Guide for Design and Implementation of Hybrid–Flexible (HyFlex) Models in Adult Education

Destiny Simpson, Jen Vanek, & David Rosen

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Destiny Simpson

Destiny Simpson has worked in the adult education field for almost two decades. She started as a volunteer tutor and then became a teacher, program manager, and professional developer. In her role as a consultant for the EdTech Center@World Education, she helps to develop and facilitate courses, plan the annual IDEAL Consortium Summer Institute, and create resources for adult education organizations to use as they plan and implement distance education programs. She has a Master's Degree in Adult Education and Communications Technology.

Jen Vanek

EdTech Center@World Education

Jen Vanek directs the IDEAL Consortium at the EdTech Center@World Education, implements the field testing of technologies designed to support adults with basic skills needs, and provides PD and technical assistance to improve and expand opportunities for distance and blended learning in adult literacy and ESOL programs. She received her PhD in Curriculum & Instruction/Second Language Education at the University of Minnesota. She's been working in the field of adult literacy since receiving her MA in Teaching English as a Second Language from the University of Illinois-Chicago in 1995. Her recent work centers on creating online content for Adult Basic Education (ABE) learners and supporting the professional development of ESL and ABE teachers in the area of digital literacy, distance learning, and adult career pathways.

David Rosen

Newsome Associaates

Dr. David J. Rosen is the president of Newsome Associates in Jamaica Plain, Massachusetts. Recently he has provided consulting, advising and professional development services to: the Illinois Digital Learning Lab; ProLiteracy International; Friends of Liberia's Family Literacy Initiative; Georgia State University's Center for the Study of Adult Literacy; the University of Memphis; and OTAN, in California. For decades, a major theme of his work has been engaging ways to integrate technology in adult foundational education, online and in-person, including for Adult Basic Education, Adult Secondary Education, and English for Speakers of Other Languages. He is the author and editor of the Adult Literacy Education Journal's "Technology Solutions for Adult Foundational Education Challenges" column, the author of the Adult Literacy Education blog at davidjrosen.wordpress.com, the co-author of two online guides on blended learning for adult basic skills education, Blended Learning for the Adult Education Classroom and The What, Why Who and How of Blended Learning for Adult Basic Skills Learners . He can be reached at djrosen123@gmail.com

Acknowledgements

HyFlex | Teaching | Instructional Strategies | Adult Education

As researchers and teacher educators, our role is to explore research literature and work in the field to locate innovative and promising instructional strategies and resources, and then offer descriptions that help others integrate new ways of teaching into their work. In other words, we amplify innovative practice. To make this work possible, we rely on the generosity and curiosity of dedicated educators — who are willing to take risks, try new things, and share their experiences with us. This guide would not have been possible without the collaboration of the networks of teachers and administrators with whom we have worked in the past year. We want to thank the teachers and administrators we interviewed, joined in study groups and facilitated in online forums and discussion groups. Thanks also to conference and webinar attendees whose questions pushed our thinking and helped clarify the guidance provided here. Also grateful to reviewers and copyeditors for moving the work forward.

We would also like to acknowledge Dr. Brian Beatty and his past research and writing on the Hybrid Flexible model. Our earliest work on this project was to lead a group of adult ESOL and literacy teachers in a series of conversations on his book Hybrid-Flexible Course Design.

Introduction

Background and Purpose of the Guide

This *Guide for Design and Implementation of Hybrid–Flexible Models in Adult Education* (hereafter, the *HyFlex Guide*) is intended to help adult education practitioners (teachers, staff, and administrators) and professional development leaders to initiate or improve their flexible multimodal instruction or courses. The guide is based on Dr. Brian J. Beatty's seminal work with Hybrid–Flexible (HyFlex) models in higher education and is informed by the practice of innovative adult educators.

This publication is the product of our collective efforts working with adult education practitioners who, inspired by their success with remote online instruction during the COVID-19 pandemic, took it upon themselves to better understand how to implement a HyFlex model to provide more flexibility for their learners. The guidance presented here was gleaned from several data sources. Each of us has facilitated technical assistance and professional development initiatives, such as the IDEAL Consortium HyFlex Study Group, the LINCs Technology Integration Community, and a Google Group devoted to peer support on HyFlex instruction issues. We have also had opportunities to observe HyFlex classes in action and interview 25 practitioners. With the permission of the educators involved in all these activities, we drew out salient themes from notes, transcripts, and video recordings — themes that characterize HyFlex implementation in adult education classes and have defined the benefits and challenges it presents.

Intended Audience(s)

Although the key audience for this guide is practitioners in adult foundational education[1], the guide may be useful for those planning or offering HyFlex models in post-secondary education, and in other education contexts where HyFlex models are offered.

Definition of the HyFlex Model

The term *HyFlex model* as used in this guide refers specifically to an instructional model that offers learners maximum flexibility in selecting the mode and timing of learning: in-person, synchronous online, and asynchronous online (see Figure 1), and the ability to frequently shift among these options at any time (Beatty, 2019). Each mode of instruction is always available, except when in-person classes must be canceled because of weather, pandemics, and other emergencies. In a similar model, called BlendFlex, learners can choose any or all the three modes but, if they choose the in-person mode, the institution may assign them days and times. In any form of the model, learner outcomes should not depend on which mode or modes a learner chooses.

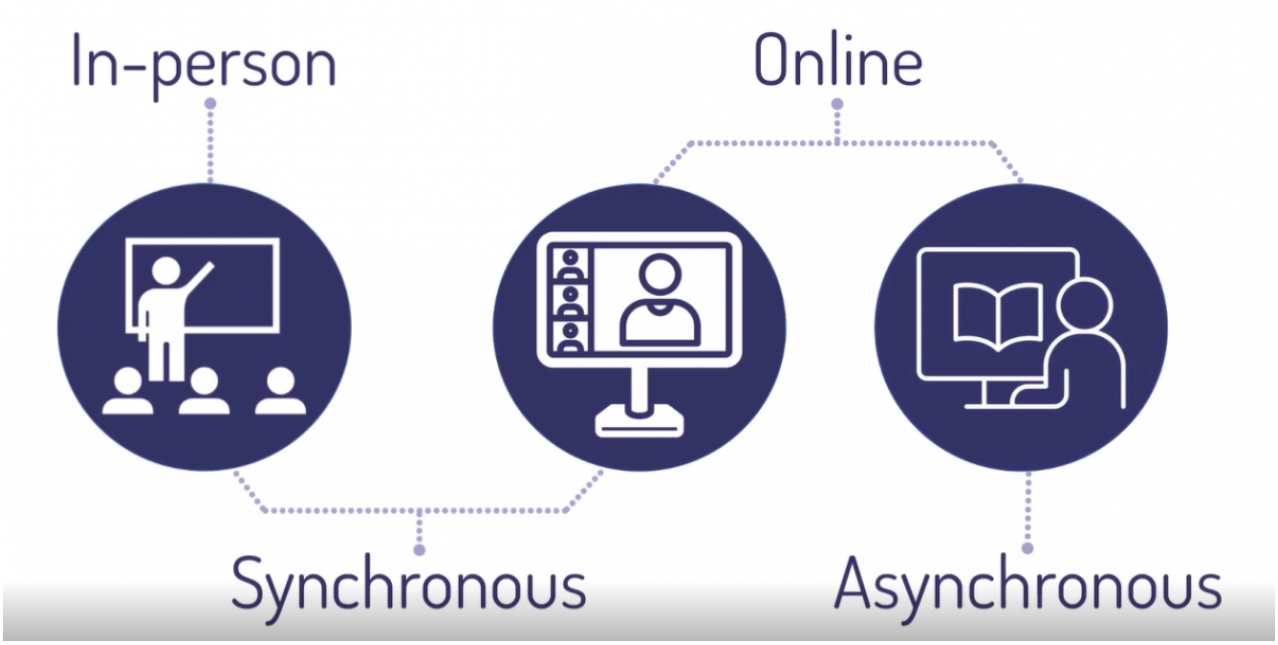

Figure 1. The different modes of HyFlex and BlendFlex instruction or courses

Potential Benefits of Using a HyFlex Model

Although HyFlex began and continues in credit-bearing post-secondary education, this model has a range of uses. On one hand, HyFlex models can be used to shape formal learning opportunities — such as courses leading to credit or certification — and to inform outcomes data for program improvement or accountability to funders. On the other hand, HyFlex models can offer structure in less formal educational programming. For example, adult education programs might use HyFlex for short-term, facilitated learning circles for immigrants and refugees seeking to improve their English language skills or to prepare for U.S. Citizenship and for adults preparing for a high school equivalency exam or adult diploma. HyFlex might also be used in programs that rely on the use of mobile learning apps (such as Learning Upgrade, Cell-Ed, and others delivering content to support English language learning, U.S. citizenship preparation, or high school equivalency exam preparation), accompanied by periodic in-person and synchronous online sessions.

Although instructors experience challenges getting started with HyFlex models, they also report benefits to adopting the model, including being able to deliver three instructional modes with one preparation instead of three separate ones, being able to quickly and easily adjust modes and sustain instruction when the in-person mode is suddenly not available (e.g., if students face a health crisis, a change in work schedules, severe weather, or unforeseen emergencies). Perhaps most important is that one of the most prevalent structural barriers to learner retention — having to regularly attend a class in person — is removed. As a result, practitioners have reported that learner attendance, retention, completion, and learning gains have all improved after their program switched to a HyFlex model.

Brief History of HyFlex and Underlying Values or Principles

Dr. Brian J. Beatty, a professor in the Instructional Technologies (ITEC) graduate program at San Francisco State University, and his graduate students coined the term *HyFlex* in 2007 to describe a three-mode (in-person, synchronous online, and asynchronous online) Hybrid–Flexible course design model built on four fundamental values or principles:

- **Learner choice:** Provide meaningful alternative participation modes and enable students to choose between participation modes daily, weekly, or topically.
- **Equivalency:** Provide learning activities in all participation modes which lead to equivalent learning outcomes.
- **Reusability:** Utilize artifacts from learning activities in each participation mode as "learning objects" for all students.
- **Accessibility:** Equip students with technology skills and equitable access to all participation modes. (Beatty, 2019).

Since then, HyFlex course models have been spreading in graduate and undergraduate education in North America, more recently in community college courses, and now in adult education. To some extent, HyFlex models are also used in K–12 education.

Early Use of HyFlex Models in Adult Education Settings

In the past three years, there have been several pilots and, most recently, full-scale implementation of HyFlex models in adult education. These include programs sponsored by community colleges, public schools, and community-based organizations. Some use two modes of teaching and learning — for example, synchronous in-person and remote instruction delivered online — in which the goal is often to have "Zoomers" and "Roomers" both feel fully a part of the class. Of those that offer all three modes, the way the asynchronous instruction is offered varies widely. It may include capturing and uploading video of the in-person and synchronous online classes so that any student enrolled in a class can easily access the video recordings of all the lessons; equivalent activities making use of video content; a commercial or free online course or curriculum; or a program- or teacher-made online curriculum. In some cases, the asynchronous curriculum drives the instruction in the synchronous remote and in-person modes. HyFlex models in adult education are now found in several states. In at least one state, New Hampshire, a HyFlex model is being developed for teacher and program administrator professional development.

What Flex Models Look Like

There is abundant diversity in the way HyFlex is implemented in adult education and a solid knowledge of HyFlex is a great way to begin to imagine how it might look in your classroom. Section 7: HyFlex Program Vignettes of this guide includes vignettes written to reflect what we learned in interviews with HyFlex practitioners in six states: Arizona, California, Illinois, Minnesota, New Hampshire, and Wisconsin. All HyFlex models share some characteristics; for example, each highlights use of two or three modes of instruction and allows learners flexibility in the choice of mode. However, there are differences in other aspects of implementation: the hardware and software used, how practitioners are provided with professional development in using the HyFlex model; the kinds of data collected; and the outcomes associated with use of HyFlex.

In addition to these HyFlex implementation examples featured in this guide, we have produced a series of short videos that show authentic HyFlex practices and hardware used in a HyFlex model classroom.

Conclusion

We have briefly described in this section the background and the purpose of this guide, the definition of HyFlex models, their potential benefits, the underlying values and principles put forth by the creator of the HyFlex model, Brian Beatty, and what has evolved in the use of HyFlex models in adult education in the past few years. We have also called your attention to where in this guide you will find information from practitioners about the HyFlex models they are using.

Questions to Consider

What benefits, either stated in the guide or through your own reflections, do you see as reasons to offer HyFlex for your adult learners?

References

Beatty, B. J. (2019). *Hybrid–Flexible Course Design (1st ed.)*. EdTech Books. https://edtechbooks.org/HyFlex.

[I] In this guide, adult foundational education, shortened to adult education, refers to a definition of our field developed by the steering committee of the Open Door Collective, a national program of Literacy Minnesota. The definition includes programs and classes that offer adult learners an opportunity to build core skills and knowledge needed for work, further education, daily life, and as citizens in a representative democracy. These include:

- English language skills for immigrants and refugees (ESL/ESOL [English as a Second Language/English for Speakers of Other Languages])
- Beginning literacy for adults who cannot read and write well, or at all
- Numeracy
- Adult Basic Education (ABE)
- Adult Secondary Education (ASE), leading to an adult high school diploma or high school equivalency certificate
- U.S. citizenship preparation
- Preparation for post-secondary education, occupational training, or apprenticeships
- Employability/work-readiness skills
- Family/intergenerational literacy
- Integrated Education and Training (IET)
- Other lifelong and life-wide education or skills, such as digital, financial, and health literacy; literacy for self-advocacy, civic engagement, and social justice; native-language literacy; and other life-wide skills

Adult education may be offered by community-based programs, public schools, community colleges, volunteer tutoring programs, public libraries, corrections institutions, adult public charter schools, employers, labor unions, faith-based organizations, and other kinds of organizations and institutions.

Section 1

Programmatic Planning for HyFlex Learning Before Implementation

Why Programmatic Planning Is Important

HyFlex models, at least at this point in their development, are not ”plug and play.” They require careful programmatic and instructional planning, including planning for hardware and software purchases that align with the goals of the model, planning for professional development, and teamwork for teaching colleagues. Ideally, they begin with a pilot of a limited number of classes or teachers (or even one class or teacher), and then refine the model before it is scaled up. They also benefit, in both planning and implementation, from formative evaluation that provides feedback to the teaching team for program improvement. (See Program Evaluation.)

Planning Time Considerations

You need to choose an instructional approach that will serve as the foundation for your work as you plan. The approach needs to align with the goals you have for offering technology-rich and flexible programming. Are you trying to address limitations in the content that you currently teach (i.e., extend, remediate, or fill in gaps for what is being taught)? Or, are you trying to address who is taught (i.e., attempting to retain existing learners or reach a new group of learners)? Different approaches best suit these different goals.

Planning Elements

Physical Classroom Hardware Setup

One goal for planning classroom hardware setup must be addressed first: audio and video that allows all learners, “Roomers” and “Zoomers,” to hear and see each other and the teacher. The physical setup of the classroom will depend on your hardware and software or, if you can increase your budget, what you may be able to purchase. For example, if you have an inexpensive video tracking device with built-in speakers and microphones for a small room with a few students who are seated at one or two tables or in a small semicircle, this may be sufficient. See Figure 2.

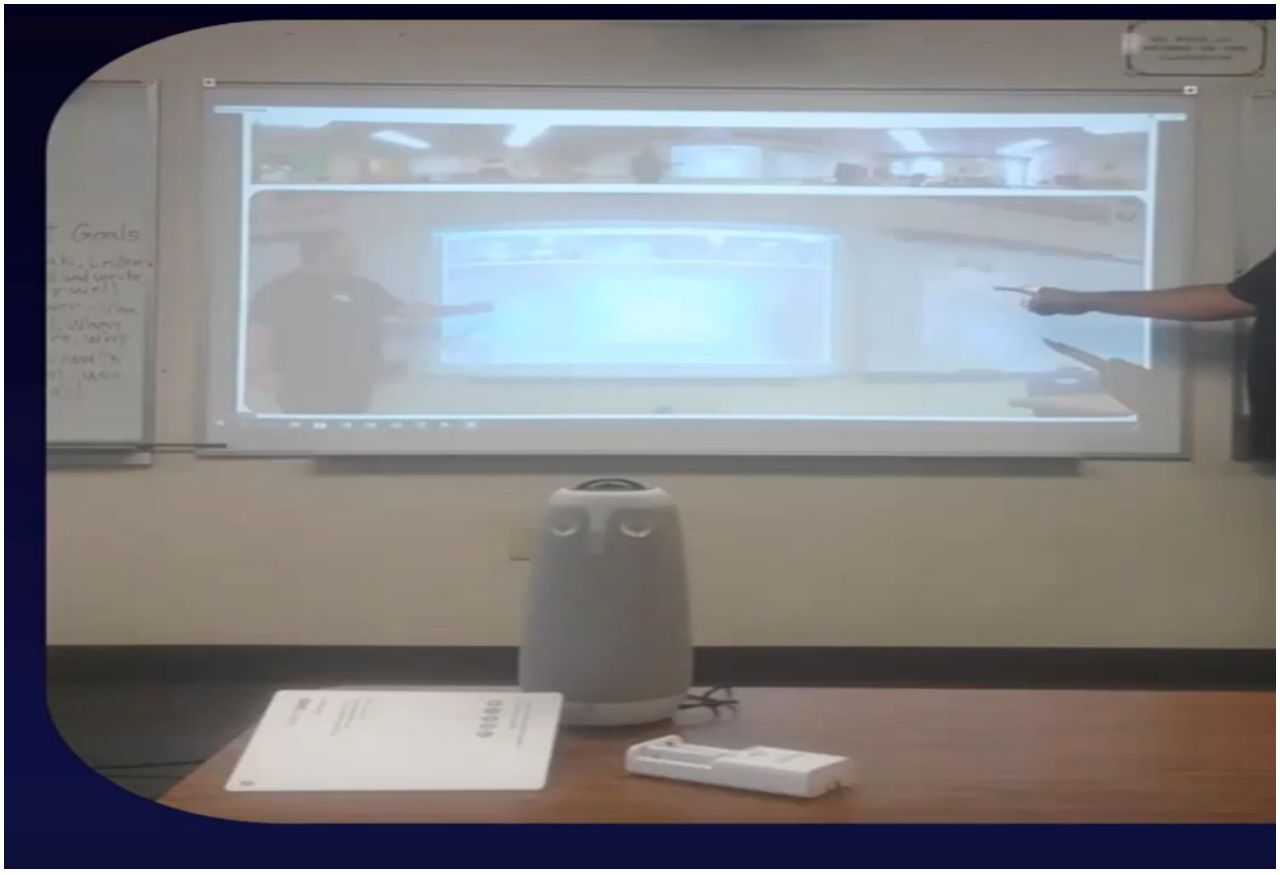

Figure 2 and 2a. Small Room HyFlex classroom using a video tracking device with built in speakers and microphone Used with permission from: Outreach and Technical Assistance Network/OTAN. (2021). OTAN Tech Talk - Simultaneous Instruction Using the HyFlex Model [video]. https://www.youtube.com/watch?v=F-iYKoEFrXU)

If you have wall- or ceiling-mounted video tracking cameras with ceiling-mounted speakers and microphones that can capture sounds from anywhere in the classroom, as pictured in Figure 3, you may be able to easily meet the hardware goal without further challenges.

Figure 3. Wall- or ceiling-mounted video tracking with ceiling-mounted speakers and microphones
Image source: David Howden. (2021). HyFlex Model in Adult Ed: Tips on Technologies & Strategies. [Presentation]. https://edtech.worlded.org/strategy-session-resources/

However, even then you may have additional challenges in how the hardware is used if your hardware tracks sound and motion and its settings are too sensitive. Whatever classroom setup you choose needs to address not only traditional in-person needs but also the needs of remote learners. We recommend that teachers and administrators try out their hardware in planning or a small pilot before scaling up. The EdTech Center has created a https://youtube.com/playlist?list=PLIMfSiUPpWPEIO1WXA3tTebNEz31ztrUB, which includes tours of technology used by two different HyFlex adult education classes.

Teacher Identification and Preparation

HyFlex teachers need to understand how this model differs from traditional in-person classes, online distance teaching, and other kinds of hybrid or blended models. As part of their preparation, you might ask them to read Brian Beatty's free online book, *Hybrid–Flexible Course Design* or participate in a HyFlex course from the IDEAL Consortium.

HyFlex instructors need to be competent in content delivery, comfortable and confident with technology integration, and sufficiently resilient and responsive that they can flexibly adjust when faced with technology challenges that may occur.

Risk takers who are courageous and curious in the use of technology are a good fit for HyFlex pilots. These qualities are desirable in addition to all the other skills you might expect of a good teacher.

Costs

There are usually three areas of cost for which HyFlex programs need to budget: hardware, software applications (seehttps://edtechbooks.org/hyflex_guide/ch6_hardware_software_applications_choices), additional instructional preparation and professional development time (see Section 4: Implementing and Scaling Up Flex Models). Software costs may be of three kinds: video conferencing software (e.g., Zoom or https://www.microsoft.com/en-us/microsoft-teams/group-chat-software); software needed to operate a tracking camera and/or speaker and microphone system; and Learning Management System (LMS) or Content/Course Management System (CMS) software. All of these vary from very low-cost, or even free, to expensive. They also vary in terms of how easy they are (or are not) for teachers to use. The EdTech Center's https://www.youtube.com/playlist?list=PLIMfSiUPpWPEIO1WXA3tTebNEz31ztrUB includes tours of HyFlex classrooms with teachers showing the technology they use. This may be helpful for envisioning what hardware and software may work best for your program.

Instructional Content Considerations

There are several issues to consider when deciding whether to design your own HyFlex course or curriculum, adapt an in-person course or curriculum that you already have found effective, or design your HyFlex model around a proprietary/commercial online course or curriculum.

Universal Considerations

- Do you have on your staff (or do you have a budget to hire) experienced curriculum developers who can design or adapt a course that can be delivered in all three modes, each of which uses the same set of content standards?
- Is your planning period long enough to develop and pilot your class curriculum before you need to scale up your HyFlex model?

Considerations When Designing Your Own HyFlex Course or Curriculum

- Can you use Open Education Resources (OERs) in your course, curriculum lessons or supplementary resources?

Adapting an effective in-person course

- Is this course based on a set of standards that can be used in modifying it for the online synchronous and online asynchronous models?
- Do you have on your staff, or can you get experienced curriculum developers who can modify your in-person course to be delivered in the other two modes?
- Is your HyFlex planning period sufficiently long to enable you to adapt and pilot your in-person course curriculum before you need to have a HyFlex model that you can scale up?

Choosing a Commercial Online Course

- Have you already used a particular asynchronous online course or curriculum as a distance education resource and found it effective with your learners or will you need to find one before you start? (If you have not already used a particular online course or curriculum, you may wish to consult with other HyFlex programs making use of a course or curriculum you are considering and whose learners are at the same level[s] and have similar needs as your learners. You could join a free adult education Flex Models Google Group [see description in the Appendix A], which includes adult education HyFlex program staff from across the country, and learn from their experience. You could also consult HyFlex model communities of practice [CoPs] in your state, or the free LINCS professional development system https://community.lincs.ed.gov/group/21.
- Can your program afford to purchase the online course and, if so, do you have a sustainable source of funding to continue its use once you create a HyFlex course around it?

Transitioning From Hybrid and Blended to Flex Models

Your program may already use a hybrid model, one that includes in-person and online modes, or a blended model, in which the two modes are highly integrated (i.e., both modalities are built upon the same content standards). When transitioning from those approaches to a HyFlex model, it is important to construct a course in which all modes are equivalent in terms of their quality and their ability to enable the same kinds of learning gains, regardless of the mode(s) chosen by learners. That does not mean that all modes will be identical in their learning activities.

It's also important to consider which mode, asynchronous or in-person, will drive the content standards of the other two modes. This doesn't mean that all three modes need to be exactly alike. Each mode may have its own strengths and affordances for certain learners; for instance, an immigrant learning English, especially one who already reads and writes English well, might find the in-person or online synchronous mode helpful in building listening and especially speaking skills because of the interpersonal communication that happens among learners and with the teacher; for learners who need a lot of practice in certain skills areas, such as numeracy or mathematics, having many more practice exercises in the asynchronous mode may be helpful.

Professional Development Planning

Regardless of how you design or choose your HyFlex course(s) or curricula, you will need to plan professional development opportunities and ongoing training and support, both for staff who administer program-wide HyFlex options and for teachers who will be building and leading the courses, so they can successfully implement the model. Special attention should be paid to training and building skills and knowledge of practitioners piloting the first HyFlex class(es). (For more on professional development, see Section 4: Implementing and Scaling.)

Learner Recruitment and Orientation

HyFlex programs use a range of options for recruiting and orienting students. Some do both entirely online; some offer both online and in-person options; and some offer primarily or solely in-person registration and orientation. We recommend, if possible, and in keeping with the underlying value of HyFlex models, offering both in-person and online registration and orientation options, as well as allowing learners to choose which they prefer. Many adult education programs use online forms to start the intake process and then continue to use the technology throughout the assessment and orientation process (Vanek et al., 2020). Programs that relied on remote orientation and recruitment strategies to sustain their work during the pandemic found that this made it possible to more efficiently use orientation time and reach more potential learners (Kallenbach et al., 2021). Examples of remote strategies to support these activities are available in the course https://edtech.worlded.org/transforming-distance-education, pictured in Figure 4.

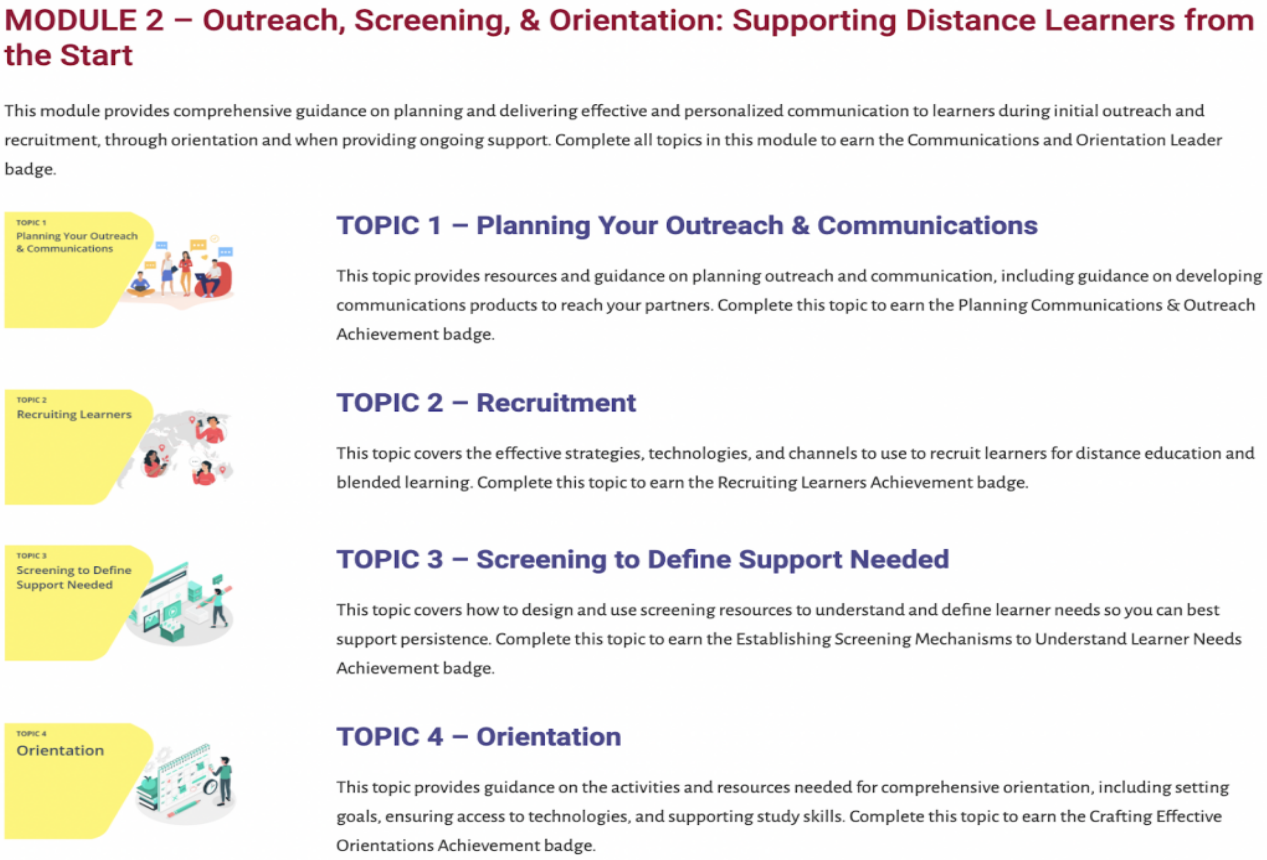

Figure 4. Transforming Distance Education Module 2 course topics (World Education, 2020)

Some learners, who are comfortable with technology and who plan to use primarily asynchronous or synchronous online models because they cannot regularly commit to in-person classroom learning, might be considering only a HyFlex class. These same students might not have been able to participate in orientation previously because of commuting or timing challenges, and the flexibility of this model might be a big draw for them. In-person orientation options should be maintained for learners who plan to solely or primarily learn in person and who especially need an in-person registration and orientation, perhaps including an orientation that involves a substantial digital literacy skills component to build the confidence, competence, and comfort they need to participate in a HyFlex model.

Technology Access/Support for Teachers and Learners

Both teachers and learners may have challenges in accessing needed hardware and software for full facilitation of, or participation in, HyFlex classes, especially from outside a classroom. Low-income Learners now have opportunities to get affordable internet access, discounts on home computers, access to free local digital literacy skills training, and other benefits that may reduce barriers to participation. EveryoneOn is one source of information on Internet Service Provider discounts that covers most parts of the U.S. Users can search this site for offers by zip code. The National Digital Inclusion Alliance lists https://www.digitalinclusion.org/free-low-cost-internet-plans/. The federally funded Affordable Connectivity Program (ACP), through which eligible individuals or families can receive a $30 monthly subsidy towards internet connectivity and $100 towards purchasing a computer, will operate for several years beginning in 2022 and may be of interest to some learners.

It might be useful to include a digital technology skills assessment as part of learner registration or orientation. For either teachers or learners, one possibility is the Northstar Digital literacy Assessment, which includes these assessment modules: *Basic Computer Skills, Internet Basics, Using Email and Windows (or Mac OS).* The free assessments do not include training for those administering them, the opportunity to award certificates, or access to curricula. However, teachers and programs can make use of the free and open assessments, which offer a results page

after a learner completes them. AFE (Adult Foundational Education) programs and adult schools can, for a fee based on the number of users, receive training, access to aligned digital skills curriculum, and the ability to award certificates to learners.

Conclusion

In this section we have briefly described the importance and recommended elements of program planning for HyFlex such as: classroom hardware setup; identifying and preparing teachers; professional development; costs for hardware, software and professional development; considerations when designing or choosing instructional content for each of the three modes; recruiting and orienting HyFlex learners; and providing technology access support for learners and teachers. We have also briefly described how HyFlex differs from other hybrid and blended learning models.

Questions to Consider

1. There are several planning elements listed in this section of the guide.
If you are exploring HyFlex, but have not yet implemented it: Choose at least two of the planning elements that stood out to you. Describe why you feel like these planning elements are important to you and/or your program as you develop a HyFlex class.

If you have already started a HyFlex class at your program: Choose at least two of the planning elements that you feel still need attention at your program and describe why these issues still need to be explored further.

Planning elements include: Physical classroom hardware setup, teacher identification and preparation, costs, instructional content considerations, transitioning from hybrid and blended to flex models, professional development planning, learner recruitment and orientation, technology access/support for teachers and learners.

2. How might you address the planning elements you identified in the previous question at your program?

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Section 2

Instructional Planning

Choosing a Class To Offer HyFlex

Our initial scan found that HyFlex was being offered in many different types of adult education classes: English language, adult basic education, adult secondary education, and integrated education and training (IET). When planning to offer a new HyFlex model class, it's important to consider which classes have learners who have the academic skills, digital literacy skills, technology access, and resilience needed to pilot this new format. Many of the adult education practitioners we interviewed were offering HyFlex for English language learners with intermediate to advanced skills or for high school equivalency classes. However, that's not to say these are the only learners who can excel in a HyFlex class. The COVID-19 pandemic has shown that learners with a wide range of skills can thrive in online learning when given quality instruction, supports for learning, and access to digital devices and home broadband internet.

Adult Education HyFlex Instruction Models

Beatty's (2019) model for HyFlex includes three instructional modes in which learners can daily choose which way they'd like to participate: in-person class, online synchronous class, or asynchronous online instruction. In our initial nationwide survey of adult education programs providing HyFlex, we found that most learners chose one instructional mode and tended to stick to that format. One variance was that occasionally in-person learners would choose to join the live online class because of weather, childcare, work schedules or transportation issues, but then would return to in-person classes once the driving factor for choosing the remote option was no longer operative.

As you plan your HyFlex class or program, you'll want to consider what instruction looks like in each of the HyFlex modes. Below are some models that we identified during our initial scan of HyFlex classes. Keep in mind that many of the programs where we observed these models continue to refine them to best meet the needs of their learners.

Table 1. Examples of the Three HyFlex Modes at Different Adult Education Organizations

Program Location	Of Note	In-Person and Synchronous Online Class	Online Asynchronous Activities
Arizona (Mesa)	• Students required to attend either online or in-person class • Asynchronous component used more for homework • Attending in-person open lab was optional	Twice weekly, three hours each	• Two hours a week • Homework with some assignments aligned to class and some self-paced assignments

Program Location	Of Note	In-Person and Synchronous Online Class	Online Asynchronous Activities
Arizona (Pima)	Students reserve in-person class spots using Picktime	Twice weekly, for two hours each	Class recordings
Arizona (Arizona Center for Youth)	Not-for-profit center for out-of-school youth	Either two or four times weekly (depending on class), for 1.5 hours each	One hour per week minimum required as homework
California (Garden Grove)	Learners choose preferred method of attendance at the beginning of the semester but can switch between modes	Four times weekly, for 2.5 hours each	Class recordings
California (Santa Barbara)	Open-entry, open-exit model, as well as managed enrollment	Varies, depending on class. ASE/GED meets four times weekly for four hours, with two of those days HyFlex	As a resource for independent learning or as additional resource to accelerate progress
Illinois (Waubonsee Community College)	Both daytime and evening classes are offered	Twice weekly, three hours each	LMS: Canvas
Minnesota (Hubbs Center)	Offers HyFlex for ESL, ABE, and IET classes	Four times weekly, for two hours each, plus homework	Google Classroom
Wisconsin (Milwaukee Area Technical College)	Found that HyFlex worked for ESL learners with lower level English skills	Twice weekly, for 1–3 hours each (depending on the class)	Class recordings

HyFlex Lesson-Planning Approach

Once you decide on your HyFlex model, you can begin to plan instruction for each mode. Beatty (2019) has developed four guiding principles that can guide HyFlex implementation and lesson planning. Each principle is presented along with an example from an adult education HyFlex class.

Learner Choice

As you plan instruction, allow learners to choose how they complete course activities in any given week or topic. This means each mode needs to address the same objectives; however, how learners reach those objectives may vary.

Example:

In-person learners who have internet-accessible devices in the classroom, synchronous online learners, and asynchronous learners may each complete a Jamboard activity to practice giving direction and using sequence words. In-person learners may also have the option of completing this activity using paper cut outs or sticky notes. Regardless of what mode the learner chooses to participate, they are provided with equivalent learning opportunities.

Equivalency Principle

Regardless of which mode learners choose, they should achieve equivalent learning. The same learning objectives should serve as the basis for the content and activities, and learners should strive to achieve the same outcomes.

That doesn't mean that all learning modes will have the same learning experiences. For example, a learner participating in the online asynchronous mode may reach the same learning objectives as those participating in-person or synchronously, but could have less social interaction in the process.

Example:

An ESL HyFlex class objective may be to succeed at giving written directions using the imperative form. In-person and online learners write these directions in small groups, while an asynchronous learner may do this independently. However, after completing the learning activities, all learners should be able to give written directions using the imperative form.

Reusability Principle

Resources that you use for one mode can also be used for others. This can help to save time and ensure that HyFlex teaching leads to equivalent learning outcomes for all learners. Using templates and classroom routines can also help with this.

Examples:

- All learners complete an activity in their LMS using a publisher's online curriculum. This eases the burden of creating online asynchronous content.
- Teachers post the in-person and synchronous online class recordings and online resources. This is a valuable way for asynchronous learners to access instruction and practice skill building.
- Programs develop templates for content in their LMS. This makes it easier for teachers to customize and share information specific to their class.
- Programs create a PowerPoint template that provides structure to a classroom routine. This allows teachers to save time with lesson planning and resource development.

Accessibility Principle

As you plan your instruction, you'll want to ensure that learners have the technology skills and access to participate in all modes to the best extent that your resources allow. Digital literacy self-assessment tools (see Figure 6) can inform you of learners' technology skills (World Education, 2020).

1. Tell us what you have and how often you use it/them:

	Smartphone	Tablet	Computer
I have this type of device. **(Circle the your answer)**	Yes No	Yes No	Yes No
How often do you use each type of device? **(Circle the your answer)**	Daily	Daily	Daily
	Weekly	Weekly	Weekly
	Monthly	Monthly	Monthly
	Never	Never	Never

Figure 5. Digital literacy self-assessment tool
Modified from EdTech Center @World Education. (n.d.) https://edtech.worlded.org/resource/digital-literacy-self-assessment-tool

Some programs use digital navigators to ensure learners have access to technology and Wi-Fi, as well as ensure they have the digital literacy skills needed to use them (*Building a Digitally Resilient Workforce*, (https://edtech.worlded.org/resource/digital-literacy-self-assessment-2020).

Beatty (2019) also advocates for ensuring your materials are accessible and usable for all learners. The EdTech Center @ World Education's Lightning Talk on Accessibility in the Adult Education Classroom and the National Center of Accessibility Educational Materials are two resources to assist you with providing equitable access to learning resources.

Examples:

- An adult education teacher has all in-person learners log into the video conference platform (e.g., Zoom, Teams) the online learners are using so that all learners have practice using video conference tools such as chat and screen share.
- Another adult education teacher has all learners use polling software so that both in-person and online students can access the poll using a computer, smartphone or Chromebook.

HyFlex Lesson Planning Tools and Resources

Beatty (2019) recommends starting lesson planning for the asynchronous mode first. In practice, we found that adult educators approached HyFlex lesson planning differently, based on their context and program needs, and perhaps because many had yet to integrate the online asynchronous component. For example, some programs were only offering online instruction because of the COVID-19 pandemic, so they needed to consider how they would add an in-person component as they developed their HyFlex class. Another program took an in-person curriculum that was already developed and added an online component so that it could be offered as a HyFlex class.

Identify Your Standards

You'll want to determine what content standards you'll use as the basis for your curriculum and lesson plan objectives. Standards frequently used in adult education include the College and Career Readiness Standards (CCRS) and English Language Proficiency Standards (ELPS). These standards not only guide lesson planning, but also can help to identify what instructional resources you'll be using.

Core Curriculum

Most of the adult education practitioners surveyed reported that they used a proprietary or commercial resource as their core curriculum. One adult educator strongly recommended ensuring that your curriculum has online activities and resources to provide structure and activities for your HyFlex class. CrowdED Learning's SkillBlox is a resource that can be used to identify standards-based curriculum and activities.

Learning Management System

All programs surveyed indicated that they used an LMS to organize information, learning activities, and resources for HyFlex learners. Some programs used a free LMS, such as Google Classroom, while others used a commercial LMS, such as Canvas.

Video Conferencing Platform

All HyFlex classes used a video conference tool, such as Zoom or Google Meet. Because of the COVID-19 pandemic, HyFlex survey participants indicated that they already had a platform that they used for their distance learning online classes which was also used for HyFlex instruction. One consideration for the online platform is to ensure that you have enough seats to allow in-person learners to also join online if you'd like online and in-person learners to collaborate.

Educational Technology

HyFlex adult education teachers reported that they used a variety of digital technology to engage learners and assess learning, including Nearpod, Kahoot, Poll Everywhere, Google Slides, Jamboard, Google Forms, and Pear Deck. The EdTech Integration Strategy Toolkit is one resource that can help identify digital technology for use in the three HyFlex modes.

Lesson Plan Format

Lesson plans should address how learners in each mode will engage in the learning activities and how you will assess learning. You may also find you need to provide additional details about how communication and support will be provided in each mode.

Beatty (2019) provides templates for HyFlex lesson planning and assessment, as pictured in Figures 6 and 7.

HyFlex Delivery Design Worksheet Template

3. Plan Student Learning Activities (Content and Interaction)

Program | Course | Session
indicate activity level

Instructional Goal/Objective 1	***In-class Activity***	***In-class Resources***	***Online Activity***	***Online Resources***
State the goal/objective	*Describe the activity*	*List required resources*	*Describe the activity*	*List required resources*
Instructional Goal/Objective 2	***In-class Activity***	***In-class Resources***	***Online Activity***	***Online Resources***
State the goal/objective	*Describe the activity*	*List required resources*	*Describe the activity*	*List required resources*
Comments:				

Page ___ of ____

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Figure 6. Student learning planning resource (Beatty, 2021)

HyFlex Delivery Design Worksheet Template

4. Assess Learning Outcomes

Program | Course | Session
indicate assessment level

Learning Outcome 1	***In-class (F2F) Assessment***	***Online Assessment***
State the learning outcome that will be assessed; not all learning outcomes may be directly assessed.	*Describe the assessment plan for in-class students*	*Describe the assessment plan for online students*
Learning Outcome 2	***In-class (F2F) Assessment***	***Online Assessment***
State the learning outcome	*Describe the assessment plan for in-class students*	*Describe the assessment plan for online students*
Comments:		

Page ___ of ____

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Figure 7. Assessing learning outcomes resource (Beatty, 2019)

Orienting Learners

Several HyFlex adult education teachers and administrators noted that orientation was critical to ensuring that learners understood the expectations and format of the class and that they had the technology skills needed to thrive. Below is a summary of some of the various formats and topics that were covered in the adult education survey participants' HyFlex orientations.

Table 2. Examples of HyFlex Learner Orientation Topics and Formats

HyFlex Orientation Formats Offered	HyFlex Orientation Topics Covered
• Learners could choose online, in person, or on-demand video • Required in-person or online synchronous meeting with tech support and then a final "readiness for class" session conducted in person to ensure that all apps and programs were on the learner's device and the learner could access all the websites needed • Instructor met with students 30 minutes before the first class • Technology Bootcamp which covered the LMS, major curriculum, and ed tech tools used in class • Teacher reviewed the orientation materials the first day of class • Required "Getting Ready for Class" workshops • Orientation conducted throughout the first few weeks of class	Technology • Video conferencing technology basics, etiquette, and norms • General tech skills, such as opening new tabs and typing in usernames and passwords • Logging into the LMS • How to get tech support Expectations • Difference between HyFlex class and other classes (modalities, flexibility, teacher's role) • Learner responsibilities • How to indicate class mode (when learners could switch daily) • Importance of peer support • Demands of the class • Classroom norms (cameras on, off, raising hands, allowing students in both modalities to have a turn speaking)

HyFlex Lesson Planning Tips from the Field

Adult educators shared the following HyFlex instructional planning tips:

Online Synchronous Tips:

- Start lesson planning for online students first since they may have fewer tools available.
- Ask yourself, "How will this work for online students?" if you decide to start planning for the in-person learners first.

In-Person Tips:

- Decide whether it makes sense to do the in-person learning activity on a device or on paper but consider using technology as much as possible to build digital literacy skills for all learners.
- Ask learners to bring devices to class if you are not able to provide learners with a device. They can use their phones, tablets or computers to participate in online activities with online learners.
- Ask for volunteers to attend a specific in-person class if you find that your attendance is highly variable and your activity requires a certain number of in-person learners to be present.

Online Asynchronous Tips:

- Share your slides in your learning management system so that all learners, including the asynchronous learners, can access them.
- Set your polling software to asynchronous so that learners can access it if they miss class.
- Use online instructional software to find lessons that teach the content that was covered in the in-person and synchronous online class. This can be used as homework or practice for learners who choose to participate in the online asynchronous component.

Conclusion

As you begin to plan your HyFlex class, it may feel tedious. However, several teachers indicated that they found a rhythm with HyFlex lesson planning as they gained more experience. By looking for ways to use technology to engage learners in all modes, reuse materials across the modes, and focus on the objectives, you'll be able to provide instruction that leads to learners in all modes reaching the learning objectives.

Questions to Consider

1. Dr. Beatty identified four underlying values or principles of HyFlex classes. They are: Learner Choice, Equivalency Principle, Reusability Principle, Accessibility Principle

If you are exploring HyFlex, but have not yet implemented it: Choose at least two of these principles and describe how they might look in an adult education HyFlex class.

If you have already started a HyFlex class at your program: Choose at least two of these principles and describe how you are using them or how you might use them in your HyFlex class.

2. Lesson plans are an important tool to map out what learners in each of the HyFlex modes will be doing to reach the lesson's goals and objectives.

If you are exploring HyFlex, but have not yet implemented it: How might you approach lesson planning differently than what you currently do? How might you be able to reuse or build on existing lesson plans and resources?

If you have already started a HyFlex class at your program: How do you plan your HyFlex lessons? What have you found works well for you? What area(s) might still need attention moving forward?

3. Orientation is critical for ensuring that learners understand the expectations and format of the class and they have the technology skills to thrive.

If you are exploring HyFlex, but have not yet implemented it: What topics do you want to cover in a HyFlex orientation?

If you have already started a HyFlex class at your program: What topics do you currently cover in your HyFlex orientation? What topics/skills are critical to preparing learners for the HyFlex class? Are there topics/skills that need to be added?

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Section 3

Teaching in a HyFlex Class

In our interviews with adult education teachers and administrators, a common theme was the important skills for HyFlex teaching: resilience, flexibility, digital literacy, and willingness to experiment and learn. Several teachers noted that, at first, it took a lot of effort to identify technology and plan instruction. However, they found that as they and their learners became more comfortable with HyFlex, they were able to develop processes, resources, and routines to make the workload more manageable. This section highlights tips from the field for teaching in a HyFlex class.

Classroom Technology

The HyFlex model requires teachers to have strong digital skills and a willingness to experiment and learn. Two HyFlex programs shared that the technology they initially began to use for HyFlex instruction was changed because they found it wasn't meeting the needs of the learners. This required teachers to be willing to try different technology and learn how the new technology could enhance the learning experience.

Once programs were able to find the technology that best worked for their HyFlex classes, and teachers were comfortable with that technology, they often found that setting up classroom technology each day became routine and went more quickly.

Tips:

- Train learners on how to set up the technology so they can assist with readying technology before class starts.
- When possible, have training done by the hardware or software vendor or someone knowledgeable about the technology to save time learning it.

Providing Instruction

Meeting the needs of learners in two separate locations, online and in person, simultaneously requires a teacher who can be flexible while working through lesson plans. Some teachers shared that their lesson plan times ended up being different than what they expected because of needing to provide two sets of directions, troubleshoot technology, and answer learner questions. The teachers' willingness to recognize when the lesson plan might need to be adapted while teaching because of these factors is important.

At times, a HyFlex teacher may be simultaneously providing instruction to learners in all three modes: learners attending in person, those participating online, and learners who will use an online curriculum or watch a recording later. Our interviewees note that with conscious effort and practice, this type of instruction can become second nature. The balance of attention, direction, and feedback for learners in the different modes may vary, depending on the learning activity. However, engaged and equivalent learning can be achieved for learners no matter how they participate, as the example that follows from Kelly and Hill (2020) makes clear.

Example:

A teacher conducts a think–pair–share activity in a HyFlex class.

Teacher: No matter where you are in time or location, I want you to think about this topic/answer this question. Write down your ideas for one minute only.

- If you're in the room, turn to a partner and share what you wrote.
- If you're online, I'll assign you to a breakout room with two or other classmates where you can each share what you wrote.
- If you're watching the recording, press pause and add your thoughts to the discussion forum using the link below today's recording. Then come back and press play, where we'll summarize the ideas of the people who were in the live class.

The EdTech Center @ World Education has developed a series of videos showing HyFlex classes in action. These videos can be accessed on a https://www.youtube.com/playlist?list=PLIMfSiUPpWPEIO1WXA3tTebNEz31ztrUB.

The adult educators we interviewed or who have participated in our facilitated technical assistance also have suggestions, providing the following tips for HyFlex teaching.

Tips:

- Set clear expectations for learners enrolling in a HyFlex class regarding the teacher's role and attention being shared between in-person and online students, and regarding behaviors and responsibilities. For example, one teacher shared how she lets learners know that they may not get answers as quickly as if they were in another type of class; however, she fosters learner empowerment by encouraging learners to ask their peers for help if she is engaged with other learners.
- Enlist volunteers, classroom aides, or learners to help monitor online learners (e.g. chat, raised hands), troubleshoot, and facilitate small group activities.
- Establishhttps://www.youtube.com/watch?v=KcINQ7WMyYs to provide structure, eliminate uncertainty, and build learner competence and confidence.
- Encourage learners to bring a device (phone, tablet) or provide devices to in-person learners so they can interact more with online learners.
- Use learning activities and digital technology that support student engagement such as pair or small-group work, or online assessment tools in which all learners participate.
- Switch up between asking online and in-person learners for responses and questions to ensure both groups have equal opportunities to contribute and participate in class.
- Ask learners for their ideas for learning activities or how they would like to structure future activities.
- Use breakout rooms for online learners to work together in pairs or small-group activities.
- Consider ways to have in-person and online learners interact in breakout rooms by having in- person learners use headphones, go to a different location in the classroom or go to a nearby empty room during small-group activities.
- Acknowledge online learners' chat messages by repeating their answer/question or asking online learners to share their questions and responses verbally as well.
- Repeat in-person learners' questions when necessary so that all learners can hear the question.
- Model expected behaviors for both online and in person students, especially with activities or technology that may be unfamiliar. For example, one teacher reviews what types of tools (e.g., chat, raise the hand) would be most effective in different scenarios.
- Have a second camera (your computer camera or other video camera) focus on a bulletin board, chalkboard or whiteboard of important information (e.g., assignments, additional resources, key concepts, formulas) so that online learners can see the same information in-person learners see.

Assessing Learning Progress and Providing Feedback

Adult education teachers have found multiple ways to assess learning and provide feedback to learners in each of the three modes. Teachers' willingness to experiment and try new ed tech tools models digital resilience for learners. These assessments provide critical information about skill mastery for both teachers and learners. Thehttps://edtech.worlded.org/digital-skill-building-by-design-the-edtech-integration-strategy-toolkit/ can help identify digital technology used to assess learning in the three HyFlex modalities.

Beatty (2019) shares that knowledge-focused tests and quizzes can be used to assess learning in all modes of instruction. Adult educators have also found other ways to assess learning, including writing assignments, role plays, projects, and discussions.

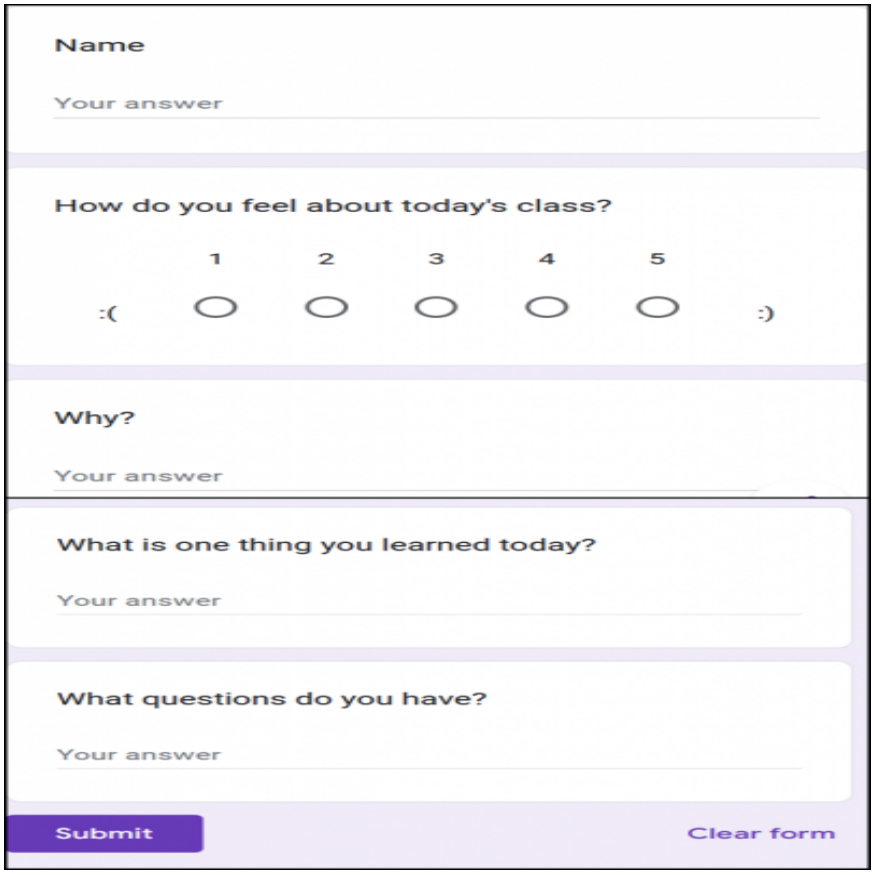
Providing feedback to learners in an in-person and synchronous online class and on asynchronous work often varies based on the type of activity. Larger class sizes may prevent individual feedback for every learner's activities. However, HyFlex teachers have found various ways to provide feedback. The EdTech Center @ World Education's https://www.youtube.com/playlist?list=PLIMfSiUPpWPEIO1WXA3tTebNEz31ztrUBincludes videos that demonstrate how one teacher assesses learning in her HyFlex class.

Below are adult education teachers' tips for assessing and providing feedback in HyFlex classes.

Tips:

- 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, https://www.google.com/forms/about/, and Socrative.
- 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.
- Consider which students, online or in-person, you need to check in with first, and reach out to them to provide feedback.
- Circulate through both the physical classroom and online breakout rooms to be available to answer questions and assess learning.
- Have all learners complete the same follow-up exercises to assess learning in each mode.
- Provide specific praise, sometimes to the entire class and at other times to individual learners, to reinforce positive behaviors.

Figure 8: Sample digital exit ticket made using Google Forms



Technology Support and Troubleshooting

Both teachers and learners may need digital technology support as they adjust to the technology demands needed for a HyFlex class. Teachers are continuously modeling digital resilience as they troubleshoot technology with learners and try new edtech tools. Teachers can explicitly share with learners how they are new to the technology, but willing to try and learn how to use it, even when things might go wrong. They can model identifying resources for troubleshooting and asking others for help.

Professional development prior to HyFlex teaching, as well as throughout the implementation, has shown to be a valuable way to increase teachers' comfort level with the multiple types of digital technology as well as to gain knowledge needed to troubleshoot when issues arise. Orientations are critical for ensuring each HyFlex learner has access to the technology needed and has the digital literacy skills needed for success.

For both teachers and learners, digital resilience is key to working through the preliminary stages of HyFlex implementation. The Digital US coalition defines digital resilience as "having the awareness, skills, agility, and confidence to be empowered users of new technologies, and adapt to changing digital demands" (*Building a digitally resilient workforce: Creating on-ramps to opportunity*, 2020, p. 6). As teachers and learners explore, learn, and use new technologies in the HyFlex class, both digital literacy skills and digital resilience can increase. Approaching the use of technology with a growth mindset and stressing that both teacher and student are learning partners models the digital resilience needed for the adult education classroom as well as future career and workforce goals. A number of resources are made available through the https://edtech.worlded.org/our-work/draw/. A full suite of professional development resources to help teachers provide contextualized digital literacy instruction will be available in 2023.

Technology support to teachers and learners varied by program size and the number of HyFlex classes. Some examples of support provided are included in the table below.

Table 3. Examples of Technology Supports for HyFlex Learners and Teachers

Learner Support	Teacher/Program Support
• Ensure that teachers know how to provide basic technology support to learners as needs arise • Provide how-to documents (in learners' first languages) that walk through the steps of logging into the video conference, LMS, and curriculum • Create screencasts of common technology tasks and post them in an LMS • Include a slide with technology directions in the class presentation and encourage students to take a screenshot or picture with their phone • Encourage peer support by pairing up learners with varying digital technology skills • Utilize vendor tech support or the program tech support hotline when available to learners	• Provide workshops or courses on HyFlex technology, teaching strategies, and common troubleshooting tips • Utilize vendor training and resources when available • Provide guidance to staff from program IT support on tech issues such as hardwiring and ongoing troubleshooting • Hire a part-time tech support person to maintain equipment and help teachers and/or learners

Conclusion

Several teachers interviewed noted that there is an adjustment time for both teachers and learners when beginning HyFlex classes. However, they also noted that both teachers and learners gained confidence as they gained more experience in this learning modality. It may be helpful to reflect on what strategies and tips resonate with you and your current teaching practices since they may be the easiest ones to first try as you begin HyFlex teaching.

Questions to Consider

1. Use of educational technology can help to engage learners in all three modes. Watch two videos (Engaging All Learners in an HyFlex Class and Using an Online Assessment Tool in a HyFlex Class) to see how one teacher uses ed tech tools in her HyFlex class.

If you are exploring HyFlex, but have not yet implemented it: What digital tools (ex. Google Docs, Jamboard, Quizlet) are you currently using in your teacher and how might you be able to use it in a HyFlex class? If you're not currently using any digital tools, what type of tool might you want to try ?

If you have already started a HyFlex class at your program: What ed tech tools have you found to be effective in your teaching? Are there any additional edtech tools that you might want to try?

2. All of the programs interviewed for the HyFlex guide indicated that planning ahead for technology support and troubleshooting during and outside of class was important.

If you are exploring HyFlex, but have not yet implemented it: Based on your program set up and the information in the guide, how might technology support and troubleshooting be provided to teachers and learners during and outside of class? What would you need to do in order to get that tech support in place before classes begin?

If you have already started a HyFlex class at your program: How are you currently providing teachers and learners with tech support and troubleshooting during and outside of class? Based upon your experiences and the information in the guide, what is working well and what might be improved?

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Section 4

Implementing and Scaling Up Flex Models

Although the HyFlex model is new for adult education, several programs have already scaled up and offer HyFlex in some or all of their classes. Other programs might draw on the lessons learned when they moved from piloting to scaling up their distance education programs; insights from those transitions can help scaling up HyFlex instruction. Much of this section draws from interviews with adult education administrators and teachers implementing HyFlex and the https://edtechbooks.org/ideal_dl_handbook (Vanek et al., 2020). It will continue to be updated as HyFlex becomes more widespread and we collectively gain more knowledge on implementation best practices.

Piloting and Refining the Model

Create an Environment that Encourages Implementation

As with distance education implementation, first attempts at HyFlex implementation should be done as a pilot activity — rather than a wholesale program-wide transition. This encourages an experimental approach that includes trial and error, with a focus on finding both what does and doesn't work.

Spend Time Planning the Components of Your HyFlex Program

As you work through this guide, you'll note that piloting HyFlex requires planning for many program elements, including learner recruitment and orientation, instructional planning, technology purchasing and training, and teacher selection and preparation. Each of these areas requires careful planning and preparation to ensure learners, teachers, and staff are best prepared to pilot this model. Guidance for this setup can mirror the activities described for setting up distance education programs and will be found in the *IDEAL Handbook* (Vanek et al., 2020). Beatty (2019) also offers a series of planning templates in the chapterhttps://edtechbooks.org/hyflex/hyflex_design.

Expect Uncertainty and Changes throughout the Pilot

While piloting a HyFlex program, there is bound to be some uncertainty for both teachers and learners. Administrators can support teachers by acknowledging that uncertainty exists when trying something new and understanding if first attempts do not match expectations (Vanek et al., 2020). Several adult education HyFlex teachers noted that having a supportive administrator — one who listens and is open to ideas, anticipates and responds to needs, and creates opportunities for sharing ideas with a team — has been essential for navigating the HyFlex model and better serving learners.

Determine Your Measures of Success

Before your pilot begins, it's helpful to determine what success will look like for learners and teachers. While positive student outcomes, such as learning gains and National Reporting System (NRS) goal attainment, are important for adult education, you may want to look at other measures of success during the pilot (Vanek et al., 2020). These may include digital literacy skills growth, digital resiliency, learner persistence, course completion, confidence in using the

technology, and additional classroom management skills demonstrated. Administrators should work with staff to determine what outcomes beyond NRS goals will be used to measure success and how to track them.

Identify What Does and Doesn't Work

Several HyFlex adult education program staff interviewed shared that they really needed to spend time to identify what works and what doesn't work, especially related to technology for in-person and online synchronous instruction. Gather feedback from learners, teachers, and staff to determine what promising practices you want to continue as you scale up your program.

Set a Vision and Develop a Plan

Building Buy-In

While adult educators have always been called on to juggle many duties to best serve learners, the ongoing shifts in instruction because of the uncertainty created by the COVID-19 pandemic have created even more demands (Belzer et al., 2022; Vanek, 2022b). Building buy-in for the HyFlex model is a critical first step before piloting to ensure that staff don't feel overwhelmed with an additional change.

Most HyFlex program administrators interviewed for this guide offered HyFlex teaching as an option, but, to build buy-in, did not require it. They spent time teaching staff about what HyFlex is, talking through the benefits and considerations for learners and teachers, and worked as a team to plan implementation. Learners provided important feedback about their interest in the flexibility that HyFlex offers and about their access to digital technology.

A team approach to planning that includes learners, teachers, administrators, and technology support staff can ensure that all aspects of programming are discussed and attended to in the pilot.

Determining HyFlex Model, Curriculum, and Digital Technology

This guide offers several different approaches for best implementing a HyFlex model for adult learners. Your program team will need to determine how to structure the three modes for your needs. It may match one of the examples in this guide or you may find you need to implement something different.

As with traditional in-person instruction, you'll want to consider how often and for how long the synchronous online class will meet. Determine the class size limits for each mode. Consider whether learners will have the flexibility to choose their participation mode daily, weekly, or by session/semester. Some agencies found that they needed to focus first on the online and in-person modes and build the asynchronous mode once those two modes were more established.

You'll want to determine what curriculum and digital technology to use for each of the three modes. Look at what education digital technology your program already has access to in addition to what other digital technology might support your HyFlex pilot.

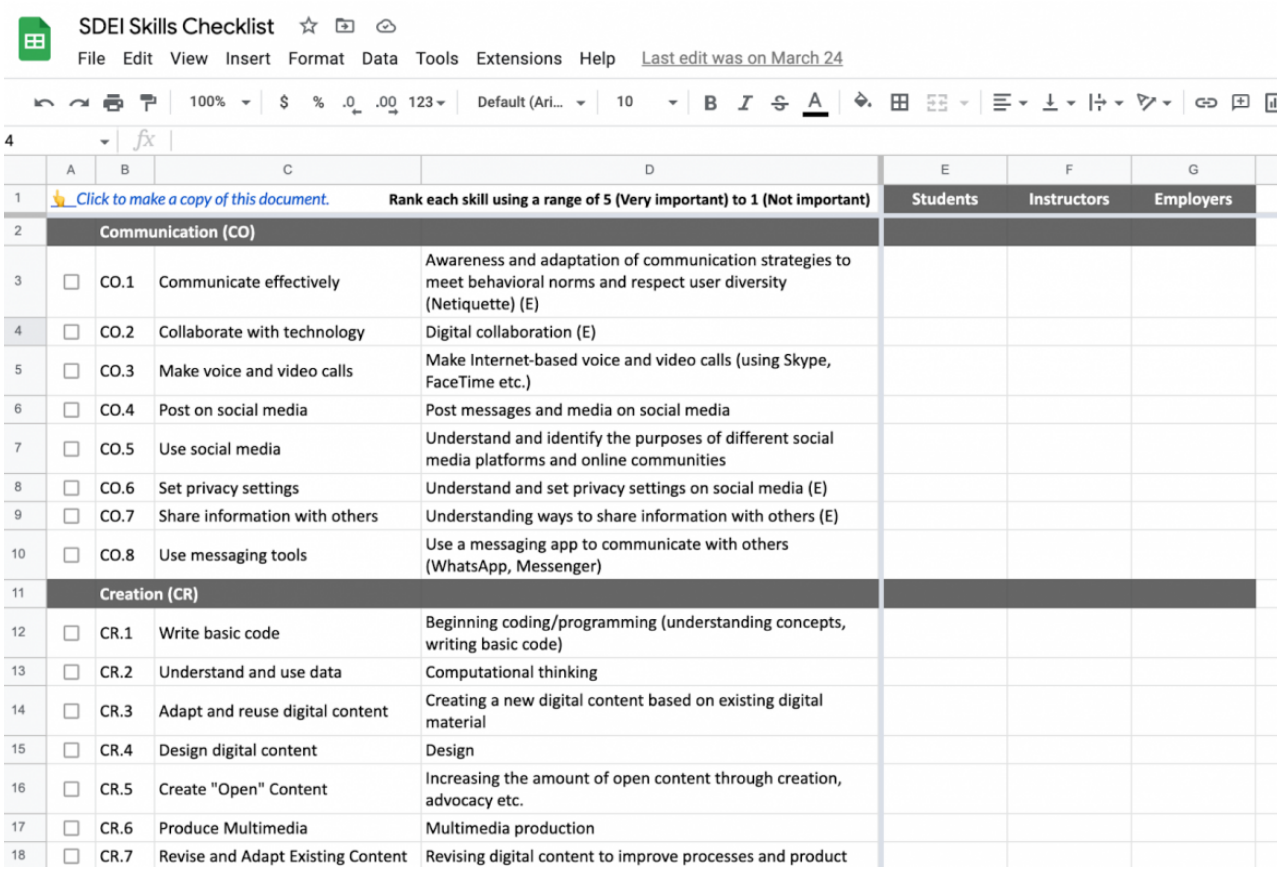
Technology Support

All the HyFlex adult education staff interviewed expressed the importance of technology support to both teachers and learners in this model, especially in the preliminary stages of piloting and implementation. Think about what resources you have available, what additional tech support could be leveraged — from the curriculum or technology vendor, and how that technology support will be available to learners and teachers throughout the pilot.

Digital Literacy, Access, and Equity

All adult education learners should be gaining digital literacy skills, regardless of which HyFlex mode(s) they choose. These skills are critical not only for success in the HyFlex class, but also for career and postsecondary success. You'll

want to consider what digital literacy skills are needed to participate in the HyFlex program and how to build those skills and digital resilience with learners. Consulting a digital skills framework lends structure to this task (Vanek, 2022a). The https://www.seattle.gov/documents/Departments/Tech/DigitalEquity/digital%20skills%20for%20diverse%20users.pdf (Wedlake et al., 2019) is one option. World Education created a checklist that teachers can use to survey the skills students need. That checklist, shown in Figure 8, could also be modified and used as a self-assessment tool, so learners can gauge their strengths and gaps.



SDEI Skills Checklist

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1		Click to make a copy of this document.		Rank each skill using a range of 5 (Very important) to 1 (Not important)	Students	Instructors	Employers
2		Communication (CO)					
3	☐	CO.1	Communicate effectively	Awareness and adaptation of communication strategies to meet behavioral norms and respect user diversity (Netiquette) (E)			
4	☐	CO.2	Collaborate with technology	Digital collaboration (E)			
5	☐	CO.3	Make voice and video calls	Make Internet-based voice and video calls (using Skype, FaceTime etc.)			
6	☐	CO.4	Post on social media	Post messages and media on social media			
7	☐	CO.5	Use social media	Understand and identify the purposes of different social media platforms and online communities			
8	☐	CO.6	Set privacy settings	Understand and set privacy settings on social media (E)			
9	☐	CO.7	Share information with others	Understanding ways to share information with others (E)			
10	☐	CO.8	Use messaging tools	Use a messaging app to communicate with others (WhatsApp, Messenger)			
11		Creation (CR)					
12	☐	CR.1	Write basic code	Beginning coding/programming (understanding concepts, writing basic code)			
13	☐	CR.2	Understand and use data	Computational thinking			
14	☐	CR.3	Adapt and reuse digital content	Creating a new digital content based on existing digital material			
15	☐	CR.4	Design digital content	Design			
16	☐	CR.5	Create "Open" Content	Increasing the amount of open content through creation, advocacy etc.			
17	☐	CR.6	Produce Multimedia	Multimedia production			
18	☐	CR.7	Revise and Adapt Existing Content	Revising digital content to improve processes and product			

Figure 9. SDEI checklist (https://docs.google.com/spreadsheets/d/1L3vL_yR56MC-xswOqaEnVmZG5ntqk3DIRyX9Q6y7OrQ/edit#gid=0)

You'll also want to consider what digital devices learners will have access to in class and remotely. The Pew Research Center (2021) reports that most Americans own a cell phone, with 85 percent owning a smartphone. However, for Americans who earn less than $30,000, smartphone ownership dips to 76 percent (Pew Research Center, 2021). Additionally, U.S. adults with less than a high school diploma are most likely, out of all educational attainment levels, to indicate that they own a smartphone but that they don't have access to a high-speed internet connection at home (Anderson, 2019). Due to the pandemic, many adult education programs have experience with device and Wi-Fi hotspot loan programs or partner with other community organizations to provide access to digital devices and the internet.

https://digitalus.org/digital-navigators/ are one way that adult education programs have found to ensure that learners have access to devices, the internet, and digital literacy skills. In addition, the new Digital Equity Act that is part of the Infrastructure Investment and Jobs Act will provide grants to states, as well as direct grants to some programs, which can be used to provide funding and resources to support access to digital devices, the internet, and digital literacy supports (National Telecommunications and Information Administration, 2022).

When looking at digital literacy, access, and equity, some questions to consider are:

- How can we ensure that learners in all three modes are gaining digital literacy skills?
- What devices are going to be required for learners participating in the HyFlex program?
- How can we support learners with gaining access to devices, the internet, and digital literacy skill-building resources?

Budgeting

Administrators adding a HyFlex model need to consider costs related to this instructional approach: instructional materials, hardware and software digital technology needed for synchronous instruction, teacher and learner technology support, and staffing. It is also important to allow teachers enough time for planning, professional development, teaching, and evaluating the pilot activities (Vanek et al., 2020).

Staff will need additional time to:

- Learn to use the technology needed for synchronous online instruction
- Choose or develop a curriculum and develop lesson plans and instructional materials for the three modes
- Post instructional materials to the learning management system
- Set up the technology before each class and shut it down at the end of class
- Participate in professional development and reflection activities
- Meet with the HyFlex teaching team to plan and reflect

Planning and professional development time provided for HyFlex teachers varied across programs. Some examples are:

- One hour of planning per three hours of synchronous class
- Thirty minutes of planning for each day of teaching
- Twenty additional hours for becoming adept with the learning management system

Some strategies to support that planning time included:

- Having synchronous classes be 30 minutes shorter and giving that time to teachers for planning
- Providing paid time for staff to come together for professional development and planning
- Hiring an instructional designer, for example, to assist with creating templates for the LMS so that teachers could adapt those rather than starting from scratch

Identifying and Supporting Teachers

Identifying Teachers

One of the keys to a successful pilot is having the right teacher(s) pilot the HyFlex model. Adult education program teachers, professional developers, and administrators who we interviewed shared that teachers needed a specific set of skills which included, but are not limited to:

- Comfort teaching online
- Willingness to try a different teaching model and technology
- Patience, resilience, and flexibility
- Ability and willingness to troubleshoot hardware and software technology

Some programs found that they needed to adapt what skills they were looking for when hiring new teachers and ensure that teachers already felt comfortable with teaching online or were willing to learn.

Just as distance learning is not for every learner, HyFlex teaching is not for every teacher. Whenever possible, teachers should be asked to volunteer, or be allowed to self-select, to try HyFlex teaching. One agency shared that they started with two highly motivated teachers who piloted HyFlex in order to learn more and identify promising practices. These

two teachers then shared their experiences during staff meetings and trainings to help other teachers learn more about the HyFlex model and see how it was working at their agency. This encouraged other teachers to consider HyFlex teaching.

Supporting Teachers

Administrators need to understand and be prepared to support the additional responsibilities that teachers will assume in piloting a HyFlex model. Professional development and opportunities to network with other HyFlex teachers before and during piloting and implementation are crucial.

Programs reported the following professional development needs and ways to provide that support:

Table 4. Examples of HyFlex Professional Development Topics and Formats

HyFlex Professional Development Topics	Professional Development Formats
• Using technology for the synchronous online class • Building a class in a learning management system • Using educational technology that engages learners in all three modes • Teaching strategies for managing both in-person and online synchronous learners • Becoming more familiar with the online curriculum (for example, if using a publisher's curriculum) • Assessing learner progress in all modes • Planning lessons for HyFlex classes • Learning common technology (e.g., apps, LMSs, video conferenceing) • Troubleshooting and strategies for supporting learners when issues arise during a synchronous class	• Weekly meetings • Special workshops focused on a certain topic • Experienced HyFlex or online teacher training and mentoring other teachers • Statewide communities of practice • Professional learning communities • Teacher HyFlex learning circles • HyFlex showcases where teachers share what they are doing in their HyFlex class • Observing another HyFlex teacher in person or via live or recorded video

The EdTech Center @ World Education has created a https://www.youtube.com/playlist?list=PLIMfSiUPpWPEIO1WXA3tTebNEz31ztrUBthat can be used to show what HyFlex looks like in an adult education class, with plans to expand this library of videos in the future. The EdTech Center has also developed a blog series and hashttps://edtech.worlded.org/strategy-session-resources/ that took place in December 2021 featuring two HyFlex teachers.

Scaling Up

As your agency learns from piloting or implementing a HyFlex pilot, you'll begin to identify ways to build your HyFlex program. You may find that as you add additional HyFlex classes, student recruitment and class orientation become more integrated with how you onboard classroom learners. As you expand HyFlex beyond your pilot group, it's important to promote organization-wide awareness of the HyFlex program so that all staff have a basic understanding of what it is and how it can benefit learners.

Conclusion

Creating a new instructional model for learners is typically neither easy nor swift. Since HyFlex is a new model for the adult education field, it's important to remember that this will require time and effort. However, early adopters to this method have found success for both teachers and learners with this model.

Questions to Consider

1. **If you are exploring HyFlex, but have not yet implemented it:** Describe at least two areas in the guide that you want to focus on as you begin to plan and implement a HyFlex class. How will you incorporate those two areas in your planning and implementation process?

If you have already started a HyFlex class at your program: Name at least one area from this chapter in the guide that you feel like your program did well in implementing HyFlex? Name at least one area you feel like you want to focus on now as you refine your HyFlex class?

2. Share at least two ways you currently do or will do to support teachers with the additional responsibilities that come with HyFlex teaching?

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Section 5

Program Evaluation

A common problem in education program design is that evaluation is left to the end of the plan or omitted entirely because its importance is often not understood. Research shows that education evaluation is particularly useful because it can provide information for data-driven decision-making to improve the program (Benedict, 1973). With new models, such as HyFlex, program evaluation and research are even more important. An in-depth discussion of HyFlex program evaluation is not possible in this guide because implementation is so new and in many education organizations, is in a pilot phase, but we will touch upon possible HyFlex program evaluation topics and some possible instruments that programs can use to evaluate their own pilots.

First, however, it is important to understand the difference between formative and summative evaluation. Formative education program evaluation takes place during the development or piloting of a new course, model or program. Summative education program evaluation takes place to determine the success or efficacy of the program once fully developed. Summative program evaluation is often conducted by an independent, objective program evaluator or evaluation organization. At this point in the development of HyFlex models for adult education, most, if not all, evaluation is formative.

Second, the beginning of a good program evaluation is a clear and agreed-upon statement of goals and objectives, especially measurable objectives. This drives what will be observed and measured. It is also helpful to have a clear vision of what kinds of decisions need to be made so that data can be collected to inform those decisions. In the case of the HyFlex model, which has four underlying principles, some of the data may be collected to determine the extent to which one or more principles are in evidence in the implementation of the model. For example, one of the principles is "Equivalency**:** *Provide learning activities in all participation modes which lead to equivalent learning outcomes,"* so as part of a formative program evaluation you may want to study the extent to which learners who choose primarily one or another of the three modes have equivalent learning outcomes. If so, it would be important to have a clear and measurable set of learning outcomes and a way to pre- and post-assess them.

Below are some topics to consider for a formative program evaluation of your HyFlex model.

Potential Program Evaluation Topics

As you think about your formative program evaluation design, you may want to engage an expert to help you with the evaluation design and also with its implementation. It is especially important that you have someone with expertise in formative evaluation, beginning with program goals, objectives, and decisions that may benefit from information (data) for decision-making for program improvement. (This, after all, is the goal for formative program evaluation.)

Here are a range of evaluation topics to consider as you think about what you want your formative evaluation to accomplish:

Teachers' Perspectives

You may wish to have teachers' perspectives on the opportunities and challenges in using a particular HyFlex model for a specific course — for example, on the challenges, including: using digital technology in the classroom and remotely; engaging both in-person and online learners, assuring that all three modes provide equal outcomes for learners; or assuring that all learners have high-quality internet connections to learn remotely. You may also wish to solicit teachers' perspectives on opportunities they have had to observe improved attendance, retention, course completion or learning gains using the HyFlex model. You may wish to have their observations about what kinds of learners they have observed are particularly successful or unsuccessful in HyFlex courses. And you will certainly want to know their overall degree of satisfaction with teaching in the HyFlex mode as compared with solely in-person, remote, or other hybrid or blended models.

Learners' Perspectives

You will certainly want to have learners' perspectives on the benefits and challenges of using a particular HyFlex model for a specific course, including: the extent to which they believe the HyFlex course has met their needs, goals or objectives; the degree to which they found particular HyFlex modes engaging or not; their digital technology challenges in the classroom and remotely; and their overall degree of satisfaction in using the HyFlex model as compared with traditional in-person, entirely remote, or other hybrid or blended hybrid models. You may wish to have a learner evaluation survey that includes a question about what learners liked/didn't like about each mode.

Teachers' and Program Administrators' Questions

Teachers and administrators may wish to know if there is evidence of learners' attainment of course learning objectives (intended learning outcomes). They may wish to see a comparison of adult learner outcomes attainment with identical or similar courses delivered as: solely in-person; hybrid; blended hybrid; or as distance education. Adult education research from two studies (Inverso et al., 2017, and Rose, et al., 2019) suggests that a combination of online and face-to-face instruction is more effective for learning than distance education or in-person classes alone, so it may be of interest to replicate those evaluations in their program. Teachers and administrators may be interested in learner participation patterns, for example, data on learners' use of each of the three HyFlex modes, or evidence of learner participation in in-person compared with synchronous online and asynchronous online discussions. Program administrators who chose the HyFlex model in part because they hoped to be able, with limited classroom space, to serve more learners, might be interested in knowing about the HyFlex program's ability to serve more students versus an in-person only model. Many teachers and administrators will also be interested in a comparison of learners' performance among those using different participation modes.

Potential HyFlex Program Evaluation Instruments

The HyFlex model presents many possibilities for observation and measurement instruments, some of which can be administered in more than one mode. Among these are oral or written learner surveys; learner or teacher focus groups; case studies; online or in-person quizzes, tests or written exams; and systematic teacher direct-observation checklists. In addition, some programs may want to consider competency-based direct performance measures for certain curriculum learning objectives, or direct unobtrusive measures, such as; attendance in the in-person and online synchronous modes; hours automatically logged in in the asynchronous mode; or times learners answer questions or make comments in the online or in-person mode.

Conclusion

As Brian Beatty (2019) has noted, HyFlex instructional formats are relatively recent in higher education. They are newer still in adult foundational education. In his chapter on evaluation, he has summarized some of the findings on HyFlex in higher education, and some of these may be relevant to adult foundational education HyFlex programs. As of this writing, there have been no published formative or summative evaluations of HyFlex models in adult foundational education. We hope that in future versions of this guide we may be able to report differently.

Questions to Consider

1. For what goals, objectives, questions, or decisions do you need data in order to continuously improve your HyFlex model?

2. For each of these, what kinds of data will need to be collected and how do you plan to collect it?

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Section 6

Hardware and Education Software Application Choices

We have included a lengthy section on hardware and education software applications because the ease and effectiveness of the choices you make can affect teachers' ability, effectiveness, and willingness to use the HyFlex model. Keep in mind, however, that new — and potentially less expensive — solutions may be developed, so it is a good idea to check with others about the hardware and software applications they are using for HyFlex, especially if they have found them effective.

Considerations for Hardware and Software Application Purchases

The following questions are useful when planning a HyFlex program. A planning team should be able to answer them *before* purchasing or otherwise obtaining hardware or software applications.

- *Purpose.* What do you want your HyFlex model to enable you to do, or do better?
- *Learners' remote internet access.* What kinds of access do your learners have to the internet at home? Do they have affordable high-bandwidth access? If not, can you help them to get this essential tool for the HyFlex model?
- *Learners' digital literacy skills.* Do your learners have, or can you help them acquire, the digital literacy skills needed to comfortably and competently use a HyFlex model?
- *Technology budget.* What is your budget for hardware and software applications? What is the potential for additional funding to purchase more or higher quality hardware and newer software applications?
- *Piloting a program first.* Can you pilot a HyFlex model in one or two classrooms, with a few teachers, before you scale this up? If so, your initial hardware and software applications budget may be smaller than your scale-up budget.

Hardware

While specific hardware items for your program cannot be recommended in a guide intended for many kinds and levels of HyFlex programs with different budgets, here are several kinds of hardware to consider.

- Desktop or laptop computer, possibly with an additional external monitor
- Hardware and software to capture and video-record a combined in-person and synchronous remote class
- Display hardware in the classroom, such as electronic whiteboards (smartboards)
- Audio hardware in the classroom, such as microphones, speakers, and headphones
- Personal digital devices for learners in the classroom, such as desktop computers, laptops, Chromebooks, tablets or smartphones
- Hardware for learners logging in remotely, such as desktop or laptop computers, Chromebooks, tablets, and headsets
- A document camera

Each category of hardware has a wide range of price points. Included below are a variety of solutions to consider, from low-cost (under $1,000); to mid-range; to high-end options ($20,000 to $30,000 per classroom).

Low-Cost Solutions

A laptop computer or smartphone is placed on a stand or tripod, with a built-in camera aimed at the instructor. Advantages are that this is inexpensive, you may not need to purchase any video hardware, and little if any teacher training is needed. Disadvantages are that careful placement is needed of multiple wired and wireless microphones and speakers to assure that online and in-person learners can all hear the teacher and each other. Also, unless the classroom is dedicated to HyFlex use, it can be time-consuming for instructors to set up and take down the hardware after each class.

A variation on this solution could include a second laptop or smartphone with a built-in camera aimed at the learners.

Mid-Range Solutions

An all-in-one tracking camera with speakers and microphones or combination speaker and microphones such as JABRA speak is widely used for HyFlex, and several of these are in the $300–$1,500 range, for example: *Logitech PTZ;* OBSBOT; SWIVL; Meeting Owl, Meeting Owl Pro and Whiteboard Owl (Meeting Owl Pro is intended for larger rooms) and Panopto (licensed with an annual subscription).

Some of these devices — the Meeting Owl, for example — have built-in microphones and speakers that are fine for small classrooms. Larger classrooms, however, may require two Owls, and an Owl Connect system. Some all-in-one tracking cameras are easy to learn and use; others may be more complex. Disadvantages may be that some cameras in this range are slow-tracking, and that large, and/or high-ceiling classrooms without sound dampening may not enable online learners to hear everything.

High-End Hardware

High-end hardware may include: a permanently installed ceiling-mounted, wide-angle camera that affords instructor tracking; a permanent wall-mounted, wide-angle camera tracking system; or a permanent two-camera system in one unit (wide-angle Instructor tracking of motion and voice). These are more expensive solutions but, in some cases, are less complicated for teachers to operate.

What To Consider Before Outfitting a HyFlex Classroom

Implementing the middle- and high-end options requires a financial investment that might not be achievable for a resource-constrained program, and choosing a low-end option might not be feasible because it does not support the activities that your learners need to be engaged in learning. Before you commit to any of these approaches, consider these questions:

- Do you have the bandwidth to support all the in-person and online learners on the internet at the same time?
- Does your audio solution (microphones and speakers) enable in-person and online learners to easily hear each other, to hear their teacher, and their teacher to hear them?
- Do you have headsets for in-person learners, and possibly also for online learners?
- Do you need room soundproofing?
- How will you video-record the class (e.g., a desktop or laptop computer with a built-in camera, or a camera that tracks the instructor's voice or movements and, when speaking, a learner's voice)?
- How complex is the hardware you propose to use for the teachers' technical capabilities?
- What kind of tech support is available to teachers?
- Are tech support staff people available to come to the classroom?
- How familiar are tech support staff with your proposed HyFlex hardware?
- Do tech support staff have experience providing training or professional development to (especially part-time) teachers?
- Is professional development training available to teachers to use the HyFlex hardware and software applications?
- Do you have a hardware maintenance plan?
- Do you have a hardware repair backup plan (e.g., at least one set of back-up hardware, especially if your program might need to send hardware to the manufacturer for repair)?

How To Learn More about the Various Hardware Options

We have just touched on hardware options you might integrate into your HyFlex programming. There are ample and, increasingly, more resources available online. You can:

- Look at the short videos linked to in Appendix A of this guide.
- Search YouTube to see videos of how a particular piece of equipment is used in a classroom.
- Search the internet for hardware comparisons, such as this comparison of several kinds of classroom tracking cameras.
- Look for videos on a product website that show how the hardware can be used, such as Catchbox Plus, a microphone that can be thrown to in-person learners to respond to a question.

Software Applications

Having hardware is just the start. You also need to choose the software applications required to deliver instruction and engage students in learning activities. Considering applications can be overwhelming, but the following list offers essential types of apps that will get you started.

Video Conference Applications

Online meetings are key to supporting remote live instruction. Zoom, Microsoft Teams, GotoMeeting, Google Meet, BigBlueButton, BlueJeans Meetings, or Zoho are all used in adult education programs. This independent review evaluates several of these.

A Learning Management System (LMS)

An LMS can be used as a home base for all HyFlex instruction. You can share links to your videoconference tool and specific meetings, post links to key engagement tools, such as Jamboard or Wakelet, or store your asynchronous online curricula, which might include an online version of your in-person curriculum, open education resources, and free lessons developed by others. A promising resource for standards-based free and commercial curriculum in adult foundational education is CrowdED Learning, an initiative of the EdTech Center @ World Education. It includes SkillBlox, which may be a useful resource for building or adding to your HyFlex LMS. Popular learning management systems used in adult foundational education include Schoology, Canvas, Moodle and, though not a robust option, Google Classroom.

Content, Course, or Curriculum Management System (CMS)

Curriculum Management Systems, or licensed and purchased curricula, might also be a key instructional component of your HyFlex course. If aligned with the objectives of your in-person instruction, commercial or proprietary content — such as Burlington English, EnGen, USA Learns (free), GED Academy, and many other online course or curriculum products — can serve as the asynchronous mode in your HyFlex model.

Website Builders and Hosts

If you want to create a website to store links to assignments, additional learning resources or links to recorded videos of your HyFlex classroom that you may have stored elsewhere, for example on YouTube or Vimeo , there are free or relatively inexpensive website creation sites — such as Google Sites, Weebly, Wix, Site123, Jimdo, , and Webstarts — that do not require knowledge of Hypertext Markup Language (HTML). You might instead choose an option, such as using Wakelet, to organize linked resources. It's important that any recordings are private and not available to the public or an internet search to protect the privacy of learners.

Operational Software

You may also need software to help you operate the hardware you've chosen, either from a computer or other remote device. Some tracking cameras, for example, have computer settings that allow teachers to track only themselves, or to track themselves and their learners. Many electronic whiteboards (smartboards) allow teachers to share content from a computer. These require accompanying software. In some cases, that software is included with the hardware; in others, it must be purchased separately.

Conclusion

We have included a lengthy section on hardware and education software applications because the ease and effectiveness of the choices you make can affect teachers' ability, effectiveness and willingness to use the HyFlex model. However, less expensive solutions may be offered at any time, so it is a good idea to check with others who are using a HyFlex model about the hardware and software application they are using, especially if they have found them effective.

Questions to Consider

If you are exploring HyFlex, but have not yet implemented it: In addition to reading the chapter in the guide, watch the two HyFlex technology tour videos (Pima Community College and Hubbs Center). What hardware and software will you need to offer a HyFlex class? How will you learn more about your options and gather information to inform what technology you will use?

If you have already started a HyFlex class at your program: What hardware and software do you use to offer your HyFlex class? What is working well and what might be improved or changed?

Section 7

HyFlex Program Vignettes

These vignettes share examples of how adult education programs use of HyFlex classes to meet the needs of their learners. We appreciate these dedicated adult educators' time and willingess to share their successes and challenges. As early adopters in offering HyFlex, their experiences can help inform your work as you explort adding or improving HyFlex classes for your learners.

Click on the table below to reach each vignette.

7.1 Leveraging HyFlex To Scale Professional Development

Bureau of Adult Education, New Hampshire Department of Education

Sarah Wheeler (Administrator)
Bureau of Adult Education, New Hampshire Department of Education

Description of program and learners

New Hampshire's Bureau of Adult Education supports 29 school districts and eight community-based organizations providing AEFLA (Adult Education and Family Literacy Act)–funded adult education programming. Many have implemented HyFlex instruction to some extent and state administrator Sarah Wheeler hopes more will do so in the future. To that end, she uses the HyFlex model to deliver professional development (PD) opportunities for New Hampshire's adult education practitioners, helping familiarize them with the approach in the process. Previously, the state had offered PD through in-person workshops with live streaming, which shifted to either asynchronous online courses or live remote trainings held via video conference during the early days of the COVID-19 pandemic. This experience showed the potential of the HyFlex approach to scale PD, making it more flexible and accessible to teachers who would have had to travel a great distance to attend in person, or who, because they were part-time educators, may not have had time to attend full-day workshops.

HyFlex in Action: Course and Instruction

Sarah planned to use HyFlex PD to support teachers in important initiatives, such as Career Navigator training, and for training new program directors on topics such as data-collection and organization. She recorded training activities at director meetings or when she provided one-off technical assistance which allowed her to add the recordings as an asynchronous learning activity in Canvas.

The HyFlex PD in New Hampshire was based on use of asynchronous courses in Canvas paired with some in-person or live remote training. Sarah had been live-streaming in-person sessions for four years. For her asynchronous mode, she was working to organize the video recordings of these sessions in Canvas, and, using an application called Kaltura, to embed interactive activities that allowed her to assign and monitor consumption of the recordings.

Planning

Sarah reported that planning time was similar to what is needed for traditional models, except for the initial time needed to figure out logistics. For the HyFlex PD, she started by identifying learning objectives and first planned how teachers could reach them through online asynchronous activities. While she planned the asynchronous work, she considered equivalent synchronous activities, attending to whether all participants could accomplish the objectives in the same amount of time. Sarah strived for equivalency, but not for the same experience. She noted that presenting was different when addressing attendees in two modalities and that, without adequate planning of synchronous audiences, it was

easy to neglect the online participants. She also noted that having some pre-work for all audiences helped people arrive with a shared context that helps sustained engagement.

Delivering Instruction

Sarah went through presentation slides live and then posted everything in Canvas (slides, resources, and recording). To support engagement in the live session, she had a teaching assistant monitoring chat and sharing documents. She placed the speaker in the middle of the room and used a wide-angle camera. Online attendees could see in-person participants and they, in turn, could see and hear the online participants, who were projected on a screen through a Zoom connection using an external camera. Sarah used many breakout room activities to support collaboration, as well as Jamboard and Poll Everywhere. She embedded answers to the polls and Jamboard into the final version of the presentation slides that got posted for asynchronous participants.

Technologies

The software that made this approach possible was Canvas, Kaltura, Jamboard, Google Apps, Zoom, Poll Everywhere, along with the quiz applications Kahoot and Factile. For hardware, Sarah used what she considered to be a middle-of-the-road approach: two 85-inch displays in the training room, a 70-inch touchscreen, an EagleEye Cube Camera, and a Poly Studio X70 audio system. She could afford to buy the technology because she had spent less on in-person training throughout the pandemic, which freed up funds.

Technical Support and Training for Teachers and Learners

New Hampshire Department of Education PD staff offered some professional learning opportunities for the state's adult educators and Sarah took a course to learn how to craft model HyFlex PD to serve as an example for the teachers.

Implementation: Lessons Learned

Implementation to date has shown early success. Participation in PD dramatically increased because teachers had more flexible options. As analytics become available after full integration of Kaltura in Canvas, Sarah will be able to collect more detailed information about engagement in asynchronous mode. She wants to integrate badging to track engagement and progress.

Benefits

The main benefit Sarah observed was more flexibility. Building asynchronous options also created an archive of materials that could be used as just-in-time technical assistance. The structure in Canvas made it easy to have reference guides (her slides) ready and Kaltura supported accessibility by providing transcripts and indexing through keyword search of video transcripts, helping teachers find what they needed.

Sarah also changed how she thought about PD activities. Rather than continuing to rely on full-day workshops, she began to divide training into smaller, more manageable chunks offered more frequently. This resulted in additional archived material for technical assistance. This targeted and flexible PD positively impacted program- and state-level performance.

Challenges

When Sarah was getting set up, she found waiting for the required technologies inconvenient. It also took time to learn to use Canvas and build the courses. She was concerned about the digital literacy and access of the teachers, and, though she has done much to mitigate lack of access, she still had teachers unwilling to make the shift choose to opt out.

7.2 HyFlex To Support Independent Learning

Santa Barbara City College, School of Extended Learning

Patricia Mautone (Teacher), Monica Campbell (Teacher), and Sachiko Ozaki Oates (Administrator)
Santa Barbara City College, School of Extended Learning, Santa Barbara, California

Description of program and learners

Santa Barbara City College (SBCC) is a mid-sized city college with robust adult foundational education offerings; indeed, the college's origin was as an American Federation of Teachers program. It is a federally designated Hispanic-serving institution. The Adult High School, GED (General Educational Development), and ESL programs serve around 1,500 students a year, with 30–40 students in one classroom.

HyFlex was adopted for the Integrated English and Training classes and Adult High School and GED classes, in part, to boost enrollment numbers in the midst of the pandemic.

Recruitment and Orientation

Sending email and texts to students about new opportunities was the primary method for recruiting learners. Administrators also placed ads on Facebook and posted fliers. All communications emphasized that classes were available either in person or remotely and were available any time of day, using any modality. An exit survey was used to do outreach for new classes.

Instructors provided new students with orientation on classroom materials and class logistics. The college student services office informed new students about institution-wide resources before they came to class.

HyFlex in Action: Course and Instruction

Administrator Sachiko Oates noted that the use of HyFlex grew organically; SBCC used it to extend the modality of instruction as students demonstrated a need for new ways of participating in learning. Ultimately, the content and the technology used to deliver that learning was determined by what teachers understood would work best for students.

Planning

Program leaders had a very flexible approach to how they planned HyFlex instruction. SBCC's adult secondary courses are open-entry/open-exit. In all HyFlex offerings, there was an emphasis on student independent learning, where technology was leveraged to support student collaboration and, when guidance was needed, connection with the teacher. Students who needed to be in the same physical space with the teacher to access that guidance — because they lacked access to technologies or the comfort and skill level to use Zoom — came on campus. Some students had noisy home environments, so attended in person. Teachers were flexible about how collaboration happened online, so students who would rather work from home had an opportunity to participate in breakout rooms. This worked well for parents, who may have had to step away periodically to check on children. In the IET class on environmental horticulture, the ESL co-teacher provided extra language support to students on Zoom, though some students choose to attend in person.

Delivering Instruction

Teachers reported that they had to organize class time differently, allocating some time to work directly with classroom students, some time with the Zoom students, and some time to work with both simultaneously. Three strategies were key to their success: setting up classroom routines that students understood; having assignments and materials available that students could readily work on individually while the instructor worked with others; and assuring students that they could ask for help at any time if they got stuck or had a question.

The Integrated English and Training class had 10–15 learners and was co-taught by an ESOL instructor and a content specialist in environmental horticulture. The teacher emphasized whole-group activities in the first part of class. In the second part, students worked together in small groups. Each class followed a similar routine. The teacher started class with a speaking activity focused on a topic relevant to the class. Students then worked on a short dialog, practicing focal grammar or discourse strategy. Next, students focused on vocabulary and pronunciation. The teacher used Newsela or Burlington English for asynchronous or extended learning.

The Adult High School (AHS) and GED class was also structured by a routine. That class met four days a week for four hours, with two of those days set up for HyFlex. The first hour included an opening activity, then an introduction to new content, followed by independent work in the classroom or a breakout room. (In either space, learners received personalized instruction from the teacher or a teaching assistant.) Assigned work was drawn from a range of online learning platforms or classroom materials and assigned to students to meet their learning needs. Those resources included Edmentum, Aztec, Reading Plus, or printed books in the classroom. One of the tasks of the teaching assistants was to note down questions students asked so that the instructor could personalize learning.

In the second hour, students worked on math. There was one dedicated Zoom breakout room for at-home students who wanted to hear whole-group instruction on a math concept. The teacher led this from a podium computer. Others stayed in a Zoom breakout room for independent work. The teacher used both room and Zoom whiteboards to support instruction or to review an assigned Aztec lesson or prepared Google Slides. This part of the class focused on working out math or grammar problems together. This process and setup were repeated in the third hour, with content from a different subject area. The final hour was reserved for classroom students to get more personalized attention while online students worked independently or vice versa. Asynchronous assessments were considered an aspect of independent learning for this class.

Technologies

The key technology noted by the interviewees was Zoom, especially breakout room and whiteboard features. The IET class used a “high-tech classroom,” featuring 16 microphones and multiple cameras that captured in-person students’ voices and movements throughout the space. The teacher also made use of laptop webcams and a document camera. This setup created a more “normal” classroom community across modes and resulted in seamless communication, including non-verbal.

The AHS/GED class had three webcams: one built into the teacher’s personal laptop, one at the podium computer, and one at a secondary desktop computer the teacher used to monitor when students entered the main Zoom room. The physical classroom also had a projector with adjustable audio that allowed the instructor and classroom students to hear what Zoom students were saying. Classroom headphones or earbuds helped minimize noise and allowed some privacy when talking to students in the Zoom classrooms; this also allowed in-class students to focus on multimedia presentations while other students participated in discussions and lessons on other subjects.

Digital resources used as content for instruction included comprehensive online curricula: Edmuntum, Aztec, Reading Plus, and Burlington English. The teachers also made use of Newsela, Google Slides, scanned worksheets, readings, essay prompts, and quizzes.

Technical Support and Training for Teachers and Learners

Tech Support

The SBCC IT department supported installing and maintaining the equipment and the bilingual IT help desk staff helped students and instructors with access and other technical issues. SBCC provided free Chromebooks and internet hotspots for registered students. Students got help from Student Support Services and instructors on how to use the Chromebooks and how to access emails, enrollment applications, and other tools.

Teacher Training

Sachiko noted that she paid close attention to faculty to provide what they needed but tried to not overwhelm them. She looked out for opportunities to provide technical support or training on topics such as pedagogy, equity, accessibility, or specific devices or software. Her goal was to make everyone feel like they were on the same team. The teachers confirmed that this supportive approach has helped. One teacher said, “Having a supportive manager who listens, is open, who anticipates and responds to needs — plus creates opportunities for us to share ideas and feel like part of a team — has been essential in helping us to navigate all this and serve our students better.”

All three interviewees observed that teachers new to HyFlex benefited from working with a mentor, an experienced HyFlex instructor who could show them strategies. Teachers need to have a disposition to take on new ways of working and be ready for change; they also need to be aware that teaching in HyFlex requires different interaction and engagement strategies. The interviewees noted that educators should be familiar with Zoom and other technology tools, know how to provide accessibility options for students who need alternatives, and need to know how to communicate clear expectations and instruction.

Implementation: Lessons Learned

Information gleaned from student exit surveys and more casual feedback informed the shape of the HyFlex work at SBCC. SBCC staff reported that enrollment had increased since HyFlex classes were implemented. More students returned to learning, particularly students with disabilities, older students, and Latino male students. Learner persistence also improved, an important metric in this open-enrollment program. Not only were students returning each day, but they were also recruiting family and friends. Students also made learning gains.

Benefits

HyFlex fits SBCC’s prioritization of personalized learning well. Teachers relied on data from educational software and used that information to review progress and discuss challenges with students (e.g., “Looks like you are doing great on questions about the main idea, but let's review strategies for how to make inferences”). The flexibility of the synchronous learning modes made it possible for learners who might otherwise stop out to persist.

Challenges

Assessment was challenging. Teachers tried a variety of methods: creating quizzes in Google forms, scanning and sharing paper quizzes with instructions for students to show their work, and giving oral quizzes when going over work together.

Although they appreciated the flexibility for their students, teachers noted that there were trade-offs: they could get spread too thin and students online sometimes needed to wait their turn to get help. Teachers needed to constantly keep in mind that they were dealing with two audiences at a time and needed to build in practices to make this transparent to students and to better signal what was happening in the classroom (e.g., “I’m going to step away from the video for a few minutes to help someone, but will be right back; keep on working on that problem”). The instructional aides helped alleviate this issue.

7.3 High-End HyFlex Hardware and Tech Coaching for Teachers

Pima Community College Adult Basic Education for College and Career

Vi Hawes (Teacher and Ed Tech Coach)
Pima Community College Adult Basic Education for College and Career, Tucson, Arizona

Description of program and learners

Pima Community College (PCC) Adult Basic Education for College and Career prepares learners for success in college, career, and life by providing high-quality, relevant instruction based on individual learner needs. PCC empowers learners to achieve their academic and personal goals and provides workforce preparation. As an open-admissions community college within the diverse setting of Pima County, Arizona, PCC provides comprehensive and flexible life-long learning opportunities to promote learner success and to empower every learner, every day, for every goal.

The program piloted its HyFlex model beginning in July 2021, although not all classes utilized HyFlex. There were in-person classes for lower-level learners. They were adding more HyFlex; however, some classes were purely virtual. Teacher/Ed Tech Coach Vi Hawes had told her virtual class that they were going to pilot a HyFlex model. All learners first joined virtually before attending in person, which helped them transition from virtual to HyFlex.

Recruitment and Orientation

Students could call and enroll at any of the three learning centers and then take a placement test to determine their classes. During this onboarding process, Student Success Coaches and other instructors provided support to students. In addition, students were introduced to the college's LMS, D2L Brightspace, their school email accounts, and exclusive student resources and privileges.

HyFlex in Action: Course and Instruction

Planning

The HyFlex program used a curriculum made for a traditional in-person classroom and adapted it for the HyFlex model. To make it equitable — the same instruction provided to both in-person and online synchronous students — all students used worksheets provided remotely through their D2L LMS.

Delivering Instruction

For group work, in-person learners had laptops or other digital devices with microphones. The group work was all done online in real time. Everyone was in breakout rooms. Vi paired in-person learners with online learners. Although there were some audio feedback challenges at the outset, these were worked out. When her learners were all virtual, they had been accustomed to working in breakout rooms together. The HyFlex model had a similar feel, so for those who were originally doing remote learning, this was not a challenge. The only hurdle was the logistics — getting used to the equipment and getting comfortable multitasking.

Learners in the HyFlex program could choose and move fluidly among in-person, synchronous online, and asynchronous online instruction. Using Picktime scheduling software, learners reserved an in-person spot if spots were available. Vi opened ten slots; sometimes only five were reserved. Before each class began, Vi checked the equipment. She turned on the synced speaker/microphones. If there were synchronous online breakout groups that day, she prepared them. She made sure Zoom information was up and that learners had what they needed to log in. She made sure she had working headphones for in-person learners.

Before a session began, Vi told or messaged both in-person and online learners about where to find the Zoom link, since both needed to log in to Zoom, and she reminded them of the time the class session began. After allowing five minutes for the online learners to come in and get settled, she informed learners that she was recording the class. She then shared her screen for learners to see online and in person, on the classroom smartboard or on their personal digital device. After breakout sessions, everyone came back together and reviewed what they had learned. Vi described and sometimes demonstrated the homework, showing how learners could access the assignment. Finally, there was an informal formative assessment to check their understanding in which all the learners were in Zoom and visible on the screen.

The first HyFlex cohort had a volunteer to help in-person learners so Vi could focus on online learners. The volunteer also helped online learners by monitoring the chat. Without a volunteer, Vi asked a tech-savvy learner to monitor the chat. Volunteers and some learners also assisted other learners with the technology. Vi regularly used Google Slides for both in-person and online learners. She provided both groups with notes for grammar and exercises. What was projected in class was shared on-screen for online learners. Physical copies *and* digital copies were available. Everyone had access to the slides and to video recordings of classes.

Technologies

For hardware, the program used Smartboards, wireless speakers, Jabra Bluetooth speakers with surround sound and microphones installed, and an OBSBOT classroom tracking camera. Every in-person learner used a digital device (laptop, tablet or phone) and Zoom, D2L Brightspace, Burlington English, Odysseyware, EdReady, and Picktime Scheduling for software

All classes had electronic whiteboards, SMART boards, connected to the teacher's computer. The SMART board could project anything that was on that computer. Vi placed two synced SMART boards in separate parts of the room which, she said, worked great for both in-person and online learners, with no audio feedback issues, and no lag. The OBSBOT tracking camera followed her and tracked her voice. It was positioned at the front of class. It could be set to show the learners, too, or not to follow anyone. Other HyFlex classes used additional equipment, such as a Logitech camera at the back of the class. There were SMART boards in each classroom, at the front and back.

Vi offered these two technology tips:

- Be sure wireless speakers are charged at the end of class session
- Don't move too fast in the classroom with an OBSBOT camera, as it may not be able to follow you

Technical Support and Training for Teachers and Learners

Tech Support

Tech support was provided by the College's IT team. They provided the equipment and helped in using it. The college loaned laptops, iPads, and hotspots to learners. Help was specifically provided for the HyFlex pilot classes. Learners also received tech support from the college — for example, through in-person "Tech Corners" — to troubleshoot issues on learners' personal laptops or smartphones.

Teacher Training

Vi found that some teachers and learners needed more digital literacy and training, including about computer basics; their lack of these skills, she learned, took time away from teaching. Teachers were concerned about the HyFlex

learning curve. She would like to see the administration provide more workshops and training for reluctant teachers. Vi demonstrated equipment and also enabled teachers to talk about how they could adapt it. She believed that teachers needed support in using the equipment and implementing it in their classroom. They needed to know HyFlex best practices and more about andragogy. Specifically, they needed to know how to balance in-person and online modes of HyFlex. As a HyFlex coach, Vi was able to demonstrate the technology. She also offered online office hours for teachers. HyFlex demonstrations and discussions were also offered in teachers' professional learning groups. Vi found that video recordings of HyFlex classes were also useful. (See links to our HyFlex video series which features Vi as one of the teachers.)

Implementation: Lessons Learned

Data Collected for Program Improvement

Vi conducted a learner survey in the middle of the class term. Learners reported that they liked the flexibility and engagement in both modalities. She also surveyed them at the end of the pilot about how to make the next HyFlex term(s) better. She asked about how often they attended class, their mode preference(s), what events in their lives prevented them from attending class, the device(s) they used, their internet connection reliability, and their needs for learning resources. Some staff at the college were looking at comparison data. All Vi's students completed her classes — evidence, she believed, that the HyFlex model was working.

Benefits

Benefits for the program included the use of specific hardware and software, particularly the online platform and online curriculum; learning assessment; higher learner attendance and retention; and increased learner digital literacy skills.

Benefits for learners included flexibility — the ability to choose learning modes based on learning preferences and lifestyles, and being able to easily switch from online or in-person mode.

In one of the HyFlex pilot cohorts, no learners wanted to come in person — most likely, Vi surmised, because of the COVID Delta variant. When they did come in person, she thought it was to see their classmates, because they were more engaged (even wearing masks) in person and because there were fewer complicated technology logistics, so learning was easier.

Challenges

Challenges included the need for professional development and training specific to the HyFlex model; resistance or reluctance by some staff to use HyFlex; classroom management when dealing with both in-person and online learners; engaging both in-person and online learners during class; onboarding learners; and technology support for teachers and learners. Vi noted that additional planning was needed on top of the normal time teachers allotted for planning and developing curriculum.

7.4 A HyFlex Model that Engages All Teachers — and All Staff — From the Outset

Mesa Adult Education Program

Christine Niven (Administrator) and Jennifer Duclos (Instructional Support Specialist)
Mesa Adult Education Program, Mesa, Arizona

Description of program and learners

Mesa Adult Education is a school district-sponsored grant-funded program with state-administered WIOA (Workforce Innovation and Opportunity Act) Title II federal funding from the Office of Career, Technical, and Adult Education in the U.S. Department of Education, and with state funding through the Arizona Department of Education. In March 2022, the district offered ABE/HSE (Adult Basic Education/High School Equivalency), ESL, Integrated English and Training (IET), and Integrated English Literacy and Civics Education (IELCE) classes. The average class size was 8–10 students, but ranged from four to 18 students.

The HyFlex program pilot began in May 2021 with five teachers. HyFlex was subsequently implemented program-wide, beginning in August 2021. All three modes — in-person, online synchronous and online asynchronous — were offered, although the asynchronous-only option was strongly discouraged because the courses were not yet designed for students who had not already attended one of the synchronous classes, either online or in-person. There were, however, a small number of students who primarily did asynchronous homework. There were 20 HyFlex classes, not including IET classes. Learners met for three hours twice weekly. They could choose day-to-day whether to attend class in person or online.

By August 2021, all twelve HSE and eight ESL classes were using a HyFlex model. Just under 300 learners each term had been enrolled in these classes. Students could go to an open lab during day and evening class times to get extra help online or in person if they weren't attending class at that time. HSE preparation classes and a lab were each offered one day a week. All 16 part-time teachers were teaching HyFlex classes.

From the point at which potential learners indicated interest, they did everything in a HyFlex way — filling out paperwork online, attending orientation class online or in person, doing homework in Google Forms, and learning about how the program worked by watching embedded videos.

Recruitment and Orientation

Administrator Christine Niven noted that the HyFlex model was used for all enrollment, whether in person or online, including via Zoom or Webex. The entire orientation/onboarding system was overhauled. Tech help was provided and as the last piece of an orientation, learners were required to come for a "Readiness for Class" session. Learners brought their device and got all the necessary apps and programs loaded on their device. The orientation leader made sure they could get into Remind, Webex, Odysseyware, Burlington English, and other tools. Most learners understood right away how to do all this, though others learned more gradually. Doing orientation in this way gave new learners a chance to learn and practice the needed skills in a structured and gradual process. It also allowed the program to assess which

learners might need more tech support and tech skill development before joining classes. Learners then had the option to assess using National Reporting System tests remotely or in person.

All learners were strongly encouraged to attend the first week of classes in person. Instructional Support Specialist Jennifer Duclos noted, "Everybody got on Canvas and on Webex together; some learners did only remote, though they were not encouraged to do so. The few learners who were remote only were asked to come in person to the required 'getting ready for class' workshops."

HyFlex in Action: Course and Instruction

Planning

From March 2020 to May 2021, the program offered five eight-week terms of emergency remote teaching. At this point, the program had few tools to help students learn remotely and even fewer to learn asynchronously. Teachers focused on rebuilding their learning community through synchronous online classes, which, Jennifer commented, showed how unprepared they all were to teach this way. Most teachers did not initially have the necessary skills to implement a HyFlex model. Slowly, she said, they added in more asynchronous work using Odysseyware, EdReady/NROC and Burlington English, and then even more as the state set up the *Teacher-Verified Model* system to use a broader range of materials and content asynchronously for time credit.

Jennifer felt that having an entirely part-time teaching staff made it challenging to develop synchronous planning because teachers did not necessarily have as much time and energy to devote to learning a new instructional style. With many instructors only teaching one or two classes — only 6–12 hours of class time per week — experience, experimentation, and learning happened at a much slower pace than if they were full-time staff with more working hours per week. .

After doing primarily online classes with Emergency Remote Teaching (ERT), getting teachers comfortable with in-person again was problematic; they had to re-think what to do in the in-person classroom. It was a challenge to balance the modes. Jennifer said that some teachers indirectly indicated to students the mode that they preferred. For part-time teachers, she felt that the learning is slower because they don't get much experience practicing the new model.

There was a transition in the kind of teachers hired for the program. Jennifer observed that "applications for teaching positions now seem to be coming from a narrower profile of people. We used to get more newly retired teachers and parents who wanted part-time employment, but with the added challenges of teaching HyFlex or even just the tech skills needed to feel comfortable teaching HyFlex, a lot of teachers who might previously have applied are self-selecting out. We have been seeing more applicants who work as full-time teachers during the day and who are learning these tech and instructional skills and gaining a lot of experience with them quickly from their full-time teaching job." She added, "Moving forward, we will need to have a higher level of tech skill, familiarity with the LMS and online teaching as part of the hiring criteria."

Delivering Instruction

It took about a semester of struggling with sub-par technology and a new LMS before teachers developed insights into how to design and deliver instruction in HyFlex. At first, their hardware was "inadequate" $40 webcams, "a nightmare," Jennifer said. With eight classes, one day a week, the program managed, but when it went to scale and did simultaneous in-person and online synchronous instruction, learners couldn't hear or see everyone. That inadequate technology overshadowed what learning could take place. The program's acquisition of three Cisco Touch 10 conferencing devices with large-screen TVs made a huge difference, according to Jennifer. It took away the teachers' enormous burden of managing the technology. They weren't fighting the technology. Online learners could see the whole classroom, and in-person learners could see and hear the online learners. Jennifer said they were as functional as corporate classrooms.

Christine concurred that the new equipment was "a game changer." With the initial sub-par equipment, learners couldn't hear and felt incapable. The new equipment solved those problems. Although they cost about $5,000 for each class,

three more conference setups were ordered so the program could hold six HyFlex classes at the same time.

Since Mesa's HyFlex model was centered around synchronous class time, learning how to effectively teach a class with a combination of in-person and online students took priority. Most teachers found that classes flowed more smoothly if they planned a remote-only class and then modified it for in-person students. This ensured that the materials were all adequately accessible online for all learners, regardless of how they were participating in class. Jennifer noted, "Teachers who tried planning for an in-person class with the idea that they could add on accessibility for online learners often found that their online learners became more like observers than participants. Starting from an online-only class design mindset also often ensured that all instructions and details were explicitly written and available in Canvas, and thus more accessible and useful for learners who missed the synchronous class."

Jennifer continued, "Unifying the class into one learning community, rather than dividing it into the online class and the in-person class, was a challenge many teachers identified early in the process. It wasn't until after most teachers had a term or two (8–16 weeks) of struggling with HyFlex and identifying which tech skills and platforms they wanted their students to use that teachers started meeting this challenge. This also coincided with acquisition of the Cisco Touch 10s, which allowed many teachers to be able to implement their activities with less stress and frustration."

"With the Touch 10s, whole class discussions and activities became possible again. With the more limited tech set-up, learners at home and in person could not see each other and often could not hear each other clearly. Teachers resorted to mediating — and thus controlling — most whole-class discussions or activities. Some teachers chose not to do any whole-class activities because of the tech limitations, which often isolated the students, especially the online learners. Because of the Touch 10s, many teachers started reintegrating whole-class activities because students could engage with each other directly, regardless of who was at home or in person."

For the English language classes, listening and speaking activities became enjoyable again, and more teachers started adding these back into class lessons. Other teachers found online platforms to be useful in uniting students in the room and at home. Some teachers used the discussion board in Canvas. Others used Google Docs or Jamboard as shared learning spaces. As learners became more proficient in using Webex, Canvas, and Google Docs, breakout room activities became more productive and less stressful.

Technologies

Every in-person learner used a digital device in class — a laptop, tablet or phone. These could be learners' own devices or devices provided to them by the program for in-class use.

The Cisco Touch 10s (control units) included a monitor-mounted webcam, microphone, and speaker. Classrooms with Touch 10s did not need any additional equipment beyond the teacher's laptop, which was connected to the Touch 10 device via Wi-Fi. In classrooms without Touch 10s, a Tiny OBSBOT stationary web camera was used. Teachers experimented with various microphones and speakers, but these were often more challenging to keep working effectively than to just use the microphone on the Tiny OBSBOT. Cables were used in these rooms, so making them safe for learners and teachers was often challenging. Jennifer noted the variety of approaches to whiteboards: some teachers used the screen-share whiteboard function in Webex or used Jamboard or Google Slides as a makeshift whiteboard, but a few continued to use the old-fashioned physical whiteboard in the classroom with the webcam positioned so that online learners could see it.

The program's software applications included Webex for video conferencing and Canvas for the LMS. Before the shift to HyFlex in August 2021, they had been primarily using Google Sites as a limited LMS, but later everything, except registration and orientation, transitioned to Canvas. The Arizona Department of Education provided Burlington English, Odysseyware, EdReady/NROC, and Discovery Ed, and approved Khan Academy, and USA Learns as content platforms.

Technical Support and Training for Teachers and Learners

Tech Support

The school district provided limited tech support in setting up Canvas. Jennifer also provided tech support to the new HyFlex classes. She dealt with technology crises in the classroom, essentially "putting out fires." With the Cisco Touch 10s, the tech support burden decreased. Jennifer got Canvas templates for the teachers and organized Canvas workshops, a "HyFlex showcase." The program also hired a Canvas training person for more support, such as answering teachers' emailed questions.

Christine noted that Jennifer was thoughtful in how she rolled things out, piloting first, trying out and troubleshooting the hardware. She added that she saw these as professional development needs: how to assure equity of access for learners so they could access everything, whether online or in person; and how to assess learning progress when learners were online. She said that this was hard to do because teachers weren't able to get feedback from online learners, especially when their camera was off, and they were on mute. The HyFlex model has brought forward an issue that has always been there. She would like to provide digital tools to make assessment easier for teachers and help them understand and use the data they have for instructional improvement, especially improving instructional practices in HyFlex teaching and learning. She would like to be able to provide additional planning time, offer training/coaching in using Canvas, provide opportunities to share best practices, and continue to purchase hardware that is easy to use.

Teacher Training

Jennifer formed instructional teams of teachers teaching the same level and content but at different times; these teams met synchronously or asynchronously. They sometimes planned lessons together; at first, she was able to join them. With the HyFlex model, she noted, lesson planning pieces must be more structured. Although the instructional teams were good, they weren't helping teachers break out of their own subject areas. Jennifer noticed that some instructional teams were learning faster and more deeply than others, but that there was little sharing of this knowledge outside of class levels or subject areas, so she had them participate in new Professional Learning Communities (PLCs). She also felt that discussion-board–based cross-pollination was needed.

Twice yearly, a HyFlex showcase, a series of 15- to 20-minute teacher presentations, was held. Some used Jamboard. Some held conversations in-person and online. Teachers saw for the first time what their peers were doing, what tools they used, and how they used them. Many teachers commented that these showcases helped them clarify the learning they had done by preparing to share it with their peers, as well as giving them a learner perspective on how some of these ideas work in practice for both in-person and remote learners.

Some teachers had little prior experience with Canvas, so the program hired an instruction designer to think through how previous lesson planning could work in Canvas. Jennifer said this had paid off and she was seeing better Canvas design. In the first year, Jennifer gave teachers Canvas templates; during the year, teachers were expanding beyond the templates.

Implementation: Lessons Learned

Data Collected for Program Improvement

Early on, in Emergency Remote Teaching, teachers did everything in Google — and the data were in Google Sheets. Moving to Canvas presented a huge learning curve. Teachers tried to use Canvas for attendance data, but the data couldn't easily be exported into Google Sheets. So, data management was in flux. Teachers also did satisfaction and other surveys, and Jennifer did observations. Despite having the pre- and post- data that were entered into the state reporting system, it was difficult to use that data for real-time program decisions.

In the future, Christine would like to be able to compare distance-learning hours and in-person time, in terms of Measurable Skill Gains and attendance, noting that since HyFlex was implemented, proxy hours have steeply increased. She would also like to know if learners' digital skills improved and if their perceptions and feelings about digital

technology improved. Because there was resistance to using technology from lower-level ESL students, Christine considered using the Northstar Digital Literacy Assessment to measure digital literacy skills for IET classes.

Benefits

Benefits included the recruitment of students for HyFlex classes; use of specific hardware and software, including online platform and curriculum; assessing learning differently; better attendance and retention of students; and increased digital literacy skills. Jennifer said, "I'm not sure if this is a benefit or a challenge, but in looking back over the year with a little distance, I can see that HyFlex can create learners . . . who can direct and manage their own learning better — time management, digital resiliency, self-advocacy, intellectual curiosity, study skills/test-taking skills. However, at the beginning of our experiment, we were not capable of supporting students who did not come to us with at least these basic skills. We definitely had an unspoken higher level of expectation for new students, which became yet another barrier to accessing learning for some of our students. As we (as a program) got better at designing our HyFlex learning spaces, clarifying what skills we needed students to learn, and offering higher-quality and more targeted support for students who needed to develop those skills, we started noticing that more students, and not just the ones who came to us as already 'good' learners, were taking more ownership of their learning. The increased opportunities for learning in different formats started to become the strength we hoped it would be. However, those same increased learning opportunities can also become overwhelming, stressful, and just another barrier if the program does not find ways to help students learn to learn better and support that growth."

Christine observed that teachers see learners benefiting from the flexibility. In January, for example, she said the program went entirely remote for two weeks because of COVID; in the past, this would have meant a shutdown. Some teachers, even those who were sick, chose to teach from home. They saw that this flexibility could be for teachers as well as students.

Because of these many benefits, Mesa Adult Education planned to continue using the HyFlex model.

Challenges

Challenges included identifying or securing the best hardware and software; a need for professional development and training specific to the HyFlex model; engaging both in-person and online learners during class; technology support for teachers and learners; the higher barriers for learners lacking good study or time-management skills.

Jennifer observed that her program's solution to the initial challenge — how to do HyFlex — was to do it for everyone. Although this created big challenges, the advantage of this approach was that everyone — teachers, administrators, technology support people, clerical staff — was all in. Everyone now understood the model. Jennifer suggested that for those who want to offer HyFlex program-wide, to involve the entire staff from the outset.

Christine saw these as challenges for the program: identifying or securing hardware and software; professional development and training specific to flex models; onboarding learners; resistance or reluctance on the part of some staff; engaging both in-person and online learners during class; and providing good tech support for teachers and learners.

7.5 Low-Tech HyFlex Can Lead to Increased Learner Attendance, Retention, and Level Gains

Township High School District 214, Adult Education and Family Literacy Program

Laurice Hoffman (Teacher and Administrator, formerly Township High School District 214, now employed at Literacy DuPage, Illinois)
Township High School District 214, Adult Education and Family Literacy Program, Cook County, Illinois

Description of program and learners

The Township High School District 214 Adult Education and Family Literacy Program provides basic educational services to adults who are learning English as a Second Language and to Adult Basic Education learners in Cook County, Illinois. The program serves adults who live or work in the community and may be undereducated, unemployed, underemployed, and/or low-income.

Recruitment and Orientation

Registration took place online or by phone. District 214 used an in-person pre- and post-testing strategy with all necessary COVID precautions. At registration, learners were offered the HyFlex model as an option, though not all classes offered used this model. Teacher and administrator Laurice Hoffman reported that learners who opted for classes using the HyFlex model understood what they had chosen and that ESL students generally enjoyed the HyFlex model.

HyFlex in Action: Course and Instruction

Planning

Laurice observed that it took additional planning for instructors to manage a multimodal learning environment, ensuring that students were engaged in a single learning community, regardless of their participation mode. District 214 used a web-based version of the Burlington English (BE) curriculum. Planning essentials, she said, involved watching BE tutorials and onboarding learners with a clear and concise process. Most learners came in person on the first day of class. They were provided with hard-copy instructions and they then practiced how to get on Zoom and how to use the BE platform. The onboarding process was more difficult for low-level English learners, some of whom lacked digital skills. Volunteers assisted with onboarding of devices and demonstrating how to access the online curriculum.

A common difficulty in onboarding during the pandemic, Laurice reported, was when learners did not come in person to learn the basics and all instruction had to take place over Zoom. Peer support was essential and was stressed to achieve success. Instruction was also administered in learners' home languages. In class, learners accessed BE and Zoom from their cell phones or laptops. To use all the features of the BE curriculum, learners had to download the BE app on their smartphones. District 214 also had a Chromebook lending program which was utilized by some learners. Instructors could use a PowerPoint to onboard learners, including a script with notes and a practice session in which

the instructor “goes live.” This was part of a complete set of BE tutorials that also covered accessing the platform from multiple devices. The tutorials were offered in several languages.

Delivering Instruction

Laurice offered HyFlex classes to District 214 Community Education’s low–intermediate ESL learners. Although she found that it took more time to prepare for a class that had both in-person and online learners, she used a differentiated model where students at home and in person engaged synchronously on the same lesson. The two groups frequently interacted with one another. She sometimes put online learner*s* in breakout rooms, and she would jump into the breakout rooms or circulate in the classroom. She reported that, by the third or fourth class session, doing a HyFlex model was seamless.

When learners entered the classroom, Laurice had already set up the Zoom meeting. In-person and online learners could greet each other. Developing a sense of community was an important goal. They were able to talk informally with one another, asking, for example, “How was your weekend?” They then discussed peer-to-peer issues, such as sending children to school, wearing masks, or Halloween trick-or-treating. Homework review followed, in which they discussed learning and technology challenges, such as accessing the online platform. Students then might share something of interest they had found online. Then they reviewed the instruction from the previous class and previewed the homework assignment. Learners who joined in the asynchronous mode used the same lesson from BE.

Technologies

Hardware included a Macintosh computer connected to an overhead multimedia projector. The classroom was equipped with audio enhancements and a microphone. Laurice walked around the room wearing a lapel microphone. By turning the computer monitor’s camera toward the class, learners on Zoom could see their peers in the classroom. Some in-person learners had laptops on their desks; others went up to the computer monitor to interact with the online learners.

Software included: Burlington English, Google Workspace, Google Jamboard, Google Slides, Ed Tech Integration Strategy Toolkit, Wakelet, quizzes and games such as Bamboozle, all integrated in BE. In-person learners used sticky notes or participated with online tech tools; online learners used Jamboard (sticky notes in an online format) or a shared Google Document.

Technical Support and Training for Teachers and Learners

Tech Support

BE provided instantaneous support for learners who hadn’t downloaded the app on their phone and had an 800 number that learners could use during class. District 214 IT staff provided technical assistance when there were issues with computers or when teachers needed online help in the classroom. Teachers also provided peer support.

Teacher Training

Laurice found that it was important to include training on resources and activities to support meaningful technology integration and digital skill development, as was providing supplemental digital resources to enhance the scope and sequence of lesson plans.

Professional development trainings were provided remotely through Zoom. Laurice said that teachers needed to understand Zoom and the BE curriculum. HyFlex model support was also provided through a peer-to-peer professional development group. In this Google group, teachers shared what worked and didn’t work. They also shared the teaching and learning activities they were using. In staff meetings, they did demonstrations of Google Classroom. These meetings were primarily in person, but some were online.

Laurice noted that hands-on experience was the best way for teachers to learn how to implement a HyFlex model.

Implementation: Lessons Learned

Data Collected for Program Improvement

Attendance data showed an increase when using the HyFlex model. Retention also increased; more students had the hours needed for post-testing, for example. Laurice believed that the model's flexibility accounted for this. Several learners also made level gains, which was likely because of the platform and increased English language practice using their smartphones.

Benefits

Some learners enjoyed coming to class in person; others benefited by having the flexibility to choose between coming to class in person or online or doing asynchronous learning online; the pandemic did not interrupt their learning. Additionally, online learners and in-person learners developed an understanding of how to communicate together. The HyFlex model gave learners the opportunity to study where they wanted to, based on their own needs, desires, and preferences. Learners could decide how they wanted to attend class each week, which resolved many scheduling conflicts.

Laurice felt she could serve learners best using a HyFlex model. Both in-person and online learners had engaging lessons, the platform was easy to use, and she felt fulfilled as a teacher.

Challenges

When in-person learners were all talking together and other learners were online, it could be difficult for online learners to actively participate in the classroom discussion. When that happened, Laurice sometimes put online learners in a breakout room together. This was, in essence, creating small groups as in a typical classroom model, except one group was online and the other was in-person. She found managing a multimodal classroom difficult at first. (After developing class protocols, however, all learners adhered to the rules established for the classroom. No side discussions were allowed in the classroom during instruction because the noise in the classroom was a problem for online learners. Learners respected the multimodal classroom and regarded the HyFlex model as an opportunity for everyone to have agency in their learning.)

7.6 Transitioning from a HyFlex Pilot to Larger Implementation

Garden Grove Adult Education

M'Liss Patterson (Administrator) and Alisa Takeuchi (ESL Teacher)
Garden Grove Adult Education, Garden Grove, California

Description of program and learners

Garden Grove Adult Education is a school-based adult education provider in southern California that offers a wide variety of services to more than 2,000 adult learners annually. As of June 2022, Garden Grove Adult Education served approximately 1,500 learners in 39 HyFlex classes. Twenty-nine instructors each taught at least one HyFlex class. Although HyFlex implementation is now available in most classes, it started in April 2021 with all ESL and ASE (Adult Secondary Education) teachers implementing the model.

Recruitment and Orientation

Learners were provided with information about the HyFlex classes when they enrolled in the program. HyFlex learners were asked to commit to one format (online or in-person) as their primary means of participation. However, learners could switch when needed by communicating with their teacher. This method was chosen because the HyFlex pilot began when the school district required limits on the number of in-person students because of the COVID-19 pandemic. Staff found that when they first started HyFlex in 2021, most of the students attended online. However, that changed and, as of the interview period, more learners participated in person.

When the pilot began, ESL teacher Alisa Takeuchi provided online and in-class orientation to learners. As the program grew and HyFlex orientation content became established, orientation responsibilities were transferred to the school support staff who normally provided orientation for learners.

HyFlex in Action: Course and Instruction

Garden Grove Adult Education offers the following HyFlex classes: Adult Basic Education, Adult Secondary Education, English as a Second Language, and Adults with Disabilities. HyFlex classes meet four times a week for 2.5 hours a day and are available in the morning, afternoon, and evening.

Planning

The program provided learners with two primary modes of HyFlex participation: in-person and synchronous online. Teachers also used Google Classroom to post class materials that could be accessed by learners who missed the synchronous class, in addition to posting the online curriculum that learners could use for homework and optional extra practice.

Delivering Instruction

Alisa taught two HyFlex classes for English language learners whose skills were at NRS Levels 2 and 3 on CASAS. She projected the Zoom screen onto the whiteboard and encouraged in-person and online students to greet each other as they joined the class. She then shared a Google Doc with the class agenda. She used both online tools and printed books for her class. At the end of the session, she took a photo of the class (with their permission) and emailed it to the students to build a learning community.

Technologies

The program used an OWL 360 Camera/microphone to capture in-person learners' video and audio and an interactive overhead projector to show in-person learners the online students who join via Zoom and shared screen content on whiteboards. In-person learners had access to Google Chromebooks, which were used in class at least once a week. Learners in the Adults with Disabilities class were given iPads for their class. Teachers used their laptops and external monitors to join Zoom.

Google Classroom served as the program's learning management system, with all online and in-person learners having access. In addition, the program used Google Docs, Google Forms, and Google Slides, which easily integrated with Google Classroom. Teachers also used a variety of publishers' curricula and free educational websites, such as USA Learns.

Technical Support and Training for Teachers and Learners

Tech Support

Learners could call a district-wide tech support person as well as receive tech support from teachers and the part-time adult education IT staff person. Teachers created a lot of technology "How To" guides, which were then translated into different languages. Learners also helped each other during class.

The part-time adult education school IT staff person provided ongoing tech support for teachers and serviced the Chromebooks that were provided by the program.

Teacher Training

A district-wide IT person initially provided training on the OWL 360 Camera. A custodian helped with installing the hardware and connections. Garden Grove also had a Teacher on Special Assignment (TOSA), who helped to set up the HyFlex classrooms.

Teachers shared HyFlex experiences and provided informational presentations to all staff as the new model of instruction was being implemented. As more teachers chose to use the OWL 360 camera in their HyFlex class, pilot teachers provided additional training and coaching. They also participated in professional development (PD) offerings provided by the school district and the Outreach and Technical Assistance Network. Teachers observed peers with more HyFlex experience. Administrator M'Liss Patterson encouraged other programs to test out the HyFlex technology. Staff meetings and professional development time were designed for teachers to experience the HyFlex model as students. Over time, the classroom design became more sophisticated, with the addition of a second screen, a standing table, and other hardware that allowed staff to support both in-person and online students. She also advocated for PD to include opportunities for teachers piloting this method to meet, share, and learn together.

Implementation: Lessons Learned

The administrator encouraged an educational and data-driven approach used to build buy-in. As some teachers were piloting using the OWL 360 Camera in their HyFlex class, they would share their experiences at staff meetings to help other staff understand what a HyFlex class was and share teacher and learner experiences. The program administrator shared data from learner surveys which showed that learners had an interest and need for online learning opportunities.

Additional data was shared from the pilot which showed there was an increased persistence for learners participating in HyFlex.

Data Collected for Program Improvement

M'Liss shared data from more than 400 learner surveys, which showed that learners had an interest in and need for online learning opportunities. She also used learner participation hours as one data source. Although the number of learners participating in HyFlex was smaller than pre-COVID class sizes, persistence rates were higher. Teachers were encouraged to share qualitative and quantitative data, such as digital skills increases, learner engagement, and class attendance. Staff also used a rubric they developed in an IDEAL 102: Resource Evaluation course to evaluate the technology they had purchased.

Benefits

The benefits of HyFlex implementation included increased digital literacy skills for both learners and teachers, increased learner persistence, more flexibility to help overcome learners' barriers to participation, and additional learner choice and empowerment.

Challenges

Serving learners who had emerging digital literacy skills and/or English language levels was a challenge. It was addressed by using a lot of images to demonstrate steps and modeling. Teachers also found it challenging to troubleshoot when learners joined online activities using different types of devices. The program was working on building its tech support options and making the format smoother and easier for teachers and learners since using HyFlex was a heavier lift than using only one modality.

7.7 Evolving Technology to Best Meet Learner Needs

Christine Drieling (Teacher), Lia Olson (Teacher), and Tammy Twiggs (Teacher)
Hubbs Center, St. Paul, Minnesota

Description of program and learners

Hubbs Center is a program of the St. Paul Public Schools' Community Education Department and provides a wide variety of services in two primary locations in St. Paul, Minnesota. As of June 2022, three Hubbs Center teachers offered HyFlex classes for English language and adult education skills. One teacher started piloting HyFlex in Spring 2021, while the other two started in Fall 2021.

Recruitment and Orientation

Learner recruitment for the HyFlex classes continued to evolve. Learners were scheduled into the HyFlex classes when they indicated the need for the flexibility offered by HyFlex or that they preferred the format.

Although orientation for HyFlex classes was being refined, teachers working on the pilot noted it would include technology skills, expectations for participation, in-person and online classroom norms in a HyFlex class, and accessing educational technology, such as Google Classroom.

HyFlex in Action: Course and Instruction

Class length and frequency varied by class audience. Some classes met once a week for four hours, while others met four times a week for several hours. Although learners designated their preferred mode of instruction during orientation, they could still choose daily which format to use.

Planning

Hubbs Center offered two primary modes of HyFlex participation: in-person and synchronous online. Teachers also used Google Classroom to post class materials that could be accessed by learners who missed the synchronous class, in addition to posting the online curriculum that learners could use for homework and optional extra practice.

Delivering Instruction

One teacher specifically mentioned how she strived to use classroom routines to allow students to know what type of learning activity was coming next and to build technology skills. In at least one of the HyFlex classes, all in-person students used a laptop or brought a device to join online activities. One teacher had her in-person learners also join Google Meet so they could do small-group activities with online learners. In-person learners would go to different parts of the classroom or sometimes even an empty classroom space when working in breakout rooms with the online learners. Another teacher had her in-person learners use headphones with microphones when working in breakout rooms with online learners.

One teacher used a flipped classroom, where learners were assigned asynchronous work related to the class topic prior to joining class. This was well-received and successfully prepared learners to participate in the synchronous class.

Technologies

The teacher who initiated the HyFlex pilot took the lead on testing out equipment. Initially, the HyFlex program used a large-screen television, camera, projector, and two laptops. But audio quality was an issue, so the program tested an OWL camera. Because some sites didn't have the internet bandwidth to support high-quality audio and video, the program then switched to a SWIVL with an iPad, which was a better match.

Learners joined the HyFlex class via Google Meet. All learners had access to Google Classroom. Teachers used Google Docs, Google Forms, Google Slides, and Jamboard. They used Pear Deck to provide interaction and a publisher curriculum with online components. In addition, they used various ed tech tools and curricula, such as YouTube, Newsela, and Northstar.

Technical Support and Training for Teachers and Learners

The HyFlex team researched and piloted several types of technology for their HyFlex classes. This had benefits, since teachers knew exactly what the important features were and could use that to evaluate options, but it also resulted in a lot of trial and error since they were building their knowledge of the technology throughout the pilot. One teacher strongly suggested utilizing vendor training when available to help learn the hardware more quickly and easily than through self-exploration, noting that technology training and support are critical for success, for both teachers and learners.

Tech Support

Teachers provided tech support to the learners. They did this by creating screencasts that were posted in the Google Classroom, putting technology screenshots/guides in the Google Slides presentation each class, and requesting that students ask any troubleshooting questions as they arrived in class and began to work on the warm-up activity. Online learners were also able to come into the classroom for additional help.

Teacher Training

The three Hubbs Center HyFlex teachers met on a regular basis to share ideas, reflect on current technology and teaching, and discuss future action steps. Their goal was to maximize the best teaching practices of both in-person and online learning. To do that, they participated in PD to learn ed technology, such as Pear Deck. The teachers also found it valuable to participate in the statewide HyFlex Community of Practice that was started by a Hubbs Center supervisor. Learning what other programs were doing helped to inform their pilot. One of the teachers planned to create and share HyFlex videos to help other HyFlex teachers with troubleshooting and to promote student independence.

Implementation: Lessons Learned

Data Collected for Program Improvement

All three teachers collected learner feedback, anecdotal data, and reflections on their experiences, and then shared them during Professional Learning Community meetings. This helped to inform needed HyFlex program changes as well as identified strategies and technology that were working well. They found the PLC meetings invaluable for support, ideas, and planning.

Benefits

The HyFlex team found that students deeply valued the ability and flexibility to stay at home when needed and still participate in class. They found that some learners were able to participate in classes when they previously hadn't been able to because of challenges with in-person–only instruction.

Challenges

The biggest challenge the team encountered was finding the right equipment that worked best for the program's classroom setup and internet connection speed. In addition, onboarding new students every week or couple of weeks

was demanding. Providing troubleshooting while teaching could slow down instruction, so they found that first orienting learners and ensuring they had the digital skills was important for student success in a HyFlex program.

7.8 HyFlex Meets Needs of Students Who Prefer In-Person but Sometimes Have Challenges with Childcare and Transportation

Milwaukee Area Technical College

Joy Lehmann (*Teacher)*
Milwaukee Area Technical College — ESL/ELL, Milwaukee, Wisconsin

Description of program and learners

The ESL/ELL program at the downtown Milwaukee campus of Milwaukee Area Technical College began to offer its HyFlex format in August 2021. Teacher Joy Lehmann works with lower-level ESL learners there. Joy believes that the downtown campus, which is one of four campuses, offers the most HyFlex classes. Few in-person classes (about 20 percent) are offered at that campus, and mostly to the lowest-level learners. The market for in-person learning has changed, with more students now online than in person.

In the HyFlex program, students could choose and move fluidly among in-person, synchronous online, and asynchronous online instruction. Sessions met twice a week for one to three hours, depending on the class. Students could attend those sessions in-person or online, and switch modes at any time. Classes were recorded and uploaded to Blackboard so that learners could also view the video recorded lessons asynchronously. Twelve teachers were teaching 17 HyFlex classes. At the time she was interviewed in March 2022, Joy reported that the asynchronous mode was not polished and not much encouraged.

Recruitment and Orientation

Learners didn't specifically select HyFlex classes but having HyFlex did allow the program to recruit learners when they might not have enough to run a class solely in-person. Joy noted that it wasn't clear to many learners that they were going to be in HyFlex when they were recruited. Their choices were HyFlex, virtual or in-person.

Orientation took place in class, not beforehand. In the first few weeks, Joy demonstrated Blackboard, Burlington English, and various digital tools.

HyFlex in Action: Course and Instruction

Planning

Joy planned for synchronous online and in-person instruction. She planned first for the online learners because she believed that they had fewer tools. For example, she used matching activities or brainstorming done in breakout rooms, or she shared a picture on which they could write. When planning, she asked herself, "How will this work for those online?" Joy said she was learning how to teach in person again after being primarily remote for so long. Joy said she hadn't yet mixed in-person and online learners.

Delivering Instruction

Although some students changed modes, most online students almost never came in person. Joy said, “Last semester I had a learner who strongly preferred to attend class in person, but sometimes did not have childcare. On those days, she attended online from home. Not all students take advantage of the flexibility; they’ll attend either in person or virtually, but if they can’t make one, they won’t attend the other. For the few who take advantage of it, it allows them to keep up with classes even when they have transportation or childcare issues.”

Technologies

For hardware, the program used wireless speakers/microphones that were built into the ceiling and adjustable video cameras at the front and back of the classroom. The cameras, however, didn’t track movement; instead, there were pre-sets, for example, on the teacher or on the board. Joy used dual monitors, one for slide presentations and one for Blackboard Collaborate. She also set up a personal laptop with which she joined Blackboard Collaborate as a second log-in to check in with online learners. In-person students used an internet-accessible digital device — a laptop, tablet or smartphone they’d brought from home or a laptop available in the classroom — although they weren’t required to do online work in every class period.

Joy used the Blackboard Collaborate software to store video recorded lessons. The camera focused on her was always on. She and her colleagues also used Blackboard Collaborate for synchronous online instruction and Burlington English for their online curriculum in many of their HyFlex classes. Joy taught oral communication and pronunciation using the HyFlex format. She sometimes also used printed books for pronunciation classes.

Technical Support and Training for Teachers and Learners

Tech Support

Joy noted that providing digital technology support for English language learners was challenging. She successfully helped in-person learners understand and use the technology, including going beyond simply logging into class (i.e., viewing assignments in Blackboard and accessing Burlington English), but found it much more difficult to help online students learn the technology.

Teacher Training

The college offered a two-day faculty workshop (three hours each day) online and in-person: It was an overview of HyFlex model design, and it used HyFlex technology in its delivery. Joy thought it could have been designed better, adding support for the management aspect of HyFlex. She believed that teachers needed to practice using both modes, and to experience what it’s like as an online learner.

The program had on-call technology helpers and also provided useful laminated sheets with the basics of the digital technology in classrooms. Microphones didn’t work at the outset and then a camera at the back of the room wasn’t working. There was a definite need for backup hardware so a broken camera or other hardware could be swapped out, without waiting for it to be repaired by the manufacturer, which could take weeks or months.

Joy said that teachers need practical experience with the technology, with teaching both in-person and online learners prior to starting their classes. She has observed that some teachers need to learn the basics of how to use digital technology. She said that the initial training she received was useful, but that it could have been better tailored to teachers of ESL classes, that the presenters appeared to wrongly assume this would be for lecture-style classes. She added that she would love to see what other teachers do, for example, through videos of other HyFlex teachers teaching. As a HyFlex teacher herself, she added, she would like to know what makes HyFlex fun?

Implementation: Lessons Learned

Data Collected for Program Improvement

Joy looked at learner attendance and data from Burlington English's reports to gauge HyFlex's impact. She also entered students' grades in Blackboard. She noted that while formative assessment was easy with in-person learners, it was harder with online learners. She had to make sure to call on those who were online. Joy did not know of any plans by the college to evaluate the HyFlex model.

Benefits

The main benefit of using Hyflex, Joy said, is the flexibility it allows students. She said, "When it works correctly, it allows students to stay actively engaged with a class even when they have barriers to being physically present, such as the student I currently have who started class in-person, but needed to travel to Puerto Rico for a month and continues to attend virtually while she is there."

Challenges

Joy found these general challenges: the need for professional development and training specific to HyFlex models; onboarding learners; staff resistance or reluctance; classroom management when teachers had both in-person and online learners; engaging both in-person and online learners during class; and tech support for teachers and learners. She described managing an ESL class using the HyFlex model as a particular challenge. Doing learner pairing and group work, for example, was difficult, especially in a large-group setting. In groups — and pairing work — Joy matched in-person with in-person learners and online with online learners because it took longer to prepare these matches for a mixed (in-person and online) group. Although she tried to think about who she needed to check in with first, the online groups could be more difficult to teach. The quality of assessments was lower because her attention was so divided between the online and in-person learners.

7.9 How HyFlex Can Help Out-of-School (Opportunity) Youth

David Howden (Teacher and, after being interviewed, program administrator)
Arizona Center for Youth Resources, Adult Education Program, Phoenix, Arizona

About the Program

Based in Phoenix and serving the surrounding communities, Arizona Center for Youth Resources (ACYR) provides High School Equivalency (HSE) and English Language Acquisition for Adults (ELAA) services to students both on its main campus and in satellite locations. While specializing in the "opportunity youth" (young adults who lack education, training or work opportunity) sector, ACYR provides both day and evening classes to all ages. In ACYR's HyFlex model, learners choose and move fluidly among in-person, synchronous online, and asynchronous online instruction, although in Spring 2022, the asynchronous mode was not ready yet for learners.

Learners had High School Equivalency exam preparation/adult secondary education classes four days a week for 90 minutes and they had one hour of remote proxy time learning. Each learner could pick what days/times they wanted to attend class.

Recruitment and Orientation

Recruitment was not differentiated for HyFlex learners. After learners had filled out an interest form, there was an in-person or online enrollment and orientation. Learners determined what kind of class they would like to attend and which mode. Then they got login information. However, staff found that using online enrollment and orientation took too long to get students into the classroom, so they made an effort to do this in person. Teachers met with learners for 30 minutes before the first class, either in person or online.

HyFlex in Action: Course and Instruction

Planning

Teacher David Howden shifted to planning for in-person and synchronous online instruction with the goal of making the online experience as close to the same experience in-person learners would have. For example, an online learner became the record taker, and online learners filled out forms online so they had to pay attention and participate in experiencing the lesson.

Delivering Instruction

ACYR provides HyFlex classes out of two classrooms on its main campus in Phoenix, with one room devoted to HSE classes and one devoted to English Language Acquisition for Adults (ESL) classes. With students in the classroom and online simultaneously, instructors use interactive televisions to provide lessons to online students with students who are able to see their peers through the use of video conference cameras and microphones. In-classroom students have access to laptops for interactive work. Instructors also use online breakout rooms to cluster students for group work.

Technologies

The program used Canvas (which learners did not like) and Odysseyware, but was not yet assigning it asynchronously. New tracking cameras were ordered for the main campus after teachers found that just using a laptop camera or webcam was not adequate to the task. In the program's co-location site, teachers used an interactive projector and camera, a microphone, and speaker system.

Technical Support and Training for Teachers and Learners

Most teachers were familiar with videoconferencing, although they occasionally participated in training on that. Some training was provided on using Canvas and on students' automated data on proxy hours so teachers could see student progress. In the classroom however, teachers were on their own. Administrators wanted to provide emergency support from David or a new digital technology person, but this wasn't needed for everyone. Some teachers found tools on their own, for example, Remind, WhatsApp, and game-based learning such as Kahoot. In professional learning circle meetings, teachers shared what they had found.

Learners also sometimes provided peer support, with in-person learners often willing to help online learners with digital technology issues.

Professional Development

A key professional development need identified was how to run a HyFlex classroom, specifically how to structure lessons. Teachers were required to complete the Arizona Department of Education's distance learning course before taking over a class. David wanted all teachers to complete the EdTech Center @ World Education's EdTech Strategy Sessions. He wanted specialists in assessment, HyFlex classroom management, and other topics to share their expertise with staff. After becoming the program's new manager, David planned to have one-on-one meetings with staff and to identify other professional development opportunities for them, including sessions on Canvas, game-based learning activities, and writing, especially writing an extended response for the GED exam. The program planned to hire a new digital technology specialist to take over his role providing tech support to teachers.

Implementation: Lessons Learned

Data Collected for Program Improvement

The program collected learner participation hours and used data from TABE assessments and GED practice tests to show learner progress. Administrators will be building into the program a better way to do assessment using Canvas data. There was a lapse in assessing where students were before the second TABE test, which was given after 40 hours. Data were collected from learners in the HyFlex model and those in conventional classes. The program did learner satisfaction surveys every six months, believing that it was Important to know if the HyFlex model was working better than only in-person instruction. Because enrollment was low at the time of the interview, however, comparisons were difficult. Staff were hoping to be more data-driven in the future.

Benefits

Learners liked being able to choose in what mode they wanted to participate. Learners who had child care or adult care issues, who were in foster care or independent living systems, or those with COVID concerns especially benefited from the HyFlex model. The program's particular learners' lives could be chaotic. For example, some were homeless, so providing them with every opportunity to participate in a class was important. David characterized removing organizational attendance, retention, and learning gain barriers as an equity issue.

The HyFlex model helped learners develop workplace skills — meeting online or in person; expressing themselves professionally, both in-person and online; thinking on their feet; answering questions; reporting; and being able to operate remotely. .

David noted that through digital instruction, teachers had various ways to improve their teaching. With a HyFlex model, they had to think on their feet; what they had planned may not have worked. Improvisation was needed. The in-person part was important, however, to get to know students. One teacher, for example, offered dominoes and chatting before the in-person class in order to get to know learners. For people who had taught for a long time, new challenges could be a struggle, but they were also a benefit, whatever teaching model they might use.

Challenges

While learners were excited to use a HyFlex model, they were reluctant to use the Canvas LMS. Digital technology was difficult for some teachers. Selecting an online platform or curriculum was difficult. But the biggest challenge, David felt, was changing teachers' mindsets. At first, he said, there was resistance. The teachers didn't understand the point or that this new model was both online *and* in-person *and* integrating in-person and online. Some teachers wondered if learners would ever want to come in-person, though they did come around. Still, there was a need for teacher professional development and training in areas specific to HyFlex models — for example, engaging both in-person and online learners during a synchronous class. Teachers needed to see ways to do something online and in-person synchronously, and how to use the hardware and software they had to do it. They needed to see examples, and to find for themselves the best ways to do in all three HyFlex modes what may have been successful for them in the traditional classroom.

7.10 Using Nearpod to Plan Instruction in a HyFlex Model

Waubonsee Community College

Heather Engelhart (ABE and HSE reading teacher, Adult Education HSE exam preparation)
Waubonsee Community College, Sugar Grove, Illinois

Description of program and learners

Waubonsee Community College, located about 45 miles west of Chicago, began offering its adult education HyFlex program in August 2020. A HyFlex model class, typically with 17–20 learners, was offered in the daytime and evening and was available in reading and math.

Recruitment and Orientation

At registration, learners selected "remote" or "f2f" (face-to-face). When f2f was full, learners were put into Heather's HyFlex class. This was the only adult ed HyFlex model offered to adult learners at the time, but more classes were planned. Learners didn't know when they arrived that it was a HyFlex class, though Heather oriented them once they joined. Classes met twice weekly, from 9 a.m. to noon. Learners could choose and move fluidly among in-person, synchronous remote, and asynchronous instruction, based on their needs. The asynchronous mode consisted of learners' ability to watch recorded videos of the synchronous sessions they may have missed or wanted to revisit.

New students attended a digital technology bootcamp to be able to log in to the school's website, learn their login information, and experience Canvas, the school's Learning Management System (LMS). On the first day of class, the teachers reviewed the sites to log in to and learners practiced with each one.

HyFlex in Action: Course and Instruction

Planning

Heather used Google Slides to create everything. Learners also used the TABE Scoreboost booklet, a hard copy of which was made available to them. All learners had Scoreboost for thinking skills and sentence mechanics. They used Scoreboost and New Readers Press for extended response essay writing. Learners also used YouTube videos, Readin Plus, and Nearpod for all lessons.

Delivering Instruction

Using Nearpod, Heather could see if learners online at home or elsewhere were participating when she looked at their answers to open-ended questions, polls, and collaboration board posts. This was highly interactive. Nearpod created reports. When learners were absent, she sent them the Nearpod slides to use asynchronously. Heather used Nearpod create lessons when she knew she would be absent; she didn't have to get a substitute, since, she noted, subs don't generally know how to do HyFlex. With Nearpod, she could add questions within a video that might be part of the lesson.

Technologies

Heather's program used wireless speakers/microphones, a laptop camera, a classroom camera, and a 360 Camera ar microphones. Every in-person student used a digital device — such as a laptop, one of the program's Chromebooks, a tablet, or a smartphone. (See Waubonsee Community College digital technology equipment sheet in Appendix B.) Heather said that hardware made things both easier and more difficult. In spite of having a great technical assistance department that would send someone to her classroom or get onto her computer virtually, sometimes she still found digital technology intimidating. She took a quick training before classes began, but was still figuring some things out, sometimes using trial and error to learn to use the technology. The ceiling-mounted microphones worked amazingly well, allowing online learners to hear perfectly. The video camera was focused on Heather. She doesn't like sitting at a desk; preferring to move around the classroom, but she couldn't move away from her desk because she needed to see the computer. She had a regular whiteboard. When she clicked on "whiteboard" on her computer, the camera would zoom in, and online learners could see what was written there. The learners in the classroom all had digital devices — mostly Chromebooks on a cart, that is, program-purchased digital devices that were made available to learners in the classroom.

For online high school equivalency (HSE) prep learning, Heather used GED Academy and IPathways as base curricula, along with other resources she found online. She used Canvas, Google Slides, and Nearpod to organize those resources, which were available to learners for more practice if they wished. She also used Nearpod for formative assessment. She used Zoom for video-conferencing online learners. Canvas was a huge learning curve, she noted, bu she came to love it because everything was in one place. She and her colleagues were trying to make videos on their own for professional development.

Technical Support and Training for Teachers and Learners

Tech Support

New learners attended a technology bootcamp to learn how to login into the school's website and experience Canvas On the first day of class, Heather reviewed the sites to log into and provided practice with each.

Professional Development

Teachers received training on using Nearpod. Heather would like to get together at designated times with other teachers who are using a HyFlex model within Waubonsee Community College. She would also like everyone in her department to attend COABE conference sessions on Flex models.

Implementation: Lessons Learned

Data Collected for Program Improvement

Heather used Google Forms–based learner surveys in her HyFlex class. Those showed that the HyFlex model was making a difference and providing good opportunities, and, although one learner found HyFlex distracting and didn't li it, the majority of learners preferred it. At the end of the semester, the data showed that attendance, retention, and digital literacy skills were higher in her HyFlex class than in other non-Hyflex classes.

Benefits

A career advisor came to class every week. Heather regarded this as an excellent opportunity to learn about resume preparation, interviewing tips, and more. For learners with car troubles, childcare difficulties, mobility issues, unexpect family issues, and concerns about COVID, the flexibility of the model has been especially beneficial.

Challenges

Professional development and training were needed specific to HyFlex models, covering onboarding learners, staff resistance or reluctance, and classroom management with in-person and online learners. Digital technology support was needed for both teachers and learners.

Appendix A

HyFlex Videos and Resources

HyFlex in Adult Education Video Playlist

This YouTube playlist includes videos that show adult education teachers and learners in a classroom. The following videos are available in the playlist.

- Engaging all learners in a HyFlex Class
- Daily Technology Set up for Your HyFlex Class
- Using an Online Assessment Tool in a HyFlex Class
- HyFlex Classroom Technology Tour - Pima Community College
- HyFlex Classroom Technology Tour - Hubbs Center

EdTech Center HyFlex Webinar Resources and Resources

HyFlex Model in Adult Ed: Tips on Technologies & Strategies EdTech Strategy Session

In this session, the EdTech Center's Jen Vanek briefly introduced key characteristics of the HyFlex model; then, two Arizona practitioners shared tips for implementation. Jennifer Duclos from Mesa Adult Education shared strategies for supporting learner engagement, and David Howden of Arizona Center for Youth Resources described the technologies needed to implement Hyflex courses.

- Watch the full recording here.
- View the slides here.
- Watch Lightning Talk #1 (Technologies to Implement HyFlex Courses) here.
- Watch Lightning Talk #2 (Strategies for Supporting Learner Engagement) here.

Effective Strategies for Learning: HyFlex Overview

This one-pager for practitioners provides an overview of HyFlex as an effective strategy for remote learning. This resource also connects HyFlex to a larger remote ESOL ecosystem, and provides considerations for programs who are considering implementing the model.

EdTech Center Blog Articles

- Considering Use of the Hybrid Flexible Model in Adult Education
- HyFlex Instruction: Hardware to Support Implementation in Adult Education by David Rosen
- Building on a Pilot: HyFlex ESOL Class at Pima Community College by Vi Hawes

Professional Development

The Flex Models Google Group

The Flex Models Google Group is a national community of practice focused on preparing, piloting, and implementing HyFlex and BlendFlex models in adult foundational (pre-college) education. The online group is hosted by David J. Rosen, a co-author of this guide. If you are actively planning, piloting or implementing a HyFlex or BlendFlex model class or program and would like to join this group, contact David at djrosen123@gmail.com.

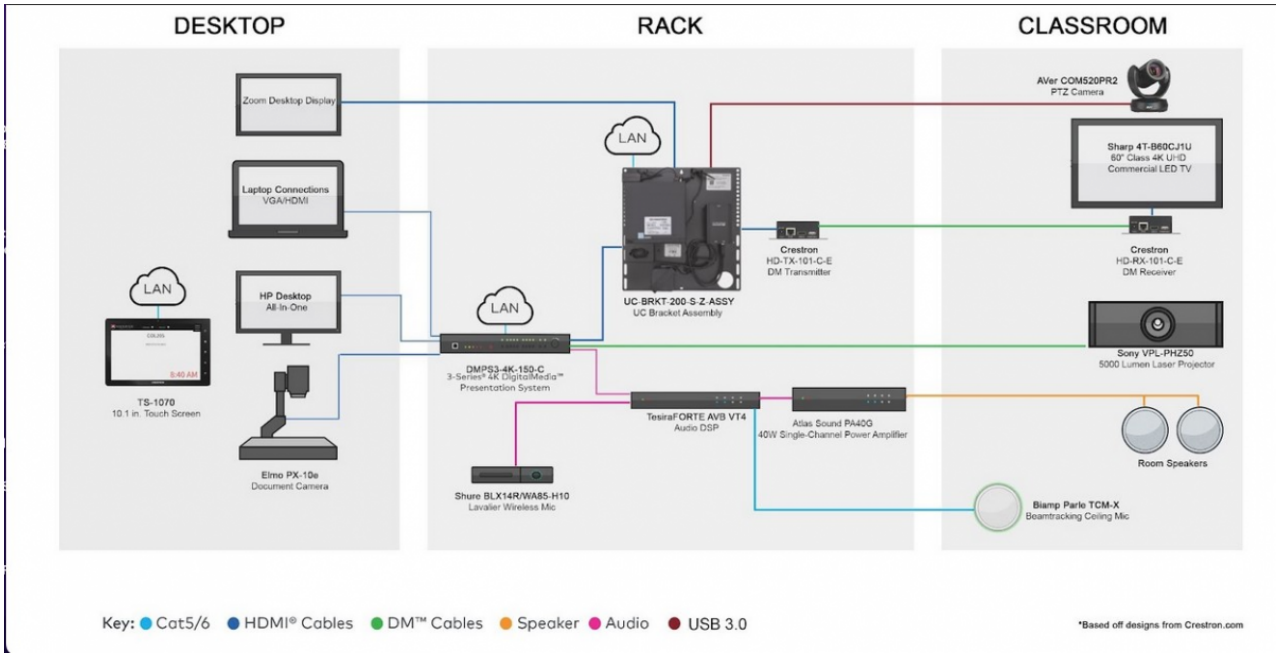
Project IDEAL Consortium Professional Development

The EdTech Center @ World Education is piloting professional development using this guide, providing presentations, and technical assistance for Project IDEAL Consortium states. For more information, contact Jen Vanek at jen_vanek@worlded.org or Jamie Harris at jamie_harris@worlded.org.

Appendix B

HyFlex Technology Example - Waubonsee Community College in Illinois

Below is an example that shows one program's HyFlex technology. This example shows one high-end technology solution that may be of interest to some programs to consider.



Waubonsee Community College Flex Rooms

Standard media classrooms are equipped with:

- Crestron DMPS3-4K-150-C 3-Series® 4K DigitalMedia™ Presentation System 150
- Elmo PX-10e Document Camera
- Sony VPL-PHZ50 5000-Lumen WUXGA 3LCD Laser Projector
- Sharp 4T-B60CJ1U 60-inch Class 4K UHD Commercial LED TV

Flex adds the following:

- Crestron UC-C100-Z Crestron Flex UC Video Conference System Integrator Kit
- Aver COM520PR2 High Definition 12x USB PTZ Conference Camera
- Biamp TesiraFORTE AVB VT4 4x4 Fixed Audio Server with AEC
- Biamp Parle TCM-X White Beamtracking Ceiling Microphone Array
- Shure BLX14R/WA85-H10 Lavalier Wireless Microphone System (optional)

From scratch, each room would total around $16,000 (plus any installation labor). However, the real pricing for individual rooms varies greatly since many/most already have some of the equipment already.