

# Mixed-Mode Course Design and Delivery

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## **Abstract**

The student learning experience is undergoing an unprecedented transformation as the integration of technology becomes a major consideration when accessing delivery options. This paper will review the work of researchers as they explore the application of technology to learning. The model that is analyzed is the mixed-mode, hybrid, or blended learning that combines traditional face-to-face classroom time with significant online activities and resources. Perceptions of both students and instructors will be considered in conjunction with the theoretical support for this type of course delivery. Finally, the paper outlines the benefits of this model and the major considerations for design and implementation.

## Introduction

The student learning experience is undergoing an unprecedented transformation. Technology has become the driver for the changing environment and is often considered both the problem and the solution to current learning delivery challenges. Adopting new learning technologies can result in a complex learning environment where discussions and other activities are presented to students as a blended learning experience. New communication technologies allow students to participate in discussions that are no longer restricted to the classroom. Instructors can start a topic before the students meet face-to-face and continue the discussion long after the class has ended. In a world where an increasing number of educational institutions offer online courses, it is time to stop and ask how changes in learning technologies have affected learning and whether technology is the problem or the solution.

The terms “mixed-mode,” “hybrid,” and “blended learning” may mean different things to different people; in this chapter the terms will be used interchangeably. Hybrid, blended, and mixed-mode learning have been defined by Hofmann and Miner (2008) as “using the best delivery methodologies available for a specific objective, including online, classroom-based instruction, electronic performance support, paper-based, and formal or informal on-the-job solutions among others” (p. 29). It is the nature of the learning experience that ultimately determines the “blend” of these components. Blended learning was developed as a very pragmatic concept. It was developed initially in organizational training to replace completely traditional face-to-face training with a mixture, or blend, of e-learning and traditional approaches.

Online learning has grown in popularity as busy learners search for ways to earn degrees without spending more time in the classroom. One trend in online education is the utilization of mixed-mode learning environments, primarily in higher educational institutions, which offer a combination of online and face-to-face instruction (Doering, 2006). The goal of mixed-mode learning is to improve the educational experience for students by joining together the best practices of in-class teaching with those

of online learning to promote active independent learning and reduce class seat time. Mixed-mode courses offer many advantages over completely face-to-face or completely online courses, including convenience, interaction, flexibility, and similar levels of learning and retention. Research on the effectiveness of online education in general shows that students who learn at a distance do not learn any worse, or any better, than traditional students (Garnham & Kaleta, 2002).

From the point of view of instructional design, the choice of one learning method over another is hardly ever neutral although the general objectives of the face-to-face and online courses are essentially the same. In the adoption of the online approach rather than the traditional one, there are decisions to be made and problems to overcome. It is more complicated than simply adding technology to an existing program, as a re-working of the learning activities is often required (Ertmer, 2003). Blending traditional and online learning involves significant changes in both course modalities. These changes include 1) changes to the content of the curriculum; 2) changes to the organization of the modules; and 3) the development and use of major e-learning components (Boyle, 2005). Matching the delivery method to the learning objectives is the key to integrating technology into the online portion of the program.

According to Boyle (2005) organizations that lack experience creating blended learning often fail to align content with the most appropriate technology. For example, lecturing for forty minutes on how to create a Pivot Table in Excel is not effective because creation of the table requires hands-on practice. However, it is easy to demonstrate the topic using application sharing in a virtual classroom. Designers of blended curricula need to remember that each learning objective has different characteristics. Some objectives lend themselves better to activity-based training, while others tend to be more knowledge or information oriented, lending themselves to a more didactic approach. Going through the process of designing the best training approach on an objective-by-objective level allows for exploration of a blended solution. Objectives must also be viewed in light of the whole curriculum to ensure that they are integrated instead of each being its own inde-

pendent learning. It's not about getting the technology right—it's about getting the instruction right.

Mixed-mode delivery offers positive and negative aspects for both the student and the instructor. To understand these elements more fully, it is helpful to understand how both the instructors and the students perceive the e-learning experience.

## Faculty and Student Perceptions of E-learning

Garnham and Kaleta (2002) of the University of Wisconsin-Milwaukee found that the instructors they studied believed students learned more in the hybrid format than they did in traditional class sections. "Instructors reported that students wrote better papers, performed better on exams, produced higher quality projects, and were capable of more meaningful discussions on course material" (p. 2). The researchers supported their qualitative assessments with quantitative data from the University of Central Florida, which showed that students in hybrid courses achieved better grades than students in traditional face-to-face courses or in totally online courses. Data from the University of Central Florida also showed that student retention in hybrid courses was better than retention in totally online courses and was equivalent to that of face-to-face courses. In the same study Garnham and Kaleta (2002) captured these comments from instructors of hybrid courses:

1. My students have done better than I've ever seen; they are motivated, enthused, and doing their best work.
2. I sense a heightened level of enthusiasm in my students.
3. Introverts, who are quiet in the face-to-face class, really participate online.
4. I was tired of hearing myself talk. This gets so much more student interaction.
5. Discussions are good, both in and out of class.
6. The hybrid allowed me to do things in my course that I've always wanted to do and couldn't.

A study by Delialioglu and Yildirim (2007) found that students considered the mixed-mode course structure interesting and useful. The students especially liked courses that were neither fully online nor fully traditional. The students preferred to participate in learning activities in the classroom that practiced the information they read online. Finally, the sophistication of the website was important and the students reported that cognitive tools like glossaries in the course website made it more interesting than the standard electronic page-turning websites.

Delialioglu and Yildirim (2007) also asked students if the mixed-mode format allowed them to relate new information to their prior knowledge in the area studied. Their findings showed that the mixed-mode course was successful in relating previous knowledge to the newly acquired knowledge if the student had at least some previous knowledge in that subject. The course features that students felt supported their learning in the mixed-mode course, in order of importance, were:

- Homework and assignments provided through the website
- Announcements and additional links supplied through the website
- Quizzes given in the classroom
- Group work and classroom discussions conducted in the classroom
- Message Board in the course website.

Garnham and Kaleta (2002) found that 80 percent of the students would recommend a hybrid course to their friends and most appreciated the convenience and the freedom to work at home at their own pace. They also found that 69 percent of the students reported that they could control the pace of their own learning; 77 percent felt they could better organize their time; 61% stated that there should be more mixed-mode classes; and 67 percent disagreed that the time spent online would have been better spent in class.

An in-depth exploration of the mixed-mode or blended learning approach will aid program managers, course developers, and

instructors in developing programs that more successfully meet the challenges and objectives of their programs.

### Theoretical Support for Mixed-Mode Delivery Design

Support for the use of the mixed-mode design can be found in many schools of thought on adult learning, including that of Malcom Knowles, a pioneer in the area of adult learning theory.

Knowles (1984) identified characteristics of the adult learner (andragogy) that differed from the characteristics of child learners (pedagogy). Of the six major characteristics he identified, mixed-mode delivery supports two of them directly, and when incorporated with other course elements, supports all six. Briefly, Knowles's adult learning characteristics include the concepts that:

- Adults are autonomous and self-directed learners.
- Adults need to connect learning to their previous knowledge and experience.
- Adults are goal-oriented and must understand how the learning contributes to their goals.
- Adults are relevancy oriented; they must see the reason for learning something.
- Adults are practical learners, focusing on the elements of the lesson that they can use in the near future.
- Adults need to be shown respect and should be treated as equals in experience and knowledge and allowed to voice their opinions freely in class.

Mixed-mode design allows students to be highly autonomous and self-directed because much of their learning experience is outside of the controlled classroom environment and is at the discretion of the individual. The location and timing of online learning is in the control of the student and is typically done as a solitary activity when the online environment is asynchronous, which means that not all students are participating at the same time. Synchronous learning environments are less autonomous as the students interact at the same time, but the students retain

control over the place they study and are allowed the ability to multi-task as they interact online.

The mixed-mode delivery model also respects the adult learner as it acknowledges the student's life as a whole and that being a student may be a relatively small part of one's commitments and schedule. Online discussion gives every student a voice, even those that are reluctant, for whatever reason, to participate fully in classroom face-to-face discussion. Online learning allows each student the time needed to respond and participate and respects the diverse learning styles that students bring to the classroom.

Good course design and quality instruction, whether it includes a mixed-mode delivery or not, needs to integrate the other characteristics of adult learners to fully enhance the adult learner's experience. The mixed-mode design does not restrict nor conflict with the incorporation of any of Knowles' other adult learning characteristics.

Merriam and Caffarella (1999) state in their foundational book *Learning in Adulthood: A Comprehensive Guide* that the overriding barriers of adults participating in educational endeavors were time, cost of education, and conflicting family responsibilities. The mixed-mode design addresses these barriers directly by allowing students to spend more time at home and less time in the classroom. Factoring in the time and costs of transportation, this design can be a less costly alternative for students. The cost of computer equipment and an Internet connection can mitigate any cost savings for the initial course. However, over time the student may see some cost savings.

Social Learning Constructivists argue that the traditional curriculum and the oral tradition of lectures within higher education are two central barriers to the implementation of blended learning. However, they believe that the social constructivist emphasis on self-governed work for students could remove these barriers. According to the social constructivist approach, learning is considered an active, social process in which individuals actively construct knowledge within the social environment. This means that learning necessitates the active and self-governed work of students (Vygotsky, 1978). The mixed-mode model allows students to self-govern their involvement in the learning activities while

providing a strong social component in the classroom that supports the social processes needed to construct knowledge.

Social Learning Theory (Bandura, 1976) proposes that people learn from one another by observation, imitation, and modeling behavior. This theory has often been called a bridge between behaviorist and cognitive learning theories because it encompasses attention, memory, and motivation. Online only classes do not give students the ability to physically observe each other and learn from the social interactions in the same way. The mixed-mode delivery provides the opportunity for this social learning during the face-to-face sessions, while still supporting self-directed learning and flexibility in scheduling.

### **Mixed-Mode Delivery**

The strengths and weaknesses of mixed-mode course delivery have been widely studied. One of the earliest arguments questioning technology's role in learning was pointed out by Clark (as cited by Delialioglu & Yildirim, 2007) who felt that focusing purely on technology would be the wrong approach and that learning should be the center of the educator's efforts. Many research studies show that integrating technology into instruction can definitely improve access to information, but that it does not improve learning in any significant way. Given that online and classroom delivery have equal impact on student learning, differing benefits and limitations accrue to both online and classroom course designs.

Classroom space and computer lab access is at a premium at many institutions that have insufficient physical resources to meet their expanding needs. Hybrid courses may allow institutions to maximize their available resources, allowing two classes to operate in one physical space. According to Ron Bleed, vice chancellor of Information Technologies at Maricopa Community College, hybrid course offerings may be the only way colleges and universities can keep up with the continuing population growth and the demands for lifelong learning (Gould, 2003). On a pure cost level, hybrids reduce paper and photocopying costs. In hybrid courses all course documents, including syllabi, lecture notes, assignment

sheets, and other hard copy handouts are easily accessible to students on the course website.

While developing online course material is time consuming, hybrid course development can serve as a way for faculty to ease into distance learning formats without the burden of developing an entire course. In this way an institution can maximize the expertise of its faculty without incurring professional development costs.

Three overriding themes emerge from the literature on the benefits of online learning in a mixed-mode course design. These themes are centered on the benefits of collaboration, improved discussion and interaction, and student and instructor flexibility. Collaboration

Harasim (1990) depicts peer interaction among students as a vital variable in learning and proposes that a collaborative learning process is necessary to engage the learner and promote the kind of learning necessary for present and future work preparation. Additional studies confirm that online interaction encourages collaborative environments and have determined that student collaboration can occur through a computer network. Most providers of online courses use asynchronous discussion groups to generate student-to-student and student-to-instructor interaction. Student-teacher interaction is enhanced as students do not have to rely on the instructor's physical "office hours" to meet. Instructors communicate consistently with students and can more easily be responsive to clarifications, questions, and student concerns.

The virtual environment aids in collaboration because it is a forum for continued interaction between students and the instructor. The asynchronous nature of the online portion allows students to collaborate even though they are not all at the same place and time. Collaborative efforts that may begin in the classroom can be continued without interruption through the online medium. The sharing of information in all its forms does not rely on the students "meeting up" to exchange physical documents. The centralization of electronic resources also supports environmental concerns about the overuse of paper products as students need only print those resources that are pertinent to them. Storing

electronic information has become commonplace and students often prefer this method of organizing data.

Collaboration is enhanced by keeping a record of the collective learning of the class that can be reviewed at any time as needed. The opportunity for students to contribute comments, ideas, resources, and web links over the duration of the course and afterwards provides scope for dynamic knowledge sharing and knowledge creation. This may change the way students work and how they keep “notes” as they utilize the permanent record of conversations and ideas that are generated instead of capturing these same ideas by pen and paper.

## Discussion

Discussion is a valuable tool in the teaching process, and a survey of online instructors found that forty-one of the forty-two respondents used discussion as a teaching method (Delfino & Persico, 2007). A criticism of online learning is that online courses lack the interaction to get the same benefits as a classroom discussion. Online discussion boards are asynchronous learning environments that offer students the opportunity to engage in dialogue. The utilization of discussion boards provides students an opportunity to share their thoughts with others in the class. Discussion boards establish a collaborative learning environment by allowing students to become acquainted with fellow classmates and develop rapport between students and instructors. Studies have found evidence that interaction between students in an asynchronous learning environment leads to a community of learners (Dalsgaard & Godsk, 2007).

Ellis and Calvo (2006) found that students who conceive of discussions as a useful way of learning more about the subject tend to engage in online discussions in a reflective and meaningful way. They also engage in face-to-face discussions with a similar intent. They found that students who approach discussions meaningfully hold positive perceptions of this type of learning experience. However, students who do not display an awareness of the

link between their discussions and the learning outcomes tend to hold a negative perception of this type of learning experience.

The implications of this research for teaching practice are clear. At the level of the whole learning experience, a lot of preparation is necessary to help students learn through discussion. It is not enough to simply provide opportunities for meaningful discussions closely linked to the learning outcomes of the subject to the students. If students are not aware of the purpose of the discussions or they have negative perceptions of the learning context, then they are not likely to benefit from the discussions or perform well in the subject. Consequently more preparation is needed in helping students understand how to learn from the experience of others; how to use the postings of others to reflect on their own answers; how to stop worrying about appearing ignorant in their postings; and how to focus on the relationship between the discussions and the learning outcomes of the subject. Improving the clarity of the goals and standards is important in addressing the students’ perceptions of their learning context, as does making a greater effort to understand the students’ difficulties as they engage in their discussions. Another finding by Ellis and Calvo (2006) is that postings stimulate follow-up face-to-face discussion and that online discussion engages students more actively in the whole course.

Other positive aspects to discussion include 1) discussion is not cut off at the end of the traditional class but can continue past the “given” time; 2) the student does not have to get the instructor’s eye to make a comment but is free to comment at will; 3) it is more difficult for one person to dominate the debate; and 4) comments can be read and reread for clarity. Even the shyest student in the classroom is forced to have a voice online through discussion assignments. Students are given the time needed to format their thoughts and to express themselves in a thoughtful, controlled manner.

## Flexibility

Flexibility manifests itself throughout the mixed-mode design. Scheduling and adapting to student learning styles are two of the major benefits.

The mixed-mode model allows students to participate from anywhere and at any time that they feel is their optimum learning time. For adult students who are typically juggling work, family, and other personal commitments, online classes fit into their schedule more easily than attending a regular weekly class in the evenings or on weekends. Those that travel frequently for business find this format allows them to be full participants in the class. The mixed-mode design does require that students be available at a predetermined time and place for the face-to-face class. However, since these meetings are far less frequent than in the traditional model, it is easier for students to work the classes into their schedules. As mentioned earlier the student also does not need to match the schedules of the instructor's office hours or the schedules of other students in order to collaborate on projects.

As adult learners, most students can learn in multiple styles, i.e., visual, auditory, kinesthetic, but often have a preferred style. The mixed-mode design allows the instructor to more easily incorporate a wider range of learning activities to meet the various learning preferences. For example, students can be directed to Internet sites like YouTube for instructional videos or to websites that contain information delivered through the use of podcasts for auditory learning. These types of technologies allow students to learn in the way that is most meaningful to them.

Mixed-mode design and delivery offers many benefits to the classroom experience and student learning by combining personalized opportunities for face-to-face interaction with the efficiency and flexibility of online learning. Some relevant aspects include instructor presentations, discussions, team building, communications skills, and student engagement and participation.

In a lecture factual information is presented in a direct logical manner, a method that is particularly useful in large groups and is a powerful learning tool that leads to unexpected insights by learners. By adding discussion to an instructor's lecture, students can question, clarify, and challenge what is being presented in real time and not have to wait for responses as they would in an online class. Online "lectures" typically take the form of written summaries or papers that the student reads independently without any interaction with the instructor. The ability to get the lecture infor-

mation independently and directly from the instructor is one of the key advantages to the mixed-mode delivery model. The personality, enthusiasm, and delivery style of the instructor are part of the presentation of the material. Real-time interaction between the instructor and the student has the potential to promote student understanding at a deeper level, while the opportunity to take time to read, and possibly reread information presented, allows for individual variability in the rate of internalizing new information.

Online delivery has many benefits as discussed previously, but due to inappropriate designs, many online discussions fail to achieve desired learning outcomes. Online discussion also has the potential to promote critical thinking; however, it is a challenge to implement online discussions in a way that actualizes this potential.

Classrooms may support team learning more directly, allowing students to interact in person and to work through team issues. Virtual teams are possible, but they may benefit from at least an initial face-to-face group interaction. Student isolation is lessened as students build a learning community face-to-face and continue to develop the community online.

In many professions communication skills are important for success. As part of the work environment, the ability to speak proficiently in front of others is a requirement. This is a skill that may be more difficult to develop online. Many classes require presentations as part of their curriculum, which may be challenging with an all-online delivery method. The opportunity to give presentations and to get feedback is a vital benefit of many courses.

Posting introductory student bios online prior to the first class meeting helps to "break the ice" when the students meet for the first time. Students are often more expansive in the personal facts they share in writing than when asked to talk about themselves in front of the class. Students can also connect on similar interests prior to meeting in person. The student bios can also be used by the instructor as a way to group students for team activities and assignments, either by grouping students by similarities or by differences, depending on the purpose of team interaction.

In the typical classroom, some students are comfortable speaking up and participating freely in discussions and other students are not. There may be many reasons why a student does not readily participate in the discussion, including language barriers, intimidation from more vocal students, lack of confidence in their own ideas, or the lack of enthusiasm or interest in the class material. Larger classes are a challenge for instructors to gauge the participation of all students. The mixed-mode delivery allows students two options for participation, depending on what fits their learning preference and allows the instructor to gauge participation in more than one way.

The online environment makes it evident who is participating. The need to interact in writing increases student interaction, especially for those students that do not speak often in class. In this format students are not silenced by more talkative classmates or a verbal instructor. Also, the class does not “run out of time” for students to present their ideas. Participating online may be less intimidating than the classroom and students can also take longer to think through their ideas and contribute when they are ready. Students, especially those for whom English is not their first language, can write their online contributions in a Word document and run spell and grammar checks before posting it online. This allows them to fully consider what they want to say and to only add their comments when they are ready.

Tracking participation helps to target “at-risk” learners quickly. Students who hesitate to actively participate in classroom discussions may be at risk of failing the course. It is difficult for instructors to gauge these students’ level of understanding based on their classroom participation. These same students may not be seen as at-risk, however, if they actively participate in the online discussion forums. By monitoring both the student’s classroom and online participation, instructors can more readily identify the truly at-risk students so that the proper intervention(s) can be found.

While there are many advantages to mixed-mode, there are also limitations. An advantage to an all-online course as opposed to mixed-mode is the ability for students to be geographically dispersed. Many online programs are successful because they can be accessed by students no matter where they are in the world

as long as they have adequate Internet connectivity. Because of the face-to-face component in mixed-mode delivery, students are confined to a specific geographic area, which limits the number of students who can participate.

Another limitation to online learning is that it is a relatively new delivery format, and both instructors and students are still establishing the best ways to use this method. While research in this topic dates back twenty years, there continues to be limited understanding of effective teaching and learning methods. Moving to online instruction has been a difficult transition for many institutions, instructors, and older students who have always learned in a traditional classroom setting. Many students, even younger ones, find online learning sterile and feel that it lacks the stimulation of the classroom.

Finally, there are still places in the world where the Internet is not available. This is becoming less of an issue, but for some students the availability of a stable and affordable Internet connection is a barrier to participation. Some students may also have limited access to updated computers and software that are needed to run the platform on which the online learning lives.

## **Mixed-Mode Design and Instruction Considerations**

Many course designers are challenged by taking an existing traditionally designed course and adapting it to an online or mixed-mode format. In the process of transformation from classroom to online, there are five phases: 1) adjust the course design; 2) socialize the learners; 3) support student participation online; 4) sustain online interaction; and 5) sum up learning outcomes for the course. These phases are described by Walker and Arnold (2004) as follows:

### **Adjust the Course Design**

Critics of online delivery often comment on the artificiality of the interaction and that the medium of virtual communication

does not enhance the coursework or help the learning process. This suggests that the design of the courses can be improved, particularly the learning activities, to align them more closely with the use of the asynchronous communication tools. From a user's perspective, the effectiveness of the tools appears related to their alignment with the targeted learning method. When converting a classroom activity to work in online delivery, consider that students may need more detailed and comprehensive instruction about the purpose and outcomes of the activity because they will be read and not heard. The instructor will also want to minimize the number of questions, use visual images whenever possible, and finally develop a forum in which to discuss specific assignments (Walker & Arnold, 2004).

Prepare learners for the virtual components of the course. Students often lack orientation regarding how to approach the online activities. Research has highlighted a range of factors which indicate many students are not properly prepared to embrace e-learning methods. Students are not always motivated to interact online when they could exchange ideas face-to-face. Students can also encounter technical problems, such as the log-in process, when attempting to access the site. Students need time to familiarize themselves with the virtual tools. In particular, first-time users often require assistance in developing the technical skills to function effectively online while others may lack the requisite learning skills and competencies to work effectively online. Students may also need some grounding in online etiquette, since taking an online course requires overcoming the lack of nonverbal communication. The Kent State Distance Education Department (2011) describes several important aspects of this etiquette:

1. Avoid language that may come across as strong or offensive. To ensure that your statements are not misinterpreted, review statements before posting to make sure that an outsider reader would not be offended. Humor and sarcasm may also be misinterpreted, so try to be as matter-of-fact as possible.
2. Stay on topic. Since online courses may require a great deal of reading, keep sentences brief so that readers do

not get lost in wordy paragraphs and miss the point of the statement.

3. Read first, write later. It is important to read all posts or comments of students and instructors before responding. This prevents repeating commentary or asking questions that have already been answered.
4. Review and then send. There is no taking back a comment that has already been sent, so double-check to make sure that your thoughts are clearly conveyed exactly as intended.
5. An online classroom is still a classroom and appropriate classroom behavior is still mandatory. Respect for fellow classmates and the instructors are important and expected.
6. Certain aspects of Internet communication are becoming conventional. For example, do not write using all capital letters, because it will appear as shouting. Also, the use of emoticons can be helpful when used to convey nonverbal feelings, for example: :- ) or :- ( ; but avoid overusing them. Some acronyms such as LOL for "laughing out loud" or BTW for "by the way" are becoming more popular; but again, do not overuse them, and you may need to explain them the first time they are used.
7. Consider the privacy of others by asking permission prior to giving out a classmate's contact information.
8. No inappropriate material is acceptable. Do not forward virus warnings, chain letters, jokes, etc. to classmates or instructors.

Beyond these motivational and technical concerns, students need to generate a common sense of purpose in order to work collaboratively online. This sense of shared purpose is difficult to achieve when participants are accustomed to traditional study methods. Students need time to recognize virtual learning environments as spaces for ideas and information sharing.

It is important to support student participation online in the early stages of the course when they require more guidance and support. The need for technical support to help solve problems related to the uploading of reports or simply accessing the

course site is important not only in the early stages of the course but throughout. Students also need guidance on how to express themselves online and may look to the instructor to encourage other students to respond to comments posted on the discussion board. Instructors can also play a proactive role by modeling targeted learning behavior (e.g., by posting new discussion themes; responding/referring to postings, integrating student responses, etc.).

Student participation may need to be sustained online during the later stages of the course when students typically become more confident and the participation of the instructor appears to be less important. However, the course instructor still needs to remain vigilant, monitoring the learning processes and ensuring that the interests of students in the course are maintained. Students also continue to need new articles and resources which add value to their learning to keep pulling them back online.

Instructors should sum up the learning outcomes at the end of the course. Students expect the instructor to identify the key outcomes of the in-class and the virtual learning, tying together the loose ends of the course. In this way the final class sessions can reinforce the lessons learned from the virtual phase of the course, with the instructor providing feedback on the research and collaborative learning activities. Students will then complete the course with a clear understanding of the learning outcomes and the relationship between the virtual and in-class learning processes.

## Activities

Activities in a mixed-mode course build upon the tools available in an in-class course. Instructors now have more options for the delivery of learning activities (Caladine, 1999). Table 1 below outlines the tools available for each learning activity.

Table 1

Learning Activity	Mixed- Mode Course
Materials	Websites, online materials, also allows for the printing of materials.
Interaction with material	Multimedia, web browsing, glossary, homework, quizzes, classroom activities
Interaction with the teacher	Web announcements, forums, phone, face-to-face interaction, consultation, polling tools, webinars, videoconferencing
Interaction between students	Web forum, e-mail, group work, class discussions, projects, shared documents, webinars, videoconferencing, video chat rooms
Intra-action	Class discussion, group work, web forums

Researchers agree that the design, development, and implementation processes for a blended learning environment are different from those in a purely traditional, face-to-face lecture course or a purely online course. From the results of their studies, they make the following suggestions for the development and implementation of mixed-mode instruction:

- Don't mix only the technologies; mix the educational philosophies, theories, and instructional design methodologies. Each component must be evaluated and adapted for the mixed technology (Delialioglu & Yildirim, 2007).
- Start small and work backward from your final goals. What do you want students to be able to do at the end of the semester? When planning the integration of digital communications technologies, careful attention to learning objectives becomes even more important; this helps teachers avoid a counterproductive focus on the technologies themselves (Sands, 2002).

- Imagine interactivity rather than delivery. Simply posting materials on the web will not guarantee that students will engage with or and learn from them any more than having a student in a classroom guarantees his/her participation. Instructors need to offer activities that require students to perform basic academic tasks and that place them in conversation with each other, such as through responses to each others' summaries and analyses (Sands, 2002). While considering the appropriate delivery, first conceptualize the needed level of interactivity, and match the delivery method and the desired level of interactivity as best you can. For instance, if a high degree of analysis is needed, this discussion would best be conducted in the classroom, while the sharing of thoughts and experiences can be done effectively in an online discussion forum.
- Give special attention to student motivation in mixed-mode courses. Motivation and reward are very important for student learning, with intrinsic motivation the key element for success in a hybrid course (Delialioglu & Yildirim, 2007).
- Provide tools that support student understanding of the subject. The use of website items such as a glossary, site map, search function, and bookmarking increases the integration of both delivery methods.
- Use multimedia in the web components to enhance learning, including audio, video, and PowerPoint presentations (Delialioglu & Yildirim, 2007).
- Encourage and provide facilities for student-student and student-instructor communication. Besides the availability of online communication through discussion boards and e-mail, students communicate face-to-face on a regular basis (Garnham & Kaleta, 2002).
- Be prepared for a shift in the span of control over the way the course is managed. Since classroom time is reduced and everyone is online, opportunities to monitor and manage interactions move from the geographic space of the classroom to the temporal space of the week, month,

or whatever unit of time intervenes between classroom meetings (Sands, 2002).

- Be explicit about time-management issues and be prepared to teach new skills.
- Students who have spent the past two decades or so in traditional classroom settings will have to learn new skills to cope with the distribution of requirements over time and to cope with their new dependence on each other. If teachers create opportunities for interaction, then each participant becomes dependent on the participation of the others (Sands, 2002).
- Plan for effective use of classroom time and connect it to the online work. Many teachers bring to class one or two posted responses from students, project those responses using an overhead projector, and then discuss them with the class.
- Developing a hybrid course should be a collegial process. Discussing the course redesign problems and progress with colleagues is helpful for instructors when designing their first few courses. The opportunity to interact with an experienced hybrid course instructor can be especially valuable. An instructor with experience can answer questions, share "war stories" about what to expect when teaching a hybrid course, and give reassurance. (Garnham & Kaleta, 2002).

The role of the instructor is key to the successful implementation of this design. Delialioglu and Yildirim (2007) found that students in hybrid courses have very specific ideas about the role of the instructor and that this role is evolving in the following ways:

- From lecturer to consultant, guide, and resource provider;
- From having all the answers to expert questioners;
- From only providing structured student work to encouraging self-direction; and
- From a solitary teacher to a member of a learning team.

- Students perceive the role of the instructor as a guide and a facilitator of the classroom activities and need to communicate with the instructor in a friendly manner. The students should perceive their own role as “active” and the course as student-centered. The students interviewed by Delialioglyu and Yildirim also stated that the instructor was an important source of motivation for them and viewed the instructor as the person who:
- Outlined the important points of the course content (instructor as an information source);
- Motivated the students to come to class and read the content (instructor as a motivation source);
- Controlled their assignments, homework, and projects (instructor as an authority figure and feedback provider); and
- Helped them in doing their assignments, projects and classroom activities (instructor as a facilitator) (Delialioglu & Yildirim, 2007).

This evolving role of the instructor requires mixed-mode instructors to modify their traditional approach to both the classroom and their online delivery. For in-classroom instruction, instructors are advised to:

- Use the first week of class to focus on the technology, especially since some students may be concerned that they lack the necessary technology skills and access to fast connections.
- Present knowledge-based information through lecture/presentation during the classroom with follow up discussion on line.
- Prior to the lecture, have students prepare by reading basic hard-copy papers and online documents. The list of texts for this lecture/classroom session is made available on the course website.
- Consider outlining the lecture so it serves as a narrative that provides an overview of the topic, its basic theories,

and an introduction to the assignment and to the available online resources. The lecture itself becomes one of many resources available to the student.

- After the lecture, either online or in the classroom, have students work (individually or in groups) on solving the problem-based assignment using all the different resources, both from the lecture and on the course website.
- Use face-to-face discussion to explore the more complex concepts in the subject.
- Allow students class time to work out communication strategies for their online interactions.
- Use assignments that allow the students to present material to a live audience. This allows them to practice their oral communication and presentation skills.

For the online portion of the class, instructors are advised to:

- Be present in the online class. Plan the time it takes to be a consistent participant in the online discussions and introduction of ideas.
- Prepare discussion posts that invite questions, discussion, reflections, and responses.
- Create a supportive online course community.
- Focus on content resources, links to current events, and examples that are easily accessed through learner’s computer.

## Conclusion

The following conclusions about the use of the hybrid, blended or mixed-mode delivery model can be drawn from the literature and from experience. First, there are many ways to approach a hybrid course. When trying to answer, “How much of the course should be online?” and “What part of the course should go online?” there is no one answer. Mixed-mode course designs show enormous variety in how the face-to-face ratio to online time is distributed as well as how the schedule is followed. Instructors also

design hybrid courses to accommodate their own teaching styles and course content. Therefore, learning activities taking place in and out of the classroom vary greatly.

Second, redesigning a traditional course into a hybrid takes time. Hybrid instructors should allow six months lead time for course development. Instructors surveyed by Garnham and Kaleta (2002) were universal in their advice to others developing hybrid courses: Start early and plan very carefully; hybridization is a lot of work.

Not all students grasp the hybrid concept readily. The hybrid model is new to many students, so they need a clear rationale for its use. Students may require repeated explanations about the model to understand why the instructor or institution chose it. Students not taking responsibility for their courses and students with poor time-management skills present problems that instructors may need to address. Many students don't perceive the time spent in lectures as "work," but they definitely see time spent online as work, even if it is time they would have spent in class in a traditional course (Garnham & Kaleta, 2002).

Having time flexibility in hybrid courses is popular. For the students the importance of time flexibility may outweigh any inconvenience caused by the technologies. Students strongly prefer using learning technologies that are available from home rather than in a computer lab (Garnham & Kaleta, 2002).

Finally, both instructors and students appear to like the hybrid course model. Despite the fact that this model is still evolving, it has proven to be a welcome alternative for many students and instructors because it has been found to increase student interactivity, improve student performance, and accomplish course goals that would not have been possible in traditional courses.

The power of the mixed-mode, hybrid, or blended course model lies in its flexibility and its educational effectiveness. Because it emphasizes active learning techniques while following accepted practices in adult learning theory, it increases student interaction with other students and the instructor. When designed and implemented carefully, it can be the "best of both worlds." It is clear that when course design is driven by learning objectives and not the technology, this use of technology can be the solution to some of the problems that are emerging as we try supply options

that allow learning to occur in the time, place, and method that works best for the individual adult learner.

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