A Better Future

Applying Lessons Learned from Hybrid and Blended Education during the COVID-19 Pandemic

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Abstract

The increased use of hybrid and blended learning approaches as an adaptation to the COVID-19 pandemic has provided valuable learning that should not be ignored. The U.S. Army War College, professional military education, and other institutions of higher education should not let the opportunity provided by this crisis slip by without reimagining curriculum and instruction. This article suggests that future resident education programs can benefit by deliberately incorporating distance-learning techniques into future course delivery. However, this will require intentional and sound instructional design as well as buy-in and commitment by resident faculty members to develop online competencies.

The onset of the COVID-19 pandemic directly challenged how the U.S. Army War College (USAWC) and other U.S. professional military education (PME) institutions approached senior leader education. Consequently, across the Department of Defense, PME programs were forced to adapt their resident instruction to online environments by using new tools and methodologies. Some critics have argued that educational institutions needed this shock as an impetus to modernize instructional strategies and "embrace new technology" (Jenkins, 2021). We agree. Reflection on our educational experiences during COVID-19 should inform a more modern and demonstrably effective approach to learning in PME. We contend that the lessons learned during the pandemic will lead to a better future involving greater use of hybrid and blended instruction to improve the PME experience.

The Traditional Model of Resident Education at USAWC

The USAWC Resident Education Program (REP) is a 10-month curriculum delivered to approximately 380 students who are divided into seminars for most of the academic year. Seminars are comprised of 14 to 18 students that are led by a multidisciplinary team of faculty members from each of the three resident teaching departments. A seminar provides functional diversity with the inclusion of representatives from across branches of service (Army, Air Force, Navy, Marines, and Coast Guard), Active and Reserve Components (including Air and Army National Guard), international fellows, and U.S. government civilians.

USAWC REP students are proven high performers within their respective services and organizations who have demonstrated professional success as practitioners and exhibit potential for higher levels of responsibility. They undergo a rigorous selection process by each service and parent agency as part of their respective leadership development and education programs to attend this senior-level college. U.S. military students are in the grade of O-5 or O-6 with an average of 20 years of service; civilian students are GS-14 or GS-15. The next generation of national security professionals will emerge from the students enrolled in this program.

The USAWC seminar model has historically utilized a discussion-based approach to delivering the curriculum. Rather than education or training through the rote memorization and recitation of facts and theories, the seminar is the vehicle for educational discourse and discovery using the Socratic method (U.S. Army War College [USAWC], 2021a). Faculty guide the dialogue by posing questions to drive deeper understanding and prompting intellectual exploration of challenging and complex concepts.

The seminar norms are the "rules of engagement," which reflect behavioral expectations of how students "interact with each other and think about problems" (Hill et al., 2014, p. 98). The norms are collaboratively developed by the faculty and students early in the formation of the seminar. The norms provide the foundation for a psychologically safe space to listen, share, and challenge one another. The seminar thus provides a supportive environment for learning, developing, and exercising interpersonal, networking, and communication skills that are required for success in future assignments. These types of seminar engagements support positive outcomes such as increased motivation, engagement, information retention, and social connection (Walton & Cohen, 2007).

Challenges to a Rapid Transition to Online Instruction

In the spring of 2020, the entire resident elective program moved online with little faculty preparation or deliberate instructional design. This transition to all online classes was later repeated from November through mid-January for Academic Year

2020-2021 (AY21). Even though some advanced preparations occurred before the second transition, faculty continued to struggle with delivering content online.

This phenomenon was not unique to the USAWC. Faculty members across many educational institutions found the rapid transition challenging. Instructors struggled if they had limited knowledge of distance-learning theory, were not exposed to best practices for communicating via technology, had minimal experience establishing class norms in a distant environment, or had not previously practiced using collaborative learning technology tools (Lemay, Bazelais, & Doleck, 2021; Marek et al., 2021). The USAWC also discovered that access to appropriate technology, such as a computing device (e.g., computer, tablet, smartphone), high-speed internet, and various collaborative software tools, was inconsistent across faculty and students. As a result, instructors initially defaulted to a less effective instructional method, such as lecturing, to avoid technological challenges associated with an unfamiliar tool. In this new context,

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student-centered instruction required the institution to help faculty better understand how to utilize new tools as well as the scholarly literature on online instruction.

Literature Review: Principles of Effective Online Instruction

While the pandemic may have helped more faculty recognize the potential value of remote education (Lee et al., 2021), the forced and rapid transition did not necessarily provide students with the most effective learning environment. For example, the process of simultaneously learning the capabilities of a new instructional tool in conjunction with learning new material created a cognitive burden for both faculty and students, which distracted from the intended objective (Skulmowski & Xu, 2021). In many aspects, effective teaching follows similar basic principles regardless of the instructional medium.

For instance, backward design can be employed in any instructional context to help align objectives, assessments, and learning activities (Wiggins & McTighe, 1998). Active student engagement in learning activities will lead to greater student achievement (Lei et al., 2018). Establishing norms at the beginning of the instructional period is essential for student success and relationship development (Cocquyt et al., 2019). There is also ample evidence to suggest that when delivering the same content via in-person or online instruction, students in both mediums generally have similar learning outcomes (Allen et al., 2004).

However, positive outcomes require effective instructional design and methodology to take advantage of the strengths and unique features of each learning environment. A major difference between remote and in-person instruction is the method of interaction whether that be between student-content, student-student, or student-instructor. Ideally, the instruction would be intentionally designed with the interaction method in mind (Lee & Rha, 2009).

Asynchronous remote education tends to have more structured content, and there is less variation in how content is delivered to students across sections or instructors. Therefore, student learning can be impacted more by the overall design of the course than by any instructor (Moore & Kearsley, 2011). In this type of environment, learning is heavily impacted by motivation, self-regulation, and time management skills because students engage with content independently throughout the course and do not have the opportunity to receive feedback in real-time (Pelikan et al., 2021; Song et al., 2004).

Hybrid (where some learners are together in a classroom while others join remotely) and synchronous remote instruction provide flexibility and independence but also give students a specific time to connect with the instructor and their peers (Van Doorn & Van Doorn, 2014). Theoretically, this merges some of the advantages of in-person and asynchronous instruction into the same course or program (Ser-

rano et al., 2019). However, these modes of instruction still rely more heavily on students' abilities to regulate their own time and learning than traditional, solely in-person teaching methods (Zhu et al., 2016).

Blended learning involves utilizing a variety of in-person, synchronous remote, asynchronous remote, and/or hybrid instruction during the same course or program. Blended learning requires an understanding of all instructional modalities and needs to be carefully designed to maximize the advantages of each instructional method.

During the pandemic, the rapid transition from in-person to remote and hybrid instruction caused a perfect storm of educational challenges. Instruction that was designed for in-person interactions needed to be quickly converted to a remote environment without much time for intentional instructional design, technology training, or establishing new learning habits or expectations. Students and instructors overcame these challenges at the USAWC in a variety of innovative ways. The question is how to harness the lessons learned and adapt to create a better future for PME.

In their book *Modernizing Learning*, Walcutt and Schatz (2019) identified six critical areas of the future learning ecosystem. The rest of this article focuses on the lessons learned and building a better future in three of those areas: technological infrastructure, instructional design, and human infrastructure.

Examining Lessons Learned: Technological Infrastructure

Proliferation of Systems

In a worldwide survey of 418 higher education faculty who converted courses to distance learning, 43% used the school's learning management system. Additionally, 85% used other consumer communication applications, which indicates that students were exposed to a wide number of new tools (Marek et al., 2021). Similarly, there was a proliferation of new tools used at the USAWC. Understandably, the introduction of new programs (with limited training) caused some angst and frustration among both faculty and students. This frustration was especially true for new faculty members and those existing faculty who were new to online education. This result is consistent with the survey above, where the authors found a positive correlation between experience with online teaching and the ease of transition to online teaching due to COVID (Marek et al., 2021).

Using Technology to Conduct Hybrid Classes

Faculty and students quickly developed practices to work around the challenges of delivering content in a hybrid environment. For example, some seminars achieved a

great deal of success in integrating remote students by assigning specific students to act as physical "avatars" to represent or advocate for students participating remotely. The designated avatars periodically monitored the chat input from the remote students during seminar discussions and activities. When needed, the avatars used their phone or laptop cameras to provide additional visual feedback to the remote students. Without these avatars, faculty were challenged to effectively manage in-class discussions and activities while simultaneously incorporating students participating remotely. The addition of a 360-degree camera, microphone, and speaker devices significantly enhanced the online experience for remote students, though avatars were still helpful in drawing attention to the input of the students who were not in the room.

Opening the Classroom to the World

Faculty utilized real-time video conferencing software to bring in a more diverse range of outside speakers from around the world who were unhindered by travel requirements. The software also increased the opportunities for students to tailor their educational experiences. For example, during a typical visit to the nation's capital, students are limited in the number of agencies, embassies, and organizations that can be visited over three to four days. For AY21, USAWC conducted many of these "visits" remotely with some recorded for later viewing. Thus, students had greater choices and could watch the recorded sessions from anywhere in the world asynchronously at their discretion. In addition, the move to online instruction enabled distance students to participate, for the first time, in special programs such as the Joint Land, Air, Sea Strategic (JLASS) program, which had previously been limited to resident students. With everyone online during the lead-up to the exercise, distance students, including students from the Swedish Defence University, were also able to participate in the exercise via Microsoft Teams.

Instructional Design

Deliberate Approach

One of the key lessons learned was that incorporating online teaching methods requires a deliberate instructional-design strategy. As with any instructional methodology, online methods are not universal skills. The technical aspects needed to be very clearly laid out for faculty. In addition, lesson plans and delivery methods developed for in-person instruction require significant modification to be effective in an online environment. This takes time and adds significantly to faculty and staff workload (Lemay, Bazelais, & Doleck, 2021).

Course Design and Student Comfort

A survey of graduate student perceptions found that students "agreed that course design, learner motivation, time management, and comfortableness with online technologies impact the success of an online learning experience" (Song et al., 2004, p. 59). While students at the USAWC are usually self-motivated and adept at time management, the delivery methods and familiarity with online technologies varied from seminar to seminar. The same was true for faculty members at the USAWC. Some faculty members tried to deliver their classes without altering the instructional design for online delivery. This often led to faculty and student frustration with the limitations of online learning and the ability to teach effectively in the online environment. There was significant student and faculty dissatisfaction with their ability to use the online learning tools at the USAWC. Only about a third of the students (35%) felt well-prepared to use those tools (USAWC, 2021b).

One Size Does Not Fit All

Some faculty members modified their curriculum to incorporate online education. First, instructors incorporated "in-class" synchronous techniques to bring others who are not physically present into the classroom. This included expert speakers and students who were ill or unable to participate in person. Second, instructors planned "out-of-class" synchronous activities to enable group work in preparation for in-class discussion or application. Finally, faculty used out-of-class asynchronous techniques, conducted before or after class, to focus the classroom time on higher-level Bloom's outcomes, including active learning activities (Krathwohl, 2002). These asynchronous techniques included viewing recorded presentations, participating in discussion boards, and online journaling activities.

Human Infrastructure

Student and Faculty Education

The transition to online learning required significant individual and group support and training. In AY20, students and faculty learned the tools of online delivery as they were teaching the content. Based on the lessons learned, the institution took a more intentional and proactive approach in AY21. This resulted in decreased student anxiety and greater faculty competence and confidence in using online tools and techniques. However, comfort with online tools still varied. Faculty, who were

knowledgeable of and comfortable with online education and virtual techniques, found new and improved ways to deliver the curriculum. Those who lacked this background found the experience to be unsatisfying. Most faculty still viewed online education as a contingent approach.

Educational Support

The instructional design support staff attempted to address this lack of knowledge. They quickly adapted to changing requirements and worked with faculty members to develop user-centric faculty development sessions and resources. The distance education program also supported the resident program in leveraging technology and employing online instructional techniques to improve the online experience for in-resident classes. The distance program also benefited from the resident course's early adaptation of new instructional software and the lessons they learned during the year.

Results Vary Across and Within

A recent study identified varying college student perceptions of online learning during the pandemic (Lemay, Doleck, & Bazelais, 2021). While students perceived advantages and disadvantages to online learning, the study found a reluctance among students to continue online learning. Not surprisingly, those sentiments were echoed by both faculty and students at the USAWC. According to a post-matriculation survey conducted for the USAWC class of 2021, fewer students reported being "satisfied" or "very satisfied" with online delivery (synchronous, 48%; asynchronous, 42%; hybrid, 43%) than they did with face-to-face delivery (68%) (USAWC, 2021b). Students preferred the traditional approach to education. This is consistent with other institutions where students were "reluctant to continue online learning" (Lemay, Bazelais, & Doleck, 2021). However, that sentiment should not prevent further integration of online instructional tools into resident education.

No Turning Back

Building upon the lessons learned over the past 18 months, the USAWC and other PME institutions should continue to harness the power of online education to provide a more tailorable and effective educational experience. The USAWC is applying some of these lessons to a new Blended Education Program, which will be piloted in AY23. The program will allow students who cannot be stationed full-time at Carlisle Barracks the opportunity to complete the program in a one-year, blended format, where a majority of the curriculum will be completed remotely.

As educators in higher education in Europe have found, "blending significant elements of the learning environment such as face-to-face, online, and self-paced learning leads to better student experiences and outcomes and more efficient teaching and course management practices if combined appropriately" (Serrano et al., 2019). The remainder of the article addresses the required technology, instructional design, and faculty/student development required to realize that goal.

Building a Better Future: Technological Infrastructure

Simplify Technology

An intentional approach to designing cooperative online activities will improve the student experience, whether the activity is completely online or using a hybrid delivery model. Recent studies have found that "the use of learning technologies should be simplified and streamlined" (Zhu et al., 2021, p. 6143). Subsequently, the USAWC has standardized the systems used to deliver content to reduce faculty and student training time and to improve familiarity with the available tools. That does not preclude individual faculty members from experimenting with new online tools, but it does require a deliberate and coordinated approach to reduce training time.

Improve Capacity

Walcutt and Schatz (2019) argue that "information technology forms the enabling foundation of the future learning ecosystem" (p. 11). Academic programs should consider their technological infrastructure when planning. Bandwidth, Wi-Fi capacity, reception quality, network security, access to software applications, and adequate hardware are all important aspects of facilitating blended instruction. At the USAWC, these factors are under consideration simultaneously with the design of a new academic facility to improve connectivity while also making learning spaces more modular and tailorable.

Tailor Education

Online modalities can also contribute to more tailorable education. "Evidence shows that some students benefit from real-time learning, while others do better work at their own pace" (Cohn, 2021). For example, the artifacts from online instruction (e.g., recordings and written records) provide learners with the opportunity to review their activities and products repeatedly, from any location. Online activities can also help international fellows by giving them the opportunity to review transcripts or recordings at their own pace.

Instructional Design

Flip the Classroom

Faculty should also incorporate online components to "flip the classroom." In the flipped classroom, "students independently learn foundational content through homework assignments to acquire lower-level learning objectives such as fact remembering" (Wang et al., 2021, p. 2). Adding asynchronous components before in-class discussion or application activities saves valuable classroom time and allows faculty to promote active learning. This is particularly important in a graduate-level "survey" program such as the USAWC, where students are introduced to knowledge from a variety of disciplines rather than going deep into just one, and where the classroom is expected to be an application/synthesis-focused rather than a lecture-focused environment.

The USAWC's educational methodology includes varied forms of active learning in its curriculum, ranging from case studies and group projects to debates and integrated research. However, getting to these higher-level Bloom's activities requires students to possess a grounding in foundational material. Some of that material can be delivered asynchronously.

Incorporate Prelearning

A search of the literature has also shown an increased use of online discussion boards and other techniques to asynchronously deliver content before in-person sessions (Anthony et al., 2020). For example, discussion boards could better prepare students for in-class activities or to synthesize information between courses. Unlike seminar discussions, it is easier to give every student a voice in asynchronous discussion boards, especially introverted students who must compete with more vocal peers. This is also especially useful for the USAWC's international students, many of whom interact in a second language and sometimes have trouble keeping up and engaging in a lively classroom discussion. Online journaling and discussion boards also allow students to engage in self-reflection to analyze their answers in comparison to others after class and subsequently to be exposed to and apply the material. These artifacts are also persistent and provide another tool for students to refer to later, especially students where English is a second language.

Record Lectures and Out-of-Class Online Exercises

Students can also be asynchronously exposed to experts to help them better understand foundational material. Prerecorded lectures or faculty interviews with ex-

perts allow students to process the material before class rather than tying up valuable time for large or small group lectures. This ties in directly with homework and will enable students to move more directly to higher-level application.

If they are intelligently designed and executed, games and exercises can also be effective methods to assess student learning and develop student skills whether in residence or online (Hillison, 2020). While in-person activities such as matrix games are often preferred, it is possible to engage students in active learning through off-the-shelf platforms or specially designed programs out of class to augment classroom activities. Such out-of-class activities or exercises could also bring in students from other war colleges, from the USAWC's distance program, or even other professionals in the field. Extending participation to new individuals allows for cross-leveling diverse backgrounds and experiences.

Move Class Out of the Classroom

Online technology also makes out-of-class group work activities easier to accomplish. This does not mean that all group work should be done out-of-class, but blended methods allow both out-of-class synchronous and asynchronous activities. While it is challenging to replicate the rich interpersonal nature of group work through online platforms, faculty members can leverage communication applications, discussion boards, and various blogs to replicate peer-to-peer learning efforts without the limitations of trying to collocate or find space outside of the traditional classroom. Virtual breakout rooms allow faculty to move between groups quickly to monitor activity, address questions, and provide guidance. Additionally, technology makes out-of-class group "homework" much simpler to accomplish. Synchronous or asynchronous out-of-class group work can extend engagement and discussion outside of the seminar sessions and lead to a higher level of understanding.

Add Synchronous Online Speakers

Importantly, the ability to virtually bring in speakers and participants from outside of the seminar increases the opportunity to expose students to experts or differing points of view. Hybrid approaches allow greater use of remote subject matter experts and reduce the cost of doing so. "So long as lecture videos and other online options are paired with a subsequent interaction—class discussion or group work—the learning of content remains social and engaged" (Cohn, 2021). An example is a USAWC AY21 lesson involving a virtual engagement with the U.S. embassy country team in the United Arab Emirates. The interaction would not have been possible in person due to the day-to-day demands on embassy personnel.

Seminar Experience Is Still Essential

These blended methods are designed to enhance—not replace—the classroom seminar environment that is the centerpiece (the "Carlisle Experience") for the Army War College's resident program (Allen, 2021). Yet, a blended approach to resident education facilitates the move from a more traditional approach to a more learner-centered method. Bannan et al. (2020) suggest the traditional approach to delivering education "generally assumes a given target—a particular individual or cohort—as well as a specific setting and general set of conditions. It focuses on determining the appropriate configuration of instructional interventions in insular and finite curricular units, such as a course or training program" (Bannan et al., 2020, p. 70). While this model has been accepted as successful in the past, a more tailorable approach to education may be better suited to meet the demands of individual learners.

Human Infrastructure

Focus on Student and Faculty Development

The key to any successful educational effort will be the people who carry it out. Therefore, faculty development on the use of online applications, instructional design, and assessments should be a priority. The faculty development program will work most effectively if it is "responsive to the needs of the participants" (Schildkamp et al., 2021, p. 281). In the future, the USAWC will need both push (scheduled faculty and student development) and pull (demand-driven) assistance for faculty and students with new technologies or methodologies. Overcoming faculty hesitance and skepticism will also be important. Due to lack of familiarity or technical challenges, some faculty members had an unpleasant experience moving to online delivery and may be anchored on these past experiences. Faculty will need the time, resources, encouragement, and support to develop the skills required to design and implement effective blended teaching techniques. At the University of North Carolina at Chapel Hill, "30 to 40 percent of the university's faculty members took a five-week online-instructor certification course, enabling them to support their colleagues during the spring transition (to online delivery)" (McMurtrie, 2020). This level of commitment will require leadership to provide the vision, resources, and incentives to promote the transformation to a blended approach.

Incorporate Faculty Remotely for Meetings and Mentoring

Blended methods make faculty coordination much simpler as well. Getting faculty with dueling schedules together at the same time and place has always been

Table
Key Hybrid and Blended Learning Innovations to Create a Better Future

Learning Ecosystem Critical Area	Key Innovations Supported by Lessons Learned
Technological Infrastructure	• Simplify technology • Improve capacity • Tailor education
Instructional Design	• Flip the classroom • Incorporate online prelearning • Record lectures and out-of-class online exercises • Move class out of the classroom • Leverage synchronous activities • Augment, not replace, in-person education
Human Infrastructure	• Increase faculty development of online skills • Increase student development of online skills • Incorporate online faculty meetings and mentoring

challenging. The ability to use online communications tools such as Microsoft Teams to hold synchronous meetings and class preparation sessions will remain a valuable tool to enable busy faculty to stay connected. However, leadership and faculty must intentionally design these events to be effective for both those who attend in person and those that do so remotely. Additionally, PME course directors and lesson authors can prerecord lesson preparation videos and place them online so that new instructors can access them on demand.

Conclusion: Leading Change

The increased use of hybrid and blended learning approaches, as an adaptation to the pandemic, has provided valuable learning that should not be ignored. This article suggested that future resident education programs in PME can benefit by deliberately incorporating distance-learning techniques into future course delivery. Those key hybrid and blended innovations are summarized in the Table. However, this will require buy-in and commitment by resident faculty members to develop online competencies. Without the looming specter of COVID-19 there is a reasonable concern that faculty members may again revert to the traditional methods of delivering resident education—to familiarity and comfort—and thus "forget" (or ignore) the lessons acquired from this period. This would be unfortunate. Incorporating online technology enables the resident education program to improve students' achievement of the institutional and program level outcomes at

the USAWC (USAWC, 2021a). Additionally, technology will facilitate collaboration among senior service colleges, universities, and agencies when delivering the curriculum.

The USAWC, PME, and other institutions of higher education should not let the opportunity provided by the crisis slip by without reimagining curriculum and instruction. The experience at the USAWC and current research indicate that delivering curriculum to students in multiple modalities increases accessibility and improves retention (Capp, 2017). Therefore, educators should avoid the temptation to revert to prepandemic instructional methods and instead continue to innovate. As this article describes, intentional and sound instructional design employed by motivated and trained faculty members can lead to the successful integration of innovative technologies and create a better future for PME students. The goal is to better prepare them for the more integrated, online environment in which they will lead their future organizations.

In 2020, the USAWC commandant provided a vision for blended and hybrid education. In the white paper on strategic education, he directed that the resident program moves to include both asynchronous content delivery and online collaboration outside of the USAWC. Blending traditional resident and online strategies would realize that vision and enhance the ability to deliver a more tailorable educational outcome. If the current leadership and faculty embrace this approach, the USAWC and others will be on track toward a "Better Future" for military education.

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