# Considering a Competency-Based, HyFlex, e-Learning Strategy?

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**[Abstract]** This article highlights the need for a comprehensive instructional design and delivery strategy when converting traditional and competency-based courses to e-learning and Hyflex course delivery modes. Guidance is provided for decision-making at the strategic level, prior to implementation to align instructional offerings to meet stakeholder expectations, while assuring sound instructional decisions.

**[Keywords**] e-Learning, HyFlex, competency-based instruction, instruction during Covid -19 pandemic

## Introduction

When the pandemic hit and schools across the globe shifted to an e-learning model, educators were forced to pivot, often with little preparation, support, and resources. Many e-programs that were quickly developed and implemented during the Covid-19 pandemic professed to be equivalent to the traditional classroom-based programming they were replacing. However, in practice many instructors often failed to completely deliver on the promise, primarily due to externally imposed course constraints and secondarily to their lack of knowledge and skills to design and deliver competency-based, e-learning programming. The requirement to adapt to the changing expectations of various stakeholders (i.e., governments, institution leadership, students, parents, communities) carried with it the risk of being overwhelmed by these competing agendas. Their efforts were largely experimental, with trial and error guiding the decision-making. They often defaulted to *knowledge-only* based instructional methods, and instructional activities often did not match or mirror the stated objectives and learning outcomes (Bonesso, Gerli, Pizzi, 2015; Kirby, 2021). Moreover, the assessment methods did not align with the criteria stated in the learning objectives because of the course constraints. As a consequence, assessment criteria became a moving target and were often subjective. Discussion boards, chat rooms, video, etc., often substituted rather than complemented the primary instruction. Learners who were conditioned to face-to-face group instruction were thrust into independent and often self-directed projects with little or no preparation, training, or supervision.

## Discussion

E-learning, Hyflex, and competency-based approaches are typically seen as alternatives to more traditional, time-bound, classroom-based instructional approaches. Instructional programs transitioning to e-learning, Hyflex, and competency-based approaches require significant realignment of the program's instructional philosophy, epistemological assumptions, teaching culture, curricula, and the administrative operations (Koszalka, & Ganesan, 2004). E-learning,

Hyflex, and competency-based learning approaches affect everything from instructional methods, learning assessment, and grading scales to Carnegie units and matriculation requirements. There are also the legitimate concerns that adopting these learning approaches means total abandonment of traditional classroom and face-to-face delivery strategies (Lindner, Dooley, & Murphy, 2001). This need not be the case because e-learning, Hyflex, and competency-based based programming are compatible with and rely on traditional brick-and-mortar programming as the foundation from which they are launched. That is, the schools will continue to be the organizing anchor for traditional learning, distanced e-learning, and even the home schooler for the foreseeable future. Hence there is a need for well-planned, comprehensive, and proactive strategy.

Traditional educators were challenged to provide high-quality alternatives to traditional classroom-based instruction over the past two academic years because of the Covid-19 pandemic (Müller, Goh, Lim, & Gao, 2021). For many of the *knowledge-only* based courses, the response to this challenge involved mostly placing course slides, notes, etc. online and facilitating virtual classrooms, asynchronous discussions, and providing email support (Mulla, Osland-Paton, Rodriguez, Vazquez, & Plavsic, 2020). These are all important aspects to be included in e-delivery modes, but e-learning can be stifling for both the learners and instructors, especially when conducted over the course of a full school day, if solid design principles are not incorporated. Studies (Boling, Hough, Krinsky, Saleem, & Stevens, 2012.) have shown that well-designed e-learning provides learner and instructor satisfaction, high retention rates, and learner persistence for the courses. Therefore, solid instructional design principles must be applied to incorporate authentic presentation, application, and feedback activities that are task-based, engaging and interactive, and meet the course objectives and intended learner outcomes.

The providers of *competency-based* instructional programming faced the additional challenge of designing and delivering authentic e-learning instructional activities that mirrored and matched the actual task-performance required for certification of competency in career and technical fields. These include culinary, health sciences, and robotics, for example, and any instruction in which the conditions for location-bound, hands-on practice exercises are necessary (e.g., simulators, laboratories, tools & equipment) and when supervision and safety concerns are paramount (Ng, Seow, MacDonald, Correia, Reubenson, Gardner, & De Oliveira, 2021).

Despite the additional challenges, many Career and Technical Education (CTE) instructors were already doing some type of e-learning in their classrooms. Wide use of digital learning management systems, such as *Google Classroom* and program area-specific courseware were already present in many competency-based programs. Rapidly advancing technology lends itself to digital content and online textbooks, and modeling and simulation tools helps reduce costs of consumables and decreases threat of accidents and injuries in novice learners. However, this was in support and supplemental rather than supplanting hands-on learning and competency-based education.

Most instructors rose to the challenge to creatively deliver virtual competency-based instruction to the best of their ability. However, many instructors increased the amount of demonstration, while students would practice outside of the lab-space. There was some real-time feedback and guidance, but much was retroactive, especially when the student practice occurred asynchronously. Much of the feedback would occur as the student *turned in* the work, becoming almost a practice in *trial and error*, impacting the timeliness of the instructor feedback. This caused a shift that required more student self-advocacy, where students would likely need to *reach out* for help and support or enrichment.

Another challenge came in aligning the level of learning on Bloom's Taxonomy (Krathwohl, 2002) with the standards and competencies in the course curriculum framework. For instance, instruction could lead learners to understand the content, but the e-learning environment made it difficult to apply or create. Some of these restrictions occurred due to lack of the required tools in the students' hands. This obstacle is obvious in programs like construction or welding, but these restrictions occurred in high tech areas as well. Despite every student having a laptop/device, many did not have the specialty software loaded, or the specification requirements to run said software. Even solutions sourced from outside vendors frequently hindered the users' experience causing frustration for both instructors and learners (Novak, McDaniel, Daday, & Soyturk, 2022).

The difficulties in appropriately responding to these challenges highlights the need for a proactive strategy going forward in deciding course mode options, whether responding to pandemic or other crises, and to address the volatility of the *new normal*. A significant portion of programming is shifting to permanent e-learning and Hyflex options, particularly as learners are opting out of traditional time and location-bound learning spaces (Zacharis, & Nikolopoulou, 2022).

The abrupt shift to e-learning, and its wide reach, changed the expectations of learning environments forever. Parents, students, faculty, administration, and industry all recognized the value of e-learning, and there was an expectation that e-learning options be offered. However, it is imperative that institutions be strategic about which courses and programs can be delivered with fidelity. It is important that each competency set be analyzed to determine if e-learning or Hyflex is an option, and if so, which approach works best for the course. Additionally, expectations of the course, the instructor, and the student must be set and be consistent for these models to reach maximum impact. For example, students began returning to the classroom with new expectations for in-person learning; they also craved hands-on time with the tools. Instructors also recognized that asynchronous learning could efficiently maximize in-person classroom time with hands-on instruction. Therefore, to meet these expectations, intentional scheduling of e-learning and in-person is vital for the success of a Hyflex model.

## Strategy

The balance of this article offers strategy considerations when planning an e-learning or Hyflex delivery approach paired with competence-based instruction. Also, it should be obvious that such a project should engage designers and instructors who are competent in the implementation of competency-based instruction delivered through e-learning and Hyflex modes (Chen, 2007). If the purpose of competency-based instructional programming is to supplement or move beyond static, passive, *knowledge-only* based instruction, then designers and instructors should also be capable of providing dynamic, active, knowledge, *and* skill-based opportunities for learning, regardless of delivery mode.

### *Key Questions*

*Why competency-based learning?* The competency-based approach allows students to advance based on their ability to master a skill or competency at their own pace regardless of environment. True competency-based programming is not time-bound and is most appropriate for e-learning and Hyflex delivery modes when compared to traditional time-bound programming. (https://library.educause.edu/topics/teaching-and-learning/competency-based-education-cbe).

*Why e-learning?* Because this mode can integrate online synchronous or asynchronous content delivery and it can be accessed via most electronic devices including a computer, laptop, tablet or smartphone, making it a versatile and convenient way for learners regardless of location (Moore, Dickson-Deane, Galyen, 2011).

*Why HyFlex learning?* HyFlex is an instructional approach designed to give learners greater control over their learning and course engagement modes. HyFlex allows learners to choose in-person instruction or online instruction in real-time from a remote location (Beatty, 2010, 2014). HyFlex combines the terms *hybrid* and *flexible* and, in that, *hybrid learning* refers to learning that integrates complementary face-to-face (synchronous) and online learning (asynchronous) experiences in service of intended learning objectives. All learners in a Hyflex course are given the choice in how they participate in the course and engage with material in the mode that works best for them over the course and from session to session. An added benefit is the ability to address learning styles and preferences to a greater degree than traditional modes.

In Hyflex courses, students can choose from one of three participation paths:

1. Participate in face-to-face synchronous class sessions in-person.
2. Participate in face-to-face class sessions fully synchronously.
3. Participate fully asynchronously.

These three modes are separate and distinct but constitute the components to be blended with the appropriate strategy. Unfortunately, there is a common perception by the uninitiated that instruction delivered in a classroom setting can automatically be converted to e-learning/Hyflex modes; however, recent experience has demonstrated otherwise. Given the mandate to convert and considering all of the available options, it is important to create a strategy to guide decisions and maintain focus on the organization's goals. Within the strategy several factors are important to consider, such as, the technical infrastructure, the learner capability, budget availability, organization culture/constraints, learning transfer strategies, etc. with the purpose of structuring a performance-based blended learning solution.

Certain innate characteristics and attributes of e-learning have been identified among effective instructional offerings. Figures 1- 4 provide a guide to identifying many of the elements necessary for successful strategy creation that apply to a particular offering (Hong, & Jung, 2011). This guidance can be useful for novice and experienced designers of e-learning/HyFlex approaches when discussing the implications for course conversion with the multiple stakeholders. The answers to these key questions can help the designer align the courses to sound instructional design principles *and* address the expectations and concerns of the stakeholders.

**Figure 1**
*Identifying Strategic Elements*

| | Strategic Planning | |
|---|---|---|
| 1. | Assess organizational readiness for e-learning. | ☐ |
| 2. | Conduct a risk analysis. | ☐ |
| 3. | Benchmark organizational capabilities/competencies. | ☐ |
| 4. | Determine which courses to convert to e-learning. | ☐ |
| 5. | Determine the costs and benefits of e-learning conversion. | ☐ |
| 6. | Promote e-learning to maximize buy-in and commitment. | ☐ |
| 7. | Identify resources required to implement e-learning. | ☐ |
| 8. | Identify what type of e-learning to use. | ☐ |
| 9. | Select a learning management system that meets the e-learning needs. | ☐ |
| 10. | Write an e-learning strategic plan. | ☐ |
| 11. | Develop an implementation plan. | ☐ |
| 12. | Develop e-learning transfer strategies. | ☐ |
| 13. | Establish e-learning measures. | ☐ |
| 14. | Establish vendor relationships. | ☐ |

Source: (Adapted from *How to Create an e-Learning Strategy*, 2018)

**Figure 2**
*Identifying Infrastructure/Support.* Source

| | **Technical Infrastructure/ Organizational Support** | **Yes** | **No** |
|---|---|---|---|
| 1. | Can the organization host e-learning? | ☐ | ☐ |
| 2. | Does the organization have the tools needed to design e-learning? (e.g., authoring, graphic, sound, video, collaboration, LMS). | ☐ | ☐ |
| 3. | Does the organization have the capacity to deliver e-learning? (e.g., project managers, analysts, instructional designers, multimedia producers, authors/developers, testers, network managers, technical support personnel). | ☐ | ☐ |

| | | | |
|---|---|---|---|
| 4. | Does the organization have standards for web development? | ☐ | ☐ |
| 5. | Can vendors or consultants be used in the project? | ☐ | ☐ |
| 6. | Is there funding in place for an e-learning strategy? | ☐ | ☐ |
| 7. | Does the administration support e-learning? | ☐ | ☐ |
| 8. | Do the instructors support e-learning? | ☐ | ☐ |
| 9. | Do the learners support e-learning? | ☐ | ☐ |
| 10. | Is e-learning aligned to the organization's mission? | ☐ | ☐ |

Adapted from *How to Create an e-Learning Strategy*, 2018)

**Figure 3**
*Identifying Learner Capabilities*

| | **Learner Capability** | **Yes** | **No** |
|---|---|---|---|
| 1. | Do learners have access to the network? | ☐ | ☐ |
| 2. | Does every learner have access to a computer? | ☐ | ☐ |
| 3. | Do the learners have basic computer skills? | ☐ | ☐ |
| 4. | Do they all speak the same language? | ☐ | ☐ |
| 5. | Do they have unique physical/psychological needs? | ☐ | ☐ |
| 6. | Do the computers need to be upgraded for e-learning? | ☐ | ☐ |
| 7. | Are the learners in different geographical locations? | ☐ | ☐ |
| 8. | Do they have a learning style/preference? | ☐ | ☐ |
| 9. | Is their remote environment conducive to e-learning? | ☐ | ☐ |
| 10. | Do they have remote e-learning supports? | ☐ | ☐ |

Source: (Adapted from *How to Create an e-Learning Strategy*, 2018)

**Figure 4**
*Identifying Design Options*

| **Essential Design Requirements** |
|---|
| *WBT/CBT Tutorial*<br>To design/deliver a basic WBT/CBT tutorial you need:<br>• network ability to host a website<br>• capability and tools to program or author e-learning<br>• learner computers able to connect to the website |
| *Self-Directed e-Learning*<br>To design/deliver self-directed e-learning you need:<br>• network ability to host asynchronous communication (e.g., email, discussion board, listserv)<br>• collaboration software needed to create/deploy asynchronous activities<br>• learners' computers able to log on to/receive email, discussion boards, or listserv |
| *Virtual Classroom*<br>To design/deliver interactions in a synchronous web environment you need:<br>• network ability to host synchronous events (e.g., chat, screen sharing, audio/video conferencing)<br>• software to create/deploy synchronous collaboration activities<br>• hardware to create/deploy synchronous collaboration (e.g., microphones, web-cams, speakers)<br>• Computers with a very fast network connection |

Source: (Adapted from *How to Create an e-Learning Strategy*, 2018)

## Final Considerations

Instructional designers need to consider that highly effective courses may suffer by converting to e-learning if the learners are no longer able to reap the interpersonal benefits associated with the traditional classroom mode (Lovelace, Eggers, & Dyck, 2016). Additionally, if converting the course to e-learning means that it will no longer be feasible to conduct performance-based testing for that particular content, then converting that course to e-learning needs to be reconsidered. Otherwise, blended options will need to be added to close the performance gap, along with wrap-around performance support activities, and learning transfer strategies (Al Shehab, 2020).

In summary, these are the design-related considerations when choosing which strategy:

- Available technology
- Type of content

- Complexity of material
- Scheduling
- Class size
- Staff resources available
- Design/authoring time available

Guided by strategy, instructors can create performance-based, blended learning solutions that align to the increasing demand for e-learning/Hyflex teaching and learning environments.

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