 1 - Requires Respondus LockDown Browser + Webcam. Status: ✓. Includes a "Quiz" icon, due date "Due March 2 at 11:59 PM", and start time "Starts Feb 27, 2023 12:57 PM".

Below the third item, the following text is displayed:

Test 1 contains multiple choice and short answer questions. Total 40 marks.

You have ONE attempt at the test so do not attempt it until after you have completed the weekly learning, chapters 1-6 and extension 2.

The test is set to NOT allow backward direction so you must answer each question to the best of your ability then move ahead. You will not be able to move back to a previous question.

You are expected to complete the test individually without the help of other students or websites, books, etc. The time is set for 70 minutes so there is no extra time to consult resources as this is a closed-book test. Ensure you have read the chapters before you begin the test. Complete the test by the due date. Students are expected to follow the [academic honesty guidelines](#) listed under Students Rights and Responsibilities on the College website.

Figure 6.5 Online Test Setup using Respondus LockDown Browser + WebCam. Students have several days to complete the test at a time and place convenient for them.

How Were Proctored Assessments Done During the ByFlex Pilot Project?

The ByFlex pilot projects done by Kerri Shields (author and educator) in the winter 2023 semester with students studying Microsoft Excel and Management Information Systems courses, included proctoring 45% and 50%, respectively, of the overall graded assessments in the courses.

For the Excel Online ByFlex course, three assessments were proctored, each online. Two were completed using Zoom and proctored by the educator. Student IDs were checked so attendance could be taken, then students opened the testing software, while still in Zoom, and completed the test. Before the actual test date, students were provided some guidelines around what was expected of them during the assessment (i.e., no talking, no other people in the room, and keeping Zoom open). The educator could view students working on their devices for the duration of the assessment. The hands-on testing software, GMetrix, has a timer set for 50-minute tests. It does not lock down the browser, but for this course, the educator was not concerned. Should students spend time looking up answers online during the test they would lose time in the test itself, thereby making it difficult for them to finish the tasks in the given 50 minutes. The educator determined that in the business world Excel users often research how to do specific tasks in the software, and if the student could do that and still complete all the questions on the hands-on test within the time period, then it was acknowledged that the student has achieved the objective of the assessment, which was to complete various tasks using Excel within a reasonable amount of time. The third assessment, an industry exam from Microsoft, was also proctored using Zoom and using Certiport's online proctoring service (the proctoring tool provided by Pearson Vue Certiport which is used globally to proctor Microsoft Office Specialist (MOS) exams). For the on-campus, in-person Excel course, all assessments were completed and proctored in the classroom.

For the Management Information Systems course which was provided fully online with ByFlex delivery, there were two proctored exams weighted at 25% each. These exams were proctored using Respondus LockDown Browser with Camera and students were given one week to complete each exam.

So essentially educators must determine the learning outcomes being assessed on each assessment, then determine which type of assessment works best, then decide whether or not to proctor the assessment, and, if proctoring is needed, then decide which proctoring method works best.

What are Some Examples of Flexible Learning Activities and Tools?

Some educators/institutions may feel that flexible course options for student attendance and participation may not work for all courses in all programs, specifically those that prepare students for face-to-face jobs (e.g.,

nursing, woodworking, IT networking, performing arts, auto mechanics), yet, with so many simulations and interactive learning media available today, some classes within these types of courses could offer flexible options without impairing the quality of learning or the integrity of the institution's program credential.

Below are a few examples of tools educators could use to make learning more flexible and engaging. Some colleges and universities have institutional licenses for these tools allowing educators to access them at no personal expense.

Kahoot, Socrative, Google Forms

“The most famous interactive quiz platform is Kahoot, a free student-response that uses all sorts of gamification techniques to engage students' participation and enhance learning. With Kahoot, you can both host live quizzes as well as self-paced challenges for out-of-class review. Kahoot games can be played in single mode or in team mode and offers plenty of fun features to stimulate students to play and learn.”¹⁵

“Use digital exit tickets, a short check-in on the day's learning, for teachers and learners in all modalities to gauge individual learning, identify common misunderstandings, and determine what questions learners have about the topic. Exit tickets can be made with digital tools such as Kahoot, Google Forms, and Socrative.”¹⁶

Instagram, Padlet or Flipgrid

The educator could have the students post a self-introduction using Instagram, Padlet or Flipgrid. Alternatively, after each class session students could post a question about something they did not understand and students could answer each other's questions (the educator could monitor).

Discussion Boards, Chats, Activity Feeds

These have been around for many years and can be used for many learning activities. For example, students could form groups and as groups conduct research as an assignment, with different research topics assigned to each group, then post their findings on the discussion board for all students to read. Within the LMS there are often options for setting up chat sessions and activity feeds.

Pear Deck, Poll Everywhere, Mentimeter

“Use a digital formative assessment tool such as Pear Deck, Poll Everywhere or Mentimeter to assess learning during class. These tools allow learners to respond to diverse types of questions and provide immediate feedback to the learner and teacher.”¹⁷

Nearpod

“Dr. Mallinson uses Nearpod to design his own lessons and embed important videos and links to enhance his curriculum and keep his students up to date on current events. He uses videos from social media platforms such as YouTube and Nearpod’s weblink feature to integrate URLs from various websites. He found that the tools and features in Nearpod allowed students to freely share and communicate their ideas. He also noticed that Nearpod made it easier for students to collaborate with one another. By allowing students to communicate their opinions and thinking through Nearpod, he found that even his most quiet students were given the opportunity to have a voice in his classroom.”¹⁸

Assignment Options

The educator might ask for a group presentation to be done and then let the students form the groups, and allow them to decide if a) they wish to work virtually in Google Slides or PowerPoint 365 and create a presentation with embedded video and audio, or b) present live either physically in the classroom or online in Zoom/Teams, or c) present in a quiet library room (or in Zoom) and record the presentation then submit the recording.

Educators need to consider the learning objectives for each assignment and then offer a few choices for students to select between. Options might include offering students a choice between creating a podcast or a video to show what they have learned or how they would apply what they have learned in the workplace. If there is a discussion in class, the educator might ask students to post on the discussion board some research about the discussion during or after the class, then also ask the asynchronous learners to do the same, and/or respond to posts from the in-class students. Students might be asked to choose between submitting their work as a report, a comic strip, or an infographic. Finally, educators might consider if a written assignment or test can be done orally instead and if so, offer that option.

Today, there are so many options to offer students, using supportive technology, in order to provide students with flexibility in how they complete assignments. The Center for Organizational Teaching and Learning can support educators with designing flexible assignments.

H5P Content

“H5P content is responsive and mobile friendly, which means that users will experience the same rich, interactive content on computers, smartphones and tablets alike. H5P enables existing CMSs and LMSs to create richer content. With H5P, authors may create and edit interactive videos, presentations, games, advertisements, and more.”¹⁹ For examples visit [H5P examples and downloads](#) or [H5P Studio](#) at eCampus Ontario.

Below are a few examples of how innovative educators are providing asynchronous content to their students in a variety of subject areas. This may help you envision these types of interactive elements within your own courses.

- Medical Assistance in Dying – H5P content type Branching Scenario The description for this H5P reads, “In this simulation, you will apply your knowledge and skills related to Medical Assistance in Dying (MAiD) to help a patient. You will be assuming the role of Doctor S, a medical doctor (MD), however, a nurse practitioner (NP) can also be used. This project is made possible with funding by the Government of Ontario and through eCampusOntario’s support of the Virtual Learning Strategy. To learn more about the Virtual Learning Strategy visit: <https://vls.ecampusontario.ca>.”²⁰



This educator is teaching synchronously online and has built some H5P interactive elements into the LMS for all students so as to enhance their understanding of this week’s lesson.

- Academic Integrity and Tutoring at Sheridan College – H5P content type Interactive Video
- Causes of Conflict Management – H5P content type Interactive Video
- Speak the Words (Japanese) – H5P content type Speak the Words Set
- Dish with the Spoon Dictation – H5P content type Dictation
- Grouped and Stacked Column Chart in Excel – H5P content type Interactive Video
- Week 10 Knowledge Check for PowerPoint – H5P content type Memory Game

Many colleges and universities have their own H5P servers and don’t necessarily share the H5P content in the open catalogue. You may discover that your own institution has a repository of H5P content available.

AI, Simulations, and Games

“Some educators are also exploring ways of intentionally incorporating various forms of structured interaction with AI tools into their assignments and learning activities. The use of AI tools may be less relevant when students experience a structured set of steps on the way to a final product, particularly when those steps include learning activities that elicit students’ own thinking, include formative feedback from instructors and peers, and build in drafts and revisions.”²¹

There are many simulations that can be purchased and embedded into courses, such as Interpretive and Market Place business simulations. Simulations add an experiential learning component to courses.

“The Open RN project is funded by a \$2.5 million grant from the Department of Education to create five nursing textbooks and 25 virtual simulations. The H5P activities in this collection are included in the Open RN textbooks as formative assessments. The activities include a variety of assessment types such as flashcards, multiple choice, drag and drop, fill-in-the-blank, and branching scenarios. Branching scenarios are used to create virtual simulations that include videos, images, and sounds to encourage the development of clinical judgment as students apply content to patient care.”²²

This free game allows users to build their own virtual art museums. “Available on gaming platform Steam, the building experience features 2,200 unique architectural elements—including spiral staircases, art deco lighting and stained glass windows—and more than 6,000 artworks ranging from Old Master paintings to contemporary creations. Daisy, an artificial intelligence assistant curator, is available to help interpret users’ collections and suggest works they might enjoy.”²³

There are virtual reality games and platforms, such as Second Life, whereby students might engage in critical thinking and problem-solving in a simulated virtual world. “A description of one of the projects is included in this series under the title of Border Simulation – Student Learning in a virtual world at Loyalist College.”²⁴

Live Streaming or Other Virtual Platforms

The performing arts industry, built on the gathering of bodies, has been able to innovate throughout COVID to find ways that the show can still go on. Listed below are a few examples.

“Learning routines on TikTok has focused me,” says Lutz-Higgins. “All the training I tried to get rid of [in College] is all very pleasurable now. I’m completely reimagining what art and dance are to me.”²⁵

““FEAST” has been going live on Facebook through an interface called Streamyard. Streamyard has a broadcast studio where artists can share their stream to the host and the host can broadcast to public platforms. Through this platform, “FEAST” has been able to host artists outside of New York and a new piece to be performed online, and also raise money for the artists through the Indie Theatre Fund.”²⁶

“For small gatherings such as Anne Hathaway Mic and the Artist Co-op’s “Cold Read Series,” the simple, secure connection of Zoom has served well.”²⁷

“Comics like Marrison Goldman and Anne Hathaway Mics’ Gabby Jordan Brown are experimenting with parties and improv shows hosted on Google Docs, experiences that cannot be replicated live.”²⁸

Free Software for Students

Utilize the software your institution provides students, such as Office 365. If the institution does not provide

this, students might use Google Cloud. There are also many companies that offer free software for academic purposes including Hootsuite’s Student Program and Trailheads’ Salesforce Training. There are also companies that ask the institutions to become members, and then provide educators and students access to learning materials and systems, such as SAP’s University Alliance. You will need to investigate if the type of software you require is offered in a free or trial version and determine whether or not is it robust enough to be used in your course. So much to explore!

Open Educational Resources

There are also many free courses and tutorials online for all types of subjects. LinkedIn Learning, while not free, is subscribed to by many colleges and universities and can be accessed by educators and students at no additional charge. GCFGlobal.org offers free access to various courses. Coursera offers some courses online free of charge, and some paid, but educators could locate a free course that might supplement some of the learning materials within their own courses.

eCampus Ontario and BCcampus online platforms provide free textbooks for a variety of course topics. “The Bridge” entrepreneurship course offered by the University of Toronto is shared free of charge. The Design Thinking course at the Open University, again free access. Khan Academy is widely known for free tutorials in a variety of subjects. When educators select free learning resources to embed into their courses, they reduce financial barriers for their students.

Understandably, not all courses can utilize free software, books, training, etc. because there may be a component, such as an industry certification exam, which may require students to pay a fee (or the institution to pay a fee), although, it is certainly worth investigating.

Additional Resources

1. Challenge 3: Adapt Your Assessment Approach
2. Delivering a Final Exam Online
3. Assessment and remote teaching: Options and opportunities

4. Invigilating Brightspace Exams at UVic: Zoom and Respondus options
5. Leveraging Remote Proctoring for Hands-on Online Exams
6. HyFlex Course Design and Teaching Strategies
7. Coursera Free Online Courses You Can Finish In A Day
8. W3Schools HTML Tutorial
9. Towards flexible personalized learning and the future educational system in the fourth industrial revolution in the wake of Covid-19
10. Universal Design for Learning After COVID-19
11. Scaling HyFlex for the Post-Pandemic Campus

References

(Note: This list of sources used is NOT in APA citation style instead the auto-footnote and media citation features of Pressbooks were utilized to cite references throughout the chapter and generate a list at the end of the chapter.)

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