Executive Summary: 74 Leaders across all five Academies (USMA, USAFA, USNA, USMMA, and USCGA) and the US Army Cadet Command attended the All Academy Collaboration Session on 12 November 2020. All were welcomed by the lead planners from each Academy and then spent a little over an hour in which a Cadet/Midshipmen panel had an engaging discussion regarding what worked well this Fall semester, recommended solutions to what did not go well, and what should be sustained beyond COVID. The student panelists where led by CDT 1/C Maxwell Myers (USMA) and included MID 1/C Declan Harrison (USNA), CDT 2/C Jim Wang (USAFA), MIDN 1/C Kelly Caubo (USMMA), MIDN 1/C Alex Mesaros (USMMA), and MIDN 1/C Victoria Kirshner (USMMA). The questions and topics addressed during the panel are provided in Table 1 with the complete points following below. The session culminated with closing comments from the lead planners and points made as quoted below. A survey was placed in the chat with 20 responding to help shape future all Academy collaboration sessions. In order to obtain more input, please provide your responses to the short (6-question) survey at the following link. A recording of the complete session is available here which starts at 4:30 and ends at 1:22:04. Overall, the panel discussion across the Service Academies strengthened the bonds between the institutions through the open dialogue and meaningful discourse regarding challenges and solutions. The bonds made and desire to share across the Academies may very well transcend COVID-19 conditions and become a venue for continued collaboration as all Academies bounce forward.

“We, as a Nation, are doing great if you [student panelists] are the leaders that we have.” – LTC Ben Wallen, USMA

“It is remarkable, the students we get to work with every day, and you showed us that.” – Dr. Rob Flaherty, USAFA

“Really fascinating to hear the similarities and differences across the different questions.” - Dr. Eric Page, USCGA

“This [student panel discussion] has been educational caffeine.” – Dr. Karyn Sproles, USNA

“There is nothing more important than student feedback. Moving forward, I would love to see evidence of how the student feedback shared today has turned into decision making, either Departmentally or Academy-wide.” – Dr. Jennifer Albert, USMMA

Table 1. Questions and topics addressed during the all Academy collaboration student panel discussion.

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Methods to Communicate Student Challenges to Dean’s Staff:
USNA – Academic Town Halls
1. Brigade Academic Officer sends out request for feedback to Brigade of Midshipmen
2. Brigade Academic Officer receives questions from Brigade of Midshipmen*
3. Brigade Academic Officer works with Associate Provost For Academic Affairs to address:
   a. Concerns, Method to Address/Course Correct
   b. Attendance is Open to All Brigade of Midshipmen
4. Brigade Academic Officer writes up summary of Town Hall and makes available for the Brigade of Midshipmen as a Google Document.
*Note: Voiced concerns/feedback is required to enable meaningful flow of information and actions taken for improvement.

Biggest Transition from All Virtual to Current Learning Environment:
USMMA – Classes and labs are split with half remote and half in person. Not all are in the same class at the same time.
USMA – All in person if small enough class. Alternating each class period with half in person and half remote. However, the half that are remote are not in their rooms. They are in a separate classroom with the instructor being projected on the front screen from the other classroom from which they are teaching. All remote = most push back from Cadets (especially with STEM classes).

What ways have Academic services changed to address the virtual environment?
USMA – Transitioned many services to remote interaction as well as additional instruction (AI) with instructors. More in person engagement with the Writing Center may engender more use by students than virtual meetings. Host open tutoring sessions which last for about 1 ½ to 2 hours either one or two nights before a major graded event is due. Microsoft Teams is used with multiple channels. There are separate Teams pages for each class where the channels allow smaller groups to meet (e.g., students in a specific section with an instructor)
USNA – A number of tutoring services with some run by faculty and some run by Midshipmen. In person and socially distance tutoring for coding classes does not work well. With coding classes going remote, it was much more effective to provide feedback and to support other students through sharing screens. Many services are virtual which may detract from attendance as Midshipmen heavily value the in person interaction. Student led tutoring classes are structured with one time per week between 2000 and 2200 where any Midshipmen may come in during anytime throughout the window of availability. Faculty are more appointment based with some faculty being in a virtual office hours space for Midshipmen to drop in with any questions.
USAFA – Use online walk in hours which provide flexibility in support for Cadets. Use a Google Form as a means to have students submit questions prior to the tutoring session beginning in order to allow tutors to familiarize with the material for more effective and efficient tutoring sessions.

Challenges / Concerns with the Remote Environment:
USNA – getting used to one set of conditions and then transitioning to another (being remote, then in person, then remote again)
   Issue: Challenging for students to work out problems on a virtual board without effective technology (e.g., SurfacePro, iPad, etc.)
   Recommendation: Enable flexibility for STEM courses to be in person or online. If remote and/or may not go to physical boards to show work, then equip with the ability to engage with virtual board work (e.g., touch screen with precision digital writing device)
USAFA – major issue is a sense of disconnection from the institution being remote with certain courses not providing an enriching online learning environment
  Issue: instructor lecturing remotely with very little class participation with students without having opportunities to work problems and engage with the material
  Recommendation: Great potential to find ways to enable students to have an opportunity to try to work problems (STEM-based courses) and to have discussions (Humanities-based courses) facilitated by the instructor. Potentially have most of the class led by the students to have them engage in the material more.

USMMA – chaotic with some classes online and some in person. With the classes online, the lack of interaction with feedback has been the largest concern.
  Issue: Feel like being talked at versus being in an engaged environment. PowerPoints by themselves are not sufficient
  Recommendation: Use document cameras

USMA – The transition has been made to have the majority of discussions led by students and more student led presentations which takes more of the course. Also, have used more breakout room discussions during the virtual course and then coming back together to have each group share with the class regarding the lesson objective they covered.

What did instructors do that negatively impacted student learning?
USMA – More care needs to be taken when transitioning between learning environments (e.g., into the remote environment in Spring 2020, switching from in person to remote for Fall 2020, and use of the hybrid environment). During the transition from fully remote to the hybrid environment, many Cadets felt overwhelmed with the volume of information to process from all their instructors and the number of requirements due for their courses. Just as faculty need time to adapt the style in which they teach, Cadets need time to adapt to the learning environment and how they receive information. Faculty seemed to feel that because students were stuck on campus, then there can be more assignments with smaller point values to help with grades; however, this filled the academic requirements calendar too much. Additionally, instructors must be able to engage with the students that are remote when teaching a hybrid class where some students are in person and other remote. There are examples where those Cadets that were remote would try to engage through virtual hand raising or typing in the chat; however, none of those efforts were seen. Therefore, the remote students felt that the instructor was only teaching those in person.
USNA – The lack of demand for student feedback during the lesson causes students to tune out of the learning experience. In the online environment, students can easily have other screens open during the class, checking email, and not staying engaged. Instructors must ask questions of their students to keep them engage otherwise class is similar to watching a YouTube video versus actually being in class and participating.
USMMA – There needs to be a deliberate means to improve the ability for students to ask questions. Instructors should take time throughout the class for students to unmute and ask questions.

What did instructors do that positively impacted student learning (recommendations to the above challenges)?
USNA – Instructors randomly calling on students in the virtual environment kept everyone engaged as they did not want to be the Midshipman that wasn’t prepared or even worse, didn’t hear the question asked. This method of engagement helped with the transition to in person classes where students were more connected with the material and instructor.
USAFA – Instructors have placed more emphasis on participation which has improved the learning environment.
USMA – Instructors finding creative ways to engender more understanding and participation. One example is smaller group work and producing products during class which demonstrates an application of the material that students should know. A solution to ensure remote students feel engaged in a hybrid environment is to have a student (Section Leader of the Class) be responsible to monitoring the chat and virtual hand raises that may occur. When there is communication from remote students, the Section Leader is responsible to notify the instructor to ensure remote students have a chance to be involved, maximize instructor points, participate in class, and contribute to the body of knowledge without having to be physically present.

Most Innovative means being used to educate and engage with students and recommended for use by faculty:
USMA – Lesson invites for each lesson taught throughout the semester. The title of the invite includes the class and topic of the specific class. Each lesson invite includes what is required for each lesson (e.g., lesson objectives, key terms, required reading, problems to work, videos to watch, assignments due for the current and next class, attachments specific to the lesson, etc.). Any required links for reading, viewing videos, and additional engagement opportunities are included in the invite for the lesson. This method used provides the ability to adjust a calendar invite as schedules change and all students have their calendars updated versus having to adjust their own schedule and potentially miss a schedule change event. Editing the invites reduces the need to change numerous supporting documents and require students to identify what changed with the new documents. This technique helps Cadets, especially Fourth Class Cadets (Freshman), feel less overwhelmed trying to keep up with all their requirements for each of their classes. When a change occurs to the syllabus, the Cadet is able to accept a change pushed from the instructor versus having to determine what changed with the latest update to a posted syllabus. An example of the calendar invite is shown in Figure 1.

![Example calendar invite for MA103 from Dr. Diana Thomas sent to her students to enable clarity on lesson requirements.](image)

USAFA – All classes are recorded regardless of online or in person and conducted with Cadets having the opportunity to attend remotely and in person. The recording provides a resource outside of class to use for studying. More importantly, students who are not able to be present in class (due to quarantine or some other reason) are able to attend class even through the majority of the class is in person. This opportunity helps with the transition to entirely remote classes. Students are accustomed to engaging the instructor when remote. Another useful tool is instructors posting lecture notes after class. For
students who miss the class entirely, Cadets are able to incorporate use of the notes and watching the recording of the class to improve their learning experience.

USMMA – Class recordings are beneficial for those that miss a class. The recording may be watched later as a review for tests or doing homework. Instructors use of OneNote provided a means for the instructor to post their notes (virtual board notes) from the lesson as a PDF to accompany the recording of the lesson with both posted at the same location for ease of access. The use of OneNote works well in STEM classes to see the steps used to solve problems.

USNA – Faculty’s access and use of improved technology (e.g., iPad or SurfacePro versus document camera with a hand in the way) has significantly increased the learning experience. They share their screen showing the steps involved in solving problems and record the lessons capturing the work completed in class. The recording are posted for the students and are very useful for reviewing concepts and exam preparation.

How do students feel the faculty are handling the new teaching environment? Are faculty doing their best and staying positive?

USNA – Professors are willing to adapt because they know students must be in class. The personal interaction between professors and students creates a positive, willing attitude to work through the challenges with the new teaching environment.

USAFA – It is refreshing to see both instructors and students attempt to adapt to the environment as much as possible. One example with positive feedback regarding keeping students engaged actually came from an entirely asynchronous class in which the discussion board interaction between students and the instructor led to a positive learning experience.

USMMA – Going remote was challenging on student and instructors. Transitioning to hybrid has made the Midshipmen more appreciative of in person learning, their instructors, and lectures. Transitioning into the classroom has boosted morale and students appreciate instructors’ efforts to be in class.

USMA – Student’s motivation increases whenever their instructors are in person. What is the ideal length of a remote class? [Discussion below also include comment about blend of asynchronous and synchronous class requirements regarding material and time.]

USMA – The ideal length is highly dependent on subject and lesson material being taught. Humanities courses at 75 minutes seems too long where instructors feel like they must use the entire time and their may be less student engagement. However, STEM courses seem to fill the time well. Classes with asynchronous material (pre-recorded lectures/material) takes time away from interactions. However, the requirement to watch the asynchronous material prior to the synchronous portion of the class (whether in person or remove) allows students in different time zones have the ability to engage with the material on the student’s own time.

USMMA – The current length of courses is the required course to cover the material. The length of the course and the ability to stay engaged is tough but is the burden of learning regardless of being remote.

USNA – The proper length is very dependent on what the professor is teaching. If in a humanities class with a discussion throughout the class, the class may feel long. However, if in a STEM class (e.g., thermodynamics), there may be a point of exhaustion around 50 minutes where absorbing the material is difficult. In the online environment, there is difficulty in gauging the point when students become saturated with material and lose the ability to absorb more. When in person, the professor can see the pain on the students faces. When online, there needs to be a candid conversation to ensure the students are able to continue with the learning experience. The instructor may want to offer a ten-minute break in the middle of a double blocked course.

USAFA – A completely asynchronous class has optional synchronous class sessions. The synchronous class sessions are typically 30 to 40 minutes in length out of the 53 minute time block. The instructor
does not go over the entire lesson because the learning is the responsibility of the student (student ownership of the material taught asynchronously). The instructor provides points of clarification, specific lectures on very difficult concepts, or opens up the time to Cadet questions. This allowed some of the time to be returned to the students and showed the instructor cared about their students by committing time to them. The shorter class period also demonstrated the instructor respected the students time required to review the asynchronous material.

**What methods are used to create asynchronous instructor videos and what are the techniques used to ensure the highest quality of asynchronous learning?**

**USMMA** – OneNote was a great tool used with the voice over which simulates the instructor writing on the whiteboard in class. Instructors would show the problem, reference key points in the problem, and clearly show the steps used to communicate the method to effectively solve the problem. This method provides delivery of material which is helpful to the students. Use of PowerPoints with no animations and no visible interaction on the slides does not work. Just talking over a PowerPoint slide with everything up on the screen at once does not work. Using a PowerPoint that is prewritten, the student feels as though they are not being taught when the instructor is merely reading off the slide as the student could do that on their own time. The method used to create the videos should be as close to the classroom experience as possible. The asynchronous material must be presented in an interactive fashion to enable the students to feel engaged.

**USMA** – Similarly to OneNote, showing work using an iPad for screen recordings helps to provide clarity on material taught.

**USAFA** – Significant effort must be taken to ensure effective use of PowerPoint so that the asynchronous material is not impersonal, boring, and feeling as though the student is being lectured. PowerPoint slides need to balance having too little or too much on the screen. The asynchronous presentation of material must clearly portray what led to what is shown, how what is shown ties into the day’s material, and what follows. The material must be presented sequentially and deliberately to walk through material and concepts as if in class to help guide students through the desired attainment of knowledge. Therefore, document cameras or white board recordings are much better than showing a PowerPoint slide with all steps take to solve a problem shown all at once.

**What are some of the best methods to have students engage and complete asynchronous material?**

**USNA** – One method is to start each class with a simple Google Forms quiz to confirm if the students watched the video. The quiz should ask about material discussed directly and associated with an overarching idea or lesson objective (e.g., not something stated in a single sentence once in the video, ideas versus how to do something, etc.). The quiz is focused to assess if the student watched the video. The synchronous time is focused on helping to ensure the students understood the material.

**What are recommendations to have students participate as some do not even when being called upon?**

**USMA** – Ideally students would be motivated intrinsically by their desire to gain knowledge. However, it may be appropriate to remind that participation doesn’t stop just because we are online. Participation points still matter and teachers are tracking those points. Instructors must ensure that the students are in an intellectually stimulating environment. A method to help ensure focused participation is to have open classrooms for students to attend remote classes as done at Navy. Also, students may attend remote classes when at the library. These locations are more conducive to students engaging more than in their rooms.

**USNA** – A means to engender effective classroom engagement comes from students feeling connected with their instructor. Prior to class, having an instructor ask how students are doing and what is going
on in their lives outside of the classroom lets the students know their professor cares about them. Students are able to gain an appreciation that their professors care about them when they ask questions that are not all focused on academics. It is important to acknowledge that COVID is hard for everyone. USAFA – An interpersonal interaction with the instructors outside of the academic material significantly increases the connection between the students and the instructor. Another means to strengthen the connection between the instructor and the students is for an instructor to follow up with students that were not engaged during class or didn’t answer a question when asked (e.g., they may have been in the bathroom, asleep in bed, etc.). This follow-up provides students the opportunity to explain their situation (e.g., pulled two all-nighters) and demonstrates to the student that their instructor cares and values paying attention and staying engaged during class.

**What can help motivate students to actually read the reading assignments in preparation for class?**

**USMA** – One recommendation is to have random checks on learning tied to specific lesson objectives from the reading. The check on learning should match word-for-word with respect to the lesson objective to maximize the opportunity for the student to clearly demonstrate their preparation. The questions should tie into what is expected for smaller exams and the final exam as well to provide a link throughout the course and strengthen the motivation for the students to value being prepared through conducting the reading. Students must take ownership of their learning experience. Faculty are here for the students; therefore, the students show do their part to acquire as much knowledge as possible. **USMMA** – Part of being a college student is owning your learning. It is important to stress to students that there is no hand holding as there potentially was in high school (especially important to communicate to Fourth Class Students (Freshman)). At the beginning of the course, instructors must stress the syllabus provide the information about required preparation. It is the student’s job to complete the required reading which should be the motivation required to do the reading, be prepared, and be successful academically.

**Tools, Techniques, and Procedures to Maintain Beyond COVID:**

**USMA** – Virtual Additional Instruction (AI) reduces time commitment to address specific questions for students and faculty. Enabling students to attend class online reduces missed classes for students based on such scenarios as being on quarters or a trip section. Posting lesson recording helps those that missed being able to attend class remotely to have the opportunity to asynchronously view the class on their own time. This helps to eliminate the need to find someone from whom to obtain the class notes and acquire the knowledge second-hand. **USNA** – Having lectures saved, pre-recorded and posted after the class are extremely useful. This allows students who may not have understood something in class to have the opportunity to review the material again for increased engagement with the material. Continue the use of technology to capture notes on digital boards and placed into shared files (e.g., Google Drive) as an extra resource posted after class. **USMMA** – Prior to COVID, there were times when meeting with instructors for office hours were challenging based on competing schedules. However, the ability to meet remotely has significantly improved office hours availability. **USAFA** – Maintain the mass repository of classroom resources established due to the current remote teaching environment. The course recordings, class notes, and preparation material organized and centralized in one location is extremely helpful. There is the potential challenge of students not paying attention due to having the material; however, the responsibility of a college student and functioning adult is taking ownership of one’s learning.
Thank you to the wonderful Cadet and Midshipmen leaders who participated in the collaboration session!