
March 2024

Army Instructor Training for Virtual Learning

Ashley H. Wittig
U.S. Army Research Institute

Lauren E. Postier
Consortium of Universities of Washington

Rory O'Brien & Stevie Cowan
Maneuver Center of Excellence, Directorate of Training and
Doctrine



United States Army Research Institute for the Behavioral and Social Sciences

Approved for public release; distribution unlimited.

**U.S. Army Research Institute
for the Behavioral and Social Sciences**

**Department of the Army
Deputy Chief of Staff, G1**

Authorized and approved:

**SCOTT B. SHADRICK, Ph.D.
Acting Director**

Research accomplished under contract
For the Department of the Army by:

Consortium of Universities of Washington

Research Unit Chief
Dr. Brian T. Crabb (Fort Moore Research Unit)

Team Leader
Dr. Randy J. Brou

Technical Reviewers
Dr. James D. Lee, U.S. Army Research Institute
Dr. Charles D. Vance, Army University, Faculty and Staff Development Division

NOTICES

The use of either trademarks or manufacturers' names in this report does not constitute an official endorsement of any commercial products. This report may not be cited for purposes of advertisement.

DISPOSITION

This Research Report has been submitted to the
Defense Information Technical Center (DTIC)

REPORT DOCUMENTATION PAGE

1. REPORT DATE (Month Year) March 2024		2. REPORT TYPE Final		3. DATES COVERED (Month Year)	
				START DATE January 2022	END DATE February 2024
4. TITLE AND SUBTITLE Army Instructor Training for Virtual Learning					
5a. CONTRACT NUMBER		5b. GRANT NUMBER		5c. COOPERATIVE AGREEMENT NUMBER W911NF-16-2-0092	
5d. PROGRAM ELEMENT NUMBER 633007		5e. PROJECT NUMBER A792		5f. TASK NUMBER	
5g. WORK UNIT NUMBER					
6. AUTHOR(S) Wittig, Ashley, H., Postier, Lauren, E., O'Brien, Rory, Cowan, Stevie.					
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences 6000 6 TH Street Fort Belvoir, VA 22060-5610				8. PERFORMING ORGANIZATION REPORT NUMBER MS-RP 2024-07	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences 6000 6th Street (Bldg. 1464 / Mail Stop: 5610) Fort Belvoir, Virginia 22060-5610				10. SPONSOR/MONITOR'S ACRONYM(S) ARI	
11. SPONSOR/MONITOR'S REPORT NUMBER(S) MS-RP 2024-07					
12. DISTRIBUTION/AVAILABILITY STATEMENT Distribution Statement A: Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES ARI Research POC: Ashley H. Wittig, Ph.D., Fort Moore Research Unit					
14. ABSTRACT The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), in collaboration with the Maneuver Center of Excellence (MCoE) Noncommissioned Officers Academy (NCOA), and Directorate of Training and Doctrine (DOTD), designed and taught a virtual learning (VL) instructor training. The training was created to support the NCOA instructors as they were tasked to transition 55 hours of their program of instruction (POI) from in-person instruction to synchronous VL instruction. The primary objective of this report is to describe the creation and implementation of the NCOA VL Small Group Leader (SGL) Certification. The training consisted of instruction on best practices for teaching in VL, how to facilitate a lesson through Microsoft Teams, and practice teaching sessions where the SGLs practiced teaching a lesson in VL as their peers acted as students. This report provides the certification materials and is also intended to be used as a guide for other Army instructors, training developers, and courses that intend to implement high-quality VL certification and instruction.					
15. SUBJECT TERMS Noncommissioned Officers Academy, Virtual learning, Distributed learning, Instructor development, Instructor training					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT		18. NUMBER OF PAGES
a. REPORT Unclassified		b. ABSTRACT Unclassified	c. THIS PAGE Unclassified		Unlimited Unclassified
19a. NAME OF RESPONSIBLE PERSON Dr. Brian Crabb				19b. PHONE NUMBER (Include area code) (254) 288-3833	

ACKNOWLEDGMENT

We would like to thank all of the leadership, training developers, and small group leaders (SGLs) at the Maneuver Center of Excellence (MCoE) Noncommissioned Officers Academy (NCOA) for collaborating with us on the creation and implementation of the NCOA Virtual Learning SGL Certification Course. We would also like to thank the MCoE's Faculty and Staff Development Branch (FSDB) for providing valuable feedback and revisions to our certification course and instruction. The successful development and implementation of the certification would not have been possible without the valuable input, participation, and support from MCoE's NCOA and FSDB.

ARMY INSTRUCTOR TRAINING FOR VIRTUAL LEARNING

CONTENTS

	Page
BACKGROUND	1
NCOA VL SGL Certification Course	2
VL Certification Structure	3
Best Practices in VL Instruction	4
Microsoft Teams Instruction	6
SGL Practice Teaching Sessions	7
CONCLUSION	8
REFERENCES	10
APPENDIX A. VL BEST PRACTICES SLIDE DECK.....	A-1
APPENDIX B. MICROSOFT TEAMS PRACTICAL EXERCISE	B-1
APPENDIX C. MICROSOFT FORMS INSTRUCTIONS.....	C-1
APPENDIX D. PRACTICE TEACHING SESSION: OBSERVATION RUBRIC.....	D-1

LIST OF TABLES

TABLE 1. BEST PRACTICE CONCEPTS, THEIR IMPORTANCE, AND TECHNOLOGY EXAMPLES FOR VL	3
TABLE 2. NCOA VL SGL CERTIFICATION COURSE EXAMPLE SCHEDULE	4
TABLE 3. MICROSOFT TEAMS SESSION CONTENT	7

Army Instructor Training for Virtual Learning

Background

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI), in collaboration with the Maneuver Center of Excellence (MCoE) Noncommissioned Officers Academy (NCOA) and Directorate of Training and Doctrine (DOTD) designed and taught a virtual learning (VL) instructor training course. The training was created to support the NCOA small group leaders (SGLs) as they were tasked to transition 55 hours of their program of instruction (POI) from in-person instruction to synchronous VL instruction. The new course structure would be to teach the first week of the course through VL and then the remainder of the course would be taught in-person at the NCOA. This change applied to the Advanced Leader Course (ALC) for Armor (AR ALC) and Infantry (IN ALC) as well as the Maneuver Senior Leader Course (MSLC).

The success of the transition to VL rests in the preparation of the instructors. In order to effectively teach, Army instructors need to understand best practices for VL and how to utilize the Army's Experiential Learning Model (ELM; see The Army University, Adult Teaching and Learning User's Guide, Army University, n.d & U.S. Army Training and Doctrine Command, 2021) in a VL environment (see Wittig & Postier, 2022). Effectively teaching in a VL environment is not "simply adding technology to the existing teaching and content domain" (Koehler et al., 2005, p. 5). For instructors to successfully integrate technology into their teaching, they need to be able to flexibly integrate three bodies of interconnected knowledge: content, pedagogy, and technology to reach their desired learning outcomes (Koehler & Mishra, 2009). This is an additional form of expertise and knowledge referred to as Technological Pedagogical Content knowledge (TPACK; Mishra & Koehler, 2005). Therefore, Army instructors need additional knowledge and training on how to effectively teach in a VL environment so they can learn to integrate those three bodies of knowledge to ensure the quality of instruction does not decrease as instruction moves from in-person to virtual. The intent of the NCOA VL SGL Certification Course was to introduce the SGLs to those bodies of knowledge and provide an opportunity to deliberately reflect on and practice those skills.

The primary objective of this report is to describe the creation and implementation of the NCOA VL SGL Certification Course. The training consisted of instruction on best practices for teaching VL, how to facilitate a lesson through Microsoft Teams, and practice teaching sessions where the instructors practiced teaching a VL lesson as their peers acted as students. The ARI and DOTD Team taught six iterations of the certification course. This report can be used as a guide for other Army instructors, training developers, and course managers who intend to implement high-quality VL certification and instruction. As more courses move from in-person to VL, it is imperative that the quality of instruction does not decrease, and a core way to mitigate this is to properly train instructors on how to teach in a VL environment. This report can be a starting point for sharing best practices and materials to support VL instructor certification across the Army.

NCOA VL SGL Certification Course

The certification approach was based on best practices from previous ARI research with the Maneuver Captains Career Course (MCCC) on instructor certification, instructor development (Wittig et al., 2022) and knowledge management (Wittig et al., 2023). The instructional approach was also modeled off the approach utilized at the Common Faculty Development-Instructor Course (CFD-IC). Specifically, we sought to develop a certification course using the tenets of cognitive apprenticeship (Collins et al., 1989; Collins et al., 1991) and peer learning. Cognitive apprenticeship is “learning through guided experience” (Collins et al., 1989, p. 456). In this approach, an expert or more experienced individual uses modeling, coaching, and scaffolding to guide student learning on cognitive and metacognitive skills through realistic tasks (Collins et al., 1989; Collins et al., 1991; Dennen & Burner, 2008). To do this, the training was designed to facilitate learning through modeling by a more expert peer, explaining the purpose/intent of an approach, and providing situated (i.e., realistic) learning experiences (Brown et al., 1989) through practice teaching sessions. Importantly, in the practice teaching sessions the fellow certifying SGLs would role play as students to mimic their future instructional environment, learn from their peers, and provide feedback. The instruction also utilized the ELM, best practices for VL instruction (see Wittig & Postier, 2022), and Microsoft Teams.

The NCOA VL SGL Certification Course had three components. The first session was an instruction on best practices for teaching VL (see Wittig & Postier, 2022) and the second session was a training on how to use Microsoft Teams. The final part of the certification was a practice teaching session. SGLs have limited time in between course cycles. Therefore, the certification was designed to be a “quick train-up” to provide the necessary baseline knowledge and practice for the SGLs given schedule constraints. The intent was for the certification to be concise so it could easily become part of a larger instructor certification program without adding significantly more time. Additionally, the MCoE Faculty and Staff Development Branch (FSDB) consulted on this effort and provided feedback on our instructional plan and implementation. MCoE FSDB provided quality feedback on how we could improve our approach based on their experience training instructors and their knowledge of common friction points for that process. The overall intent of the NCOA VL SGL Certification Course was to prepare the instructors to lead effective instruction in a VL environment and to help them translate their in-person best practices to a virtual environment.

As with in-person instruction, effective VL instruction facilitates meaningful engagement with course content, the instructor, and fellow students (Lockman & Schirmer, 2020; Luckritz Marquis, 2021). However, reaching those outcomes looks differently in a VL environment, so the certification was intended to help SGLs understand how they can use the available technology to implement similar techniques while also learning about VL-specific best practices. Essential to that goal was to make sure that instructors understood how to use the technology, how to lead effective instruction for VL, and how to use the technology to reach their learning goals. The ARI and DOTD Team did this by discussing the key elements for effective VL (i.e., social presence, student engagement, checks on learning, and feedback) and then teaching the

SGLs specific techniques they could use in a virtual environment to purposefully address those elements. Table 1 illustrates this overarching framework for the training, defining the best practices for VL, their importance, and ways to implement them in a virtual environment. Each aspect of the certification was designed to model the best practices, provide the necessary baseline knowledge for their implementation, and give SGLs the opportunity to reflect and practice them.

Table 1

Best Practice Concepts, Their Importance, and Technology Examples for VL

Best Practice Concept	Importance	Technology Examples
Social Presence <i>(Heider, 2021; Mykota, 2018)</i>	<ul style="list-style-type: none"> Makes the course feel more like an in-person course by creating social connection among class members Promotes student engagement Promotes student motivation Helps build camaraderie before the resident phase of a course 	<ul style="list-style-type: none"> Camera, microphone, and photograph icons help represent class members to the group Call for participation and experience sharing with the use of chat and microphone Breakout rooms provide the opportunity for collaboration in small groups Informal Microsoft Teams meetings outside of class allow for teamwork
Engagement <i>(Bin Mubayrik, 2020; Lockman & Schirmer, 2020)</i>	<ul style="list-style-type: none"> Promotes retention of information Promotes higher quality learning outcomes Promotes student motivation and attention to lesson 	<ul style="list-style-type: none"> Class discussions take place via microphone, over chat, or in Microsoft Forms Use breakout rooms, Microsoft Forms, or create an app through Power Apps to support checks on learning, additional opportunities to interact with the material, and break from lecture
Checks on Learning and Feedback <i>(Bin Mubayrik, 2020; Gikandi et al., 2011)</i>	<ul style="list-style-type: none"> Promote student engagement Provide instructor and students with information on students' progression towards the learning goals of the lesson Provide the instructor with the opportunity to offer constructive feedback 	<ul style="list-style-type: none"> Instructor can ask questions with response formats such as using the microphone, using raise hands, typing in the chat, or completing a Microsoft Forms quiz Instructor can also create checks on learning through Power Apps or use breakout rooms to facilitate group work

VL Certification Structure

The ARI and DOTD Team taught six iterations of the certification course—three for local Fort Moore NCOA SGLs and three for the associated Regional Training Institutes (RTI; Reserve Components). VL Certification took place over the course of 3-4 days (see Table 2 for

example course structure). On the morning of Day One, the Best Practices in VL Instruction was held online in a Microsoft Teams meeting, with SGLs joining from their work computers. This session took approximately 2 hours. This was done to provide SGLs with the opportunity to experience VL instruction from the student perspective. In the afternoon of Day One, the local Fort Moore SGLs came together in person to a computer lab at Fort Moore where members of the ARI and DOTD Team presented the Microsoft Teams Training. For the three RTI sessions, this training was fully virtual. The session took approximately 2-3 hours for the virtual and in-person versions. This session was done in a computer lab for the local SGLs so the ARI and DOTD Team could immediately address any questions and provide in the moment technical support for the SGLs. Additionally, it allowed the ARI and DOTD Team to observe the SGLs' progress and monitor how they were following along with the training. Day One of instruction concluded with the explanation of the practice teaching sessions, in which SGLs would present a lesson from their POI over Microsoft Teams to their peers and the ARI and DOTD Team. Preparation for the practice teaching sessions was scheduled for Day Two, with members of the ARI and DOTD Team available for troubleshooting or questions. On Day Three, SGLs presented their practice VL lesson to the group. The practice teaching sessions took approximately 25 minutes per student, which included their instruction and feedback from the group. For larger class sizes, practice teaching sessions continued into Day Four.

Table 2

NCOA VL SGL Certification Example Schedule

Day One	Day Two	Day Three	Day Four
AM: Best Practices in VL Instruction	Preparation for Practice Teach	AM: Practice Teaching Sessions	AM: Practice Teaching Sessions (if needed)
PM: Microsoft Teams Training		PM: Practice Teaching Sessions	

Best Practices in VL Instruction

The session on best practices for VL instruction provided information and hands-on activities for bringing the ELM and pedagogical principles together within the virtual teaching environment. Overall, the intent was to help the SGLs understand that like in-person instruction, effective VL instruction facilitates engagement with course content, the instructor, and fellow students (Lockman & Schirmer, 2020; Luckritz Marquis, 2021). How instructors reach those outcomes will look differently in a VL environment, but many of the instructional techniques they use for in-person instruction, such as group discussions or review games can still be used in VL. The challenge is to learn how to translate those techniques to the VL environment. Additionally, the ARI and DOTD Team explicitly referenced the ELM and how it could be utilized in a VL environment. Taken together, the best practices in VL instruction can also be seen as a time for the SGLs to deliberately brainstorm and reflect on how they can translate their

instruction to VL. Specifically, the instruction focused on how to create social presence, foster student engagement, use checks on learning, and facilitate discussions on how the SGLs could bring best practices they used in face-to-face instruction to their VL classroom.

Social presence, the sense that those the individuals one interacts with online are “real” people, is often the first element that participants feel is missing in an online environment and creating it effectively can improve course outcomes (Heider, 2021; Mykota, 2018). In the session, the team discussed ways to foster social presence such as class introductions, turning on Teams cameras when possible, having clear communication with students, and finding time for students to share personal experiences and interact with their peers (Heider, 2021; Mykota, 2018). Decreased student engagement is one of the primary concerns of instructors in VL, so the session also discussed different activities that could be used as checks on learning in VL to assess student knowledge as well as encourage student engagement. The SGLs were familiar with checks on learning based on their previous teaching experiences and/or knowledge of the ELM. The ARI and DOTD Team reviewed various approaches for checks on learning such as quizzes, posting questions in the chat, and utilizing breakout rooms to have students work on problems in small groups. Additionally, the team discussed how checks on learning may need to be conducted more frequently in a VL class because the student cues instructors are accustomed to using may not be available in a virtual environment. For example, instructors typically use non-verbal cues of students’ engagement such as nodding their head, taking notes, following along in the book, looks of confusion, or students seeming distracted. In VL, if students do not have their camera turned on instructors need to plan breaks and simple activities to check in on them. Additionally, this session emphasized the importance of selecting activities that aligned with lesson goals and providing timely feedback to students.

The Best Practices in VL Instruction session was designed to align with the five elements of the ELM, the effective approaches to VL instruction, and to utilize the technological capabilities available in Microsoft Teams. This was done so the session would also serve as a model for the content being taught and mimic a VL environment for the SGLs. For example, the session began with the use of Microsoft Forms to gauge SGLs concerns for teaching VL and what they hoped to learn during the session. Microsoft Forms is a survey and quiz tool available in the Army’s Microsoft 365 environment (i.e., Army 365). By starting with this activity, the ARI and DOTD Team was able to model the use of Microsoft Forms to aid instruction, gain a better understanding of the SGLs’ perceptions of VL, and serve as an ice breaker for the session. For the Concrete Experience (CE), the ARI and DOTD Team wanted the SGLs to reflect on what effective and ineffective instructors would do in a VL environment and what successful and unsuccessful students would do in a VL environment. To do this, SGLs were shown pictures of “good” and “bad” instructors and students from popular culture to prime the conversation. Then the class was divided into two breakout rooms. Each room was assigned to discuss what effective/ineffective instructors would do in VL environment or what successful/unsuccessful students would do in VL environment. This discussion was used to build the SGLs’ definitions for “what right looks like” for VL as well as model the use of breakout rooms to promote class discussion. The ARI and DOTD Team referenced the SGLs’ definitions for effective VL

instructors and students throughout the remainder of the session to help build a collective understanding with the class. Additionally, the activity served as part of the publish and process (P&P) component of the instruction to determine the SGLs' understanding of VL best practices and where the ARI and DOTD Team needed to focus the majority of the instruction. Throughout the lesson we followed a similar approach of integrating an activity or open-ended questions to balance student/trainer input, model the use of Microsoft Teams, and keep the session interactive. The PowerPoint slides used for the best practices in VL session are included in Appendix A*.

Microsoft Teams Instruction

After the best practices in VL session, the ARI and DOTD Team introduced the virtual modality for the NCOA instruction, Microsoft Teams. The goal of this session was to provide an overview of how to use the virtual platform and to familiarize the SGLs with the capabilities of Microsoft Teams and Army 365 that could be utilized in their instruction. To better transition from the focus on instruction to the technology available, the session began with a brief example lesson where the ARI and DOTD Team illustrated how an IN ALC lesson could be taught virtually. Instead of teaching the lesson, the trainer walked through the lesson slides and highlighted how it could be taught using the ELM, Army 365 and Microsoft Teams capabilities (e.g., chat, raise hands, MS Forms), and the VL best practices of social presence, student engagement, and checks on learning. Importantly, the example lesson provided the purpose behind the lesson structure to help scaffold the SGLs' understanding of how to plan their lessons in VL. The example lesson concluded with the trainer discussing the use of Microsoft Forms and showing the instructor view of student responses. The intent for the example lesson was to help the SGLs conceptualize what instruction in a VL environment could look like and prime them for the discussion of how to use the virtual platform.

After the example lesson, the team reviewed the basic functions of Microsoft Teams and the additional Army 365 applications Microsoft Forms and Power Apps. The SGLs were encouraged to follow along with the training on their government computers. For the three local Fort Moore sessions, the ARI and DOTD Team taught the session in a computer lab so they could assist the SGLs as they followed along with instruction. Table 3 outlines the content covered in the session. Although the session primarily relied on modeling, the SGLs were also provided practical exercises (PE), that provide step-by-step instructions on how to set up a classroom team (see Appendix B) and how to use Microsoft Forms (see Appendix C)[†].

* Appendix A has images of the PowerPoint slides. Those interested in obtaining the PowerPoint slide deck should contact Dr. Ashley Wittig at ARI (ashley.h.wittig.civ@army.mil).

[†] PEs were informed by the technical support provided by Microsoft (<https://support.microsoft.com/en-us>).

Table 3

Microsoft Teams Session Content

VL Modality	Specific Functions Discussed
Microsoft Teams	<u>Creating and Managing a Team</u> <ul style="list-style-type: none">• Creating a private Team• Creating channels• Adding people to a Team• Establishing permissions<ul style="list-style-type: none">○ Indicating which Team members can edit the Team○ Indicating which Team members can access and edit files• Adding apps to channels
	<u>Facilitating Microsoft Teams Meetings</u> <ul style="list-style-type: none">• Schedule a meeting• Starting a meeting• Meeting functions<ul style="list-style-type: none">○ Mute / unmute○ Raise Hands○ Chat○ Breakout rooms○ Screensharing / presentation mode options
Army 365	<u>Microsoft Forms</u> <ul style="list-style-type: none">• Quiz creation• Sharing quiz link• Viewing results
	<u>Power Apps</u> <ul style="list-style-type: none">• Adding an app to a Team’s Channel• Previewed Apps created by DOTD for NCOA lessons<ul style="list-style-type: none">○ Vehicle ID Jeopardy○ Land Navigation○ Call for Fire○ Forward Observer (FO) Procedures

SGL Practice Teaching Sessions

Previous ARI research has shown the importance of practice teaching sessions for the instructor certification process (Wittig et al., 2022). Therefore, the ARI and DOTD Team set up a similar approach where the SGLs had to virtually teach a lesson from their respective courses using Microsoft Teams. Their fellow SGLs were expected to attend the practice teaching sessions and role-play as students. The intent was for the practice teaching sessions to be a first repetition of applying the content taught in certification while trying to mimic the classroom environment. This provided the SGLs the opportunity to learn by doing and by observing their peers, and by receiving feedback from trainers and peers they can apply to their future instruction. Importantly, this forced the SGLs to practice applying the skills before they taught students.

In the practice teaching sessions, the SGLs were asked to present a 15-minute lesson from their POI in VL. They were expected to utilize the ELM and at least two virtual functions for engaging students. Of these functions, one was to be a simple one-click function (e.g., chat, raise hands). The other was to be a more complex multi-step function requiring additional preparation or in-meeting technological fluency (e.g., Microsoft Forms, app, and/or an activity in a breakout room). At least one of the functions was expected to be a check on learning, and SGLs were instructed to provide feedback to students after the check on learning. As part of the practice teaching sessions, the SGLs were also instructed to set up an example Team for the practice session which included course materials, a welcome message, and appropriate file permissions. The Microsoft Teams PE (see Appendix B) provided step-by-step instructions for the SGLs to complete this task. Practice teaching sessions were intended to function like a real class, with SGLs stating or modeling their expectations for each activity like they were conducting the activity with students for the first time. Their fellow SGLs were expected to participate as students for their peers and provide feedback. Additionally, the SGLs were to try and foster social presence and student engagement by calling on students by name, sharing or asking about personal experience, using humor, and avoiding reading PowerPoint slides to students.

During the practice teaching sessions, the ARI and DOTD Team assessed the SGLs' instruction through an observation rubric (Appendix D) and provided After Action Reviews (AARs) to each SGL. Additionally, the SGLs' peers provided constructive feedback on their instruction of the content as well as the VL components. Overall, the practice teaching sessions were an important "first repetition" for the SGLs to practice applying what was taught in certification. Errors in the application of VL were anticipated and served as an excellent learning opportunity for the SGLs. The practice teaching sessions allowed the SGLs to gain a better understanding of what to expect in VL, thereby better preparing them for future VL instruction. Therefore, it is essential for similar instructor certification programs to implement practice teaching sessions in their design.

Conclusions

When designed strategically, VL can lead to learning outcomes that are as good as those of a traditional classroom (Means et al., 2009). However, effective teaching in a VL environment is not as simple as "adding technology" (Koehler & Mishra, 2005, p. 5) to an existing lesson plan or approach. Instructors need to understand how to effectively integrate technology, course content, and pedagogy to reach their desired learning outcomes and engage their students through VL (i.e., TPACK; Koehler & Mishra, 2009; Mishra & Koehler, 2006). Effective course design, not the mode of delivery, has the largest effect on learning outcomes, restating the importance of providing the necessary training to support Army instructors to teach in a VL environment (Xu & Xu, 2020). Therefore, the purpose of the NCOA VL SGL Certification Course was to prepare the SGLs to provide high-quality learning experiences on a virtual platform, by illustrating how the ELM, Microsoft Teams capabilities, and their course content could be integrated to lead effective instruction. Importantly, the certification process outlined

here provided the baseline knowledge for SGLs to teach VL. An added benefit of the certification is that it is a designated time for SGLs to test out new ideas and collaborate with their peers. As SGLs teach VL, it is essential for them to become a community of practice (Lave & Wenger, 1991; Wenger 1998) to share ideas, troubleshoot common issues, and expand the overall knowledge of how to teach VL for their specific courses.

However, incorporating best practices and technological capabilities for VL instruction is a process that requires ongoing preparation and practice, and certification marks the start of this process rather than a finish line. It is important for the SGLs to continue to practice and reflect on this knowledge to fully develop the needed skills to teach effectively in a VL environment. As the Army continues to modernize professional military education (PME) with the inclusion of VL or distributed learning (DL), it is imperative that we recognize that teaching in a VL environment requires that instructors develop an additional set of skills. TPACK is a unique knowledge base that needs to be deliberately developed so SGLs can effectively integrate technology, pedagogy, and course content (Koehler & Mishra, 2009; Mishra & Koehler, 2006). To ensure the success of VL/DL approaches, Army instructors need training and support on how to develop these skills. The NCOA VL SGL Certification Course described here can be seen as a guide for similar programs. Future research needs to continue to examine best practices for developing TPACK to best meet the needs Army instructors.

References

- *Bin Mubayrik, H. F. (2020). New trends in formative-summative evaluations for adult education. *SAGE OPEN*, 10(3), 1-13. <https://doi.org/10.1177/2158244020941006>
- Bloom, B. S. (1984). *Taxonomy of educational objectives handbook I: Cognitive domain*. Longman.
- Bloom, B. S., Krathwohl, D. R., & Masia, B. B. (1964). *Taxonomy of educational objectives handbook II: Affective domain*. Jossey-Bass.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational researcher*, 18(1), 32-42. <https://doi.org/10.3102%2F0013189X018001032>
- *Casey, K., Shaw, E., Whittingham, J., & Gallavan, N. (2021). Improving online instruction: A study of online course delivery methods. *Journal of Educators Online*, 18(1), 53–60. <http://dx.doi.org/10.9743/JEO.2021.18.1.8>
- Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6-11.
- Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honor of Robert Glaser* (pp. 453–494). Lawrence Erlbaum Associates.
- Dennen, V. P., & Burner, K. J. (2008). The cognitive apprenticeship model in educational practice. In J.M. Spector, M.D. Merrill, J.V. Merrienboer, & M.P. Driscoll (Eds.), *Handbook of Research on Educational Communications and Technology* (3rd ed). (pp. 425-439). Lawrence Erlbaum Associates.
- Diedrich, F. J., Wittig, A. H., Knott, C., Chik, K. C., Geers, S. T. (2022). *An Army Experiential Learning Model job aid*. (Research Product-2022-02). U.S. Army Research Institute for the Behavioral and Social Sciences (DTIC No. AD1167517).
- *Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. *Computers & Education*, 57(4), 2333–2351. <https://doi.org/10.1016/j.compedu.2011.06.004>
- *Goodsett, M. (2020). Best practices for teaching and assessing critical thinking in information literacy online learning objects. *The Journal of Academic Librarianship*, 46(5), Article 102163. <https://doi.org/10.1016/j.acalib.2020.102163>
- *Guerrero-Roldán, A. E., & Noguera, I. (2018). A model for aligning assessment with competences and learning activities in online courses. *The Internet and Higher Education*, 38, 36–46. <https://doi.org/10.1016/j.iheduc.2018.04.005>
- Heider, K. L. (2021). Isolation, burnout, and a lost sense of belonging. *Distance Learning*, 18(1), 25–35.

* These sources contributed to the VL Best Practices slide deck but are not referenced in the text of the report.

- *Huggett, C. (n.d.). *Virtual Activity Selection Grid*. Retrieved March 11, 2022.
<https://www.cindyhuggett.com/archive/virtual-activity-selection-grid-2/>
- King, A. (2002). Structuring peer interaction to promote high-level cognitive processing. *Theory into Practice*, 41(1), 33-39. https://doi.org/10.1207/s15430421tip4101_6.
- King, A. (2008). Structuring peer interaction to promote higher-order thinking and complex learning in cooperative groups. In R.M. Gillies, A.F. Ashman, & J. Terwel (Eds.), *The Teacher's Role in Implementing Cooperative Learning in the Classroom* (pp. 73-91). Springer. DOI: 10.1007/978-0-387-70892-8_4.
- Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60-70.
<https://doi.org/10.1177/002205741319300303>
- Koehler, M. J., Mishra, P., & Yadav, A. (2005, April). The development of Technological Pedagogical Content Knowledge in a design seminar. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511815355>
- *Lockman, A. S., & Schirmer, B. R. (2020). Online instruction in higher education: Promising, research-based, and evidence-based practices. *Journal of Education and E-Learning Research*, 7(2), 130–152. <http://dx.doi.org/10.20448/journal.509.2020.72.130.152>
- *Luckritz Marquis, T. (2021). Formative assessment and scaffolding online learning. *New Directions for Adult and Continuing Education*, 2021(169), 51–60.
<https://doi.org/10.1002/ace.20413>
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). Evaluation of evidence-based practices in online learning. [electronic resource]: *A Meta-Analysis and Review of Online Learning Studies*. Distributed by ERIC Clearinghouse. ERIC ED505824.
- Microsoft. (2023, August 15). *Support*. <https://support.microsoft.com/en-us>.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054.
<https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Mykota, D. (2018). The effective affect: A scoping review of social presence. *International Journal of E-Learning & Distance Education*, 33(2), 1–30.
<https://www.ijede.ca/index.php/jde/article/view/1080/1718>
- *Nicol, D., & Macfarlane, D. D. (2006). Formative assessment and self-regulated learning: a model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), 199–218. <https://doi.org/10.1080/03075070600572090>
- The Army University. (n.d.). *Common faculty development instructor course student book*. (Version 2.1). Retrieved January 29, 2020, from
https://www.moore.army.mil/CFDP_INST_HW/content/New%20Student%20Book%20v%202.1.pdf

- U.S. Army Training and Doctrine Command (2021). *Training and educational development in support of the institutional domain* (TP 350-70-14). Author.
- *Vonderwell, S. & Boboc, M. (2013). Promoting formative assessment in online teaching and learning. *TechTrends: Linking Research & Practice to Improve Learning*, 57(4), 22–27. <https://doi.org/10.1007/s11528-013-0673-x>
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511803932>
- *Winger, A. (2021). Deepening discussion in online learning through high-impact practices. *Distance Learning*, 18(2), 35-40.
- Wittig, A. H. Geers, S. T., Chik, K. C., Grome, A., Cooley, I., Knott, C. C. (2023). Development and implementation of the Maneuver Captains Career Course learning ecosystem. (Research Report 2036). U.S. Army Research Institute for the Behavioral and Social Sciences (DTIC No. AD1204309).
- Wittig, A. H., Geers, S. T., Dyer, D. J., Diedrich, F. J., Brou, R. J., Kott, C. C., Chik, K. C., (2022). The potential of cognitive apprenticeship: A review of best practices for instructor certification in the Maneuver Captains Career Course. (Technical Report # 1414). U.S. Army Research Institute for the Behavioral and Social Sciences (DTIC No. AD1181144).
- Wittig, A. H., & Postier, L. E., (2022). *Instructor guide: Best practices and sample activities for virtual learning*. (Product Report # 2023-03). U.S. Army Research Institute for the Behavioral and Social Sciences (DTIC No. AD1186298).
- Xu, D., & Xu, Y. (2020). The ambivalence about distance learning in higher education: Challenges, opportunities, and policy implications. In L.W. Perna (Ed.), *Higher Education: Handbook of Theory and Research: Vol. 35* (pp. 351-401). Springer. https://doi.org/10.1007/978-3-030-11743-6_10-1.
- Xun, G. E., & Land, S. M. (2004). A conceptual framework for scaffolding ill-structured problem-solving processes using question prompts and peer interactions. *Educational Technology Research and Development*, 52(2), 5-22. <https://doi.org/10.1007/BF02504836>.

* These sources contributed to the VL Best Practices slide deck but are not referenced in the text of the report.

Appendix A
VL Best Practices Slide Deck

Virtual Learning (VL) Instructor Training

Pre-Class Activity

- **Microsoft Forms link in the chat**
 - What do you hope to learn?
 - What's your biggest concern about teaching in VL?

Overview

- **Introductions**
- **VL Best Practices**
- **Guidelines for Activities**
- **Practice Teaching Session Instructions**

VL Participant Guidelines

- **Participate!**
 - We want this instruction to be engaging and adapt to what information you need
 - Asking questions and sharing your experience will help other instructors
- **To answer or ask questions:**
 - Post in the chat
 - Use “raise hands” function

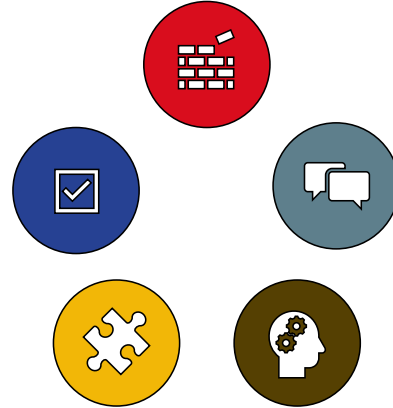
Introductions

- Name
- Location
- Course(s) you teach
- VL experience

VL Best Practices

Overview of the ELM

- **Five steps of the ELM:**
 - **The Concrete Experience (CE)**
 - **Publish & Process (P&P)**
 - **Generalize New Information (GNI)**
 - **Develop (DEV)**
 - **Apply**



One key to the ELM is to view the instructor as a facilitator of learning rather than a conveyor of knowledge: **Lecture less . Listen more .**

Summary of the ELM

Stage Title	1. CE	2. P&P	3. GNI	4. DEV	5. Apply
Description	<ul style="list-style-type: none"> • Shared experience to ground lesson 	<ul style="list-style-type: none"> • Facilitated discussion/reaction to CE 	<ul style="list-style-type: none"> • Where new information is presented 	<ul style="list-style-type: none"> • Reflection and expression of value 	<ul style="list-style-type: none"> • Check on learning
Characteristics	<ul style="list-style-type: none"> • A video, personal military experience, historical vignette, etc. • Involve all students • Not a pretest • No right or wrong answers 	<ul style="list-style-type: none"> • Sharing of observations • Sharing of reactions • Sets the stage for GNI 	<ul style="list-style-type: none"> • Multiple ways to deliver such as lecture, discussion, demonstration, practical exercises • Not a passive learning activity 	<ul style="list-style-type: none"> • Sharing of observations in terms of value and future utility 	<ul style="list-style-type: none"> • Enables instructors to confirm students met the learning objective • Not a test • Should not be delayed
Students	<ul style="list-style-type: none"> • Involved • Interact with classmates 	<ul style="list-style-type: none"> • Reflect and answer open ended questions related to the CE 	<ul style="list-style-type: none"> • Actively listen, participate, and collaborate 	<ul style="list-style-type: none"> • Reflect • Share reactions • Express value 	<ul style="list-style-type: none"> • Apply knowledge in an activity that makes understanding transparent
Instructors	<ul style="list-style-type: none"> • Set up • Observe • Facilitate 	<ul style="list-style-type: none"> • Facilitate discussion • Don't lecture • Use open-ended questions • Use discussion to identify what students know 	<ul style="list-style-type: none"> • Present, clarify, and collaborate with students • Link back to CE • Tailor approach to what the students know 	<ul style="list-style-type: none"> • Facilitate discussion • Use open-ended questions • Don't express value for the students 	<ul style="list-style-type: none"> • Use appropriate Method to gauge understanding • Provide feedback and revisit material as necessary

Activity 1

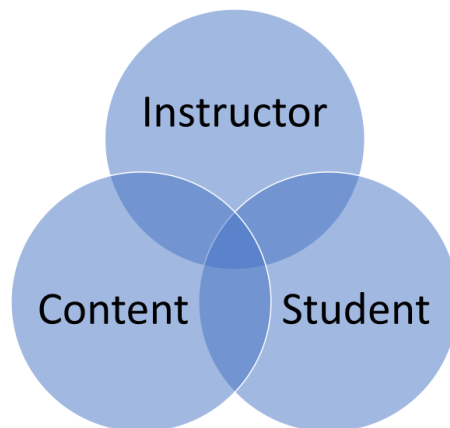
Effective & Ineffective Actions in VL

- What would effective and ineffective instructors do in VL?

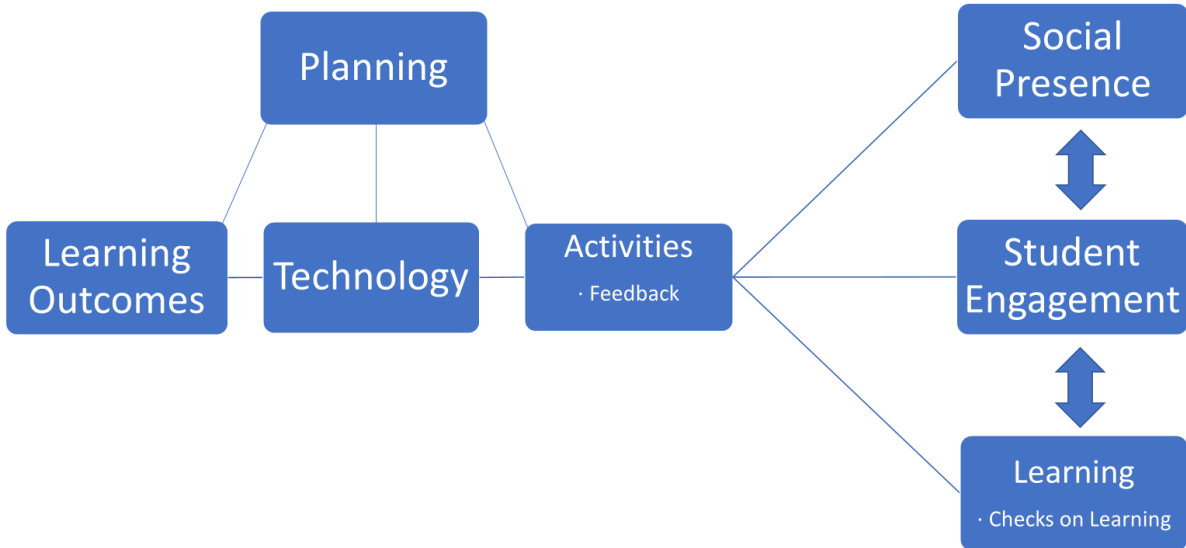
- What would successful and unsuccessful students do in VL?

VL Best Practices Overview

Like in-person instruction, the best VL instruction facilitates engagement with course content, the instructor, and fellow students



VL Best Practices



Best Practice Key Terms

Term	Definition
Social Presence	Sense that those you interact with in VL are “real” people
Student Engagement	Attention, interest, and curiosity
Checks on Learning	Activities that assess progress toward learning goals
Feedback	Communication that clarifies where students are in relation to goal learning outcomes and how they can progress

Activity 2

VL Best Practice Scavenger Hunt

In the ARI VL Instructor Guide*, look for information on your assigned VL Best Practice. Then, explain to the group in 2-3 minutes:

- Why that best practice is important
- A method you could use to implement that practice

Groups:

1. Social Presence
2. Student Engagement
3. Checks on Learning (Formative Assessment)

*Wittig & Postier (2022)

How to Build Social Presence

- Model social cues
 - Introductions
 - Addressing people by name
 - Using encouragement
 - Sharing personal stories
 - Expressing humor
- Create opportunities for collaboration and expertise sharing
 - Group assignments/projects or study groups
 - Sharing personal experiences
- Establish good communication
 - Check in via emails/create posts for course milestones
 - Provide timely feedback for assignments
 - Be available (e.g., office hours, logging on early to meetings, etc.)

How to Build Student Engagement

- Use social presence best practices to foster a sense of community
- Connect course content to students' experiences and knowledge
- Use multiple technologies to communicate
- Use a variety of assessment techniques, including formative assessments (FA)
- Offer timely and useful feedback
- Prompt students to reflect on course content
- Plan activities intentionally (meaningful, challenging, match the learning goal)

Guidelines for Activities

Activities in VL

VL Best
Practices



Your VL
Class

- What activities have you used as an instructor or experienced as a student that you thought were effective (VL or in-person)?

Tips for Choosing & Setting Up Activities

- Keep in mind:
 - Learning goal
 - Time constraints
 - Student knowledge, skill level, and comfort level with technology
- Plan for a range of activities, from quick checks on learning to more in-depth discussions or projects
- Know ahead of time how you will provide students with feedback for the activity
- Before starting a new activity, show students how you'd like them to participate:
 - Give clear instructions
 - Show examples, if applicable

Type of VL Activity by Learning Goal

Goal	Assess Previous Knowledge/ Check Understanding & Recall	Critical Thinking	Applying Knowledge	Social Presence	Class Takeaways	Self-Reflection
Activities	<ul style="list-style-type: none"> Quiz Question for the chat Raise hands Games (e.g., jeopardy) Cold calling Students look up information and share 	<ul style="list-style-type: none"> Concept or argument/logic maps Problem solving Creating and answering questions 	<ul style="list-style-type: none"> Problem-based learning Role playing Case studies Teaching others Authentic activities 	<ul style="list-style-type: none"> Class introductions Icebreaker questions Sharing personal experiences Small group in-class project Small group discussion Asynchronous discussion board 	<ul style="list-style-type: none"> One-sentence summary 1-minute paper: <ul style="list-style-type: none"> What's the most important thing you learned? What questions do you still have in mind? 	<ul style="list-style-type: none"> Comparing current and previous understanding Comparing current understanding to benchmark Describing how content applies to your life

Table 2 in the Instructor Guide (adapted from Guerrero-Roldán & Noguera, 2018 and expanded with information from Goodsett, 2020; Vonderwell & Boboc, 2013; Luckritz Marquis, 2021)

Activity 3

Plan Your Own VL Activity

Think about a course you teach and plan a VL activity to accomplish a learning goal.

Example:

Learning Goal	Self-Reflection
Activity	Students write how their view on a topic has changed since course day 1
Technology	MS Form
Feedback Plan	Email comments to individual students
When	End of class
Connection to Best Practices <ul style="list-style-type: none"> Social Presence, Engagement, and/or Checks on Learning 	Closing the loop with feedback helps build social connection with the student, which also supports motivation to engage. Reading student reflections on how their thoughts have changed since the beginning of the course will help me identify any major gaps in my instruction.

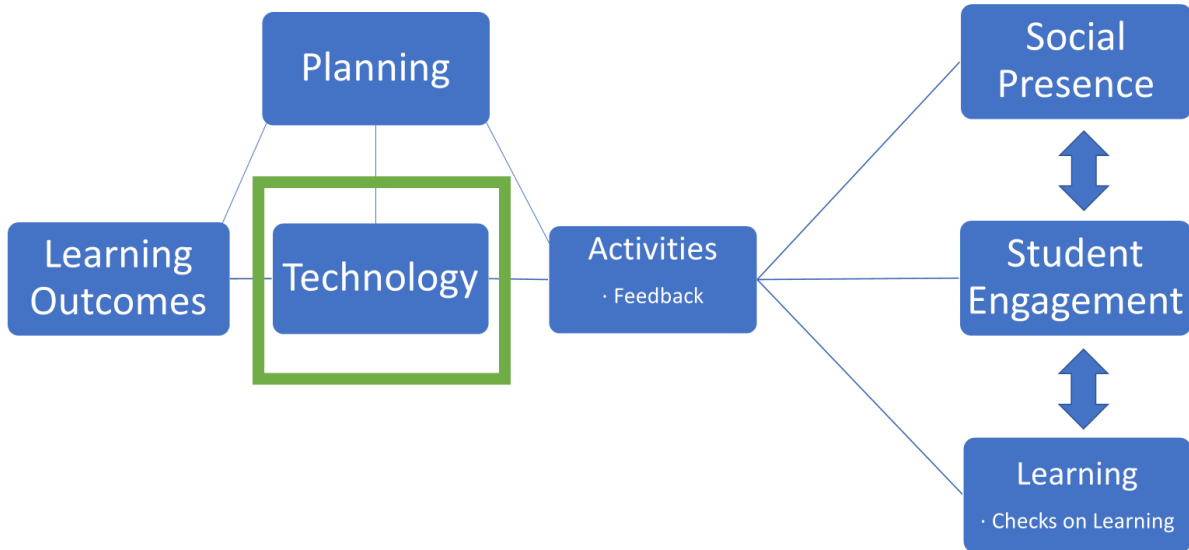
Practice Teaching Sessions

Practice Teaching Sessions

- **Instructions:**

- Teaching 10-15 minutes of a lesson for one of your courses on MS Teams
- Peers will be the "students" and will provide feedback on your instruction
- Include at least two VL functions
 - One simple (e.g., chat, raise hands) and one more complex (e.g., MS form, PE, and/or breakout room)
 - At least one of these functions should be a check on learning or exit ticket
 - Provide feedback to students after the check on learning
 - State or model your expectations for each activity as you would for the first time you conduct the activity with your students in VL
- Choose 1-2 actions that will foster social presence within your class
 - i.e., calling on students by name, sharing or asking about personal experience, using humor, etc.
- Base your instruction on the Experiential Learning Model (ELM) (Not expected to complete all of the ELM steps in the allotted time.)

Conclusion



Thank You!

Additional Information

Contents

- Day Zero/Course Orientation
- Sample Formative Assessment (FA)/Check on Learning Activities
- Example Activities by Lesson Type and VL Tool
- Feedback
- Feedback Guidelines by Assessment Type
- Questions for Class Discussion

Day Zero/Course Orientation

• **Benefits:**

- Start strong with establishing social presence
- Prevent technological issues down the line
- Help students understand course objectives and plan

Guidelines for a Successful Course Orientation
Start with instructor and student introductions
Show students how to navigate the course home page and other technology using screen share
Check in with how students are doing with the technology (comms, chat, etc.)
Share learning goals and preview course milestones
Discuss expectations for <ul style="list-style-type: none"> • Class conduct • Assignments • Participation (camera, microphone, etc.)
Plan activities that will give students practice with the technology

Sample FA Activities			
	When	How	Examples
Polling/Class Quiz	<ul style="list-style-type: none"> • Assess previous knowledge • Check understanding (recall) 	<ul style="list-style-type: none"> • Raise hands • Type a response into the chat (either public or to the instructor) • Pre-created multiple choice or true/false quiz 	<ul style="list-style-type: none"> • “How many of you have...” (question about previous experience) • Yes/No or True/False questions • Jeopardy style games
Small Group Problem Solving	<ul style="list-style-type: none"> • Focus on a topic in depth • Promote critical thinking • Build class community 	<ul style="list-style-type: none"> • Share a problem-based scenario and guidelines for group interaction • Place students in breakout rooms in groups of 2-6 • A representative from each group shares their solution with the class • Classmates evaluate other groups’ solutions • Instructor provides feedback to each group 	<ul style="list-style-type: none"> • “Based on [situation], how would you [desired outcome]?” • Practical Exercises (discussed more below)
Exit Ticket	<ul style="list-style-type: none"> • Identify gaps in learning at the class and individual level • Help students solidify/summarize a lesson • Promote student self-reflection on learning and/or learning transfer 	<ul style="list-style-type: none"> • Post a prompt (i.e., last PowerPoint slide or in the class chat) • Students respond in the chat (either public or to the instructor) • Instructor saves the chat and refers to this for instructional planning 	<ul style="list-style-type: none"> • “What was the most difficult/confusing/interesting/affirming part of today’s class?” (Keefer, 2009). • Ask a factual question about the most important content.

Example Activities by Lesson Type and VL Tool (Adapted from Virtual Activity Selection Grid)		
Tool	Content/Memorization Focus	Conceptual/Application Focus
Audio & Video	<ul style="list-style-type: none"> Material for a factual evaluation ("What did so and so do right/wrong?") 	<ul style="list-style-type: none"> Material for a case study or post-event review
Raise Hands	<ul style="list-style-type: none"> Y/N questions Voting Assessing previous experience 	
Chat	<ul style="list-style-type: none"> Quick in-the-moment quiz to check understanding Questions for the instructor Exit tickets 	
Whiteboard/Annotation	<ul style="list-style-type: none"> Outlining a maneuver Creating a visual aid to support description/application 	<ul style="list-style-type: none"> Drawing the solution to a problem
Poll/Quiz	<ul style="list-style-type: none"> Quiz to assess understanding Voting on fact-based information 	<ul style="list-style-type: none"> Voting on proposed solutions
Breakout Rooms	<ul style="list-style-type: none"> Small group discussion or assignments 	<ul style="list-style-type: none"> Small group problem-solving
Screen sharing	<ul style="list-style-type: none"> Scavenger hunt to find information (e.g., doctrine definitions)/answers to a problem 	<ul style="list-style-type: none"> Share solutions to problem-solving tasks Share maps, diagrams, etc.
Collaborative document	<ul style="list-style-type: none"> Document brainstorming Written group project 	
<p><i>Note: All activities in the Content/Memorization Focus column could also be used in the Conceptual/Application Focus type lesson. For more activities, see Table 1.</i> https://www.cindyhuggett.com/archive/virtual-activity-selection-grid-2/</p>		

Feedback

- **Definition:** Communication with students that helps clarify where they are in relation to goal learning outcomes and how they can progress
- **Benefits**
 - Facilitates student progress
 - Supports student self-esteem and motivation
 - Expands student understanding
 - Encourages class discussion

Effective Feedback...
Is given promptly
Clarifies criteria, standards, and goals
Provides actionable information, such as how to improve, rationale, and addresses common misconceptions
May be indirect (leading questions or offering resources) in some cases
Is given in an encouraging rather than discouraging tone

Feedback Guidelines by Assessment Type	
Situation	Guidelines
Questions that have one right answer (i.e., polls, quiz, raise hands, question in the chat).	<p>If an answer is correct, explain why.</p> <p>If an answer is lacking,</p> <ul style="list-style-type: none"> • Ask a question or lead to a resource so students can improve their own answer and • Acknowledge and dispel common misconceptions.
In-depth (i.e., small group problem-solving, student presentations).	<p>Tie comments to</p> <ul style="list-style-type: none"> • Rubrics/criteria and • Learning objectives. <p>You may want to ask questions or, in moderation, “play devil’s advocate.”</p>
Time-lagged (i.e., exit tickets, assignments, quizzes, asynchronous discussions).	<ul style="list-style-type: none"> • At the start of the next lesson, summarize how the class did on the exit ticket/assignment, • Address any patterns of excellence, insufficiency, or confusion that emerge, and • Individualized feedback may be given in one-on-one student/instructor meetings, in written format, or audio file. A positive and informal tone is recommended (Winger, 2021; Mykota, 2018).

Questions for Class Discussion

- **Encourage class discussion as you would for in-person lessons**
- **Utilize chat, raise hands, and checks on learning to promote discussion**
 - Use open-ended questions that promote critical thinking
 - *What did you see? What happened?*
 - *What is the difference between ... and ...?*
 - *Could you give an example?*
 - *What is the significance of ...?*
 - *Explain why ...*
 - *What do you think would happen if ...?*
 - *What are the strengths and weaknesses of ...?*
 - *Which ... do you think is best and why?*
 - *What evidence is there to support your answer?*
 - *How does ... fit with what he/she just said?*
 - *How is ... related to ... that we studied earlier?*

*Questions from King (2008)

Appendix B

Microsoft Teams Practical Exercise

Using the instructions below, create your team with the following parameters and have it prepared to use for the practice teach later in the week.

Creating a Team

These steps will guide you through creating, naming, and adding members to your team.

1. Within Teams, navigate to the Teams menu on the far left-hand side of your window, then click the hover over the + at the top bar on the left. Then select “Create” and “Join Teams and Channels”.
2. Select “Create Team”.
3. Select “Build a Team from scratch”.
4. Select the “Private” option.

Note: Choosing the public option allows anyone to search and join your team. The private option restricts your Team to individuals you allow to have access.

5. Name your team. For this exercise, name your team using the example below:
 - a. **RTI Location (ex: TX, MS, PA) NCOA VL – Your Last Name**
 - b. **Example: GA NCOA VL - Smith**
6. Optional: You may choose to add a description to your team if you choose.
7. Select Create.

Add Members to your Team

1. For this exercise, add all the group members from this Virtual Training session.

Note: You can access the group member list in the **NCOA Virtual Learning Instructor Certification** team by clicking the three dots (ellipses) next to the Team name and select manage team. A list of owners and members will populate in the viewing window.

2. Every team automatically populates with a “General” channel with permissions allowing any team member to post messages and full access to create, edit, add, etc. content.

Managing a Team

These steps will guide you through selecting a team picture, managing member permissions, and adding additional applications to your team.

1. Click on the three dots (ellipses) next to your Team name. Select “Manage Team”.

2. Select “Settings”.
 - a. Select “Change Picture”.
 - b. Select “Upload” and select a picture to use as your team icon.
 - c. Note: Generally, organizations use the unit crest, logo, insignia, or course specific picture as the team picture. Select “Close” after selecting your picture.
3. Next in the “Settings” tab, select the arrow next to the “Member permissions” list item.
4. **Uncheck** the boxes for the following items:
 - a. Allow members to create and update channels
 - b. Allow members to create private channels
 - c. Allow member to delete and restore channels
 - d. Allow member to add and remove apps
 - e. Allow member to create, update, and remove tabs
 - f. Allow member to create, update, and remove connectors
5. Next in the “Settings” tab, select the arrow next to the “Team Code” list item. This item allows you to generate a code that allows members to join the team directly using the code and without an owner receiving a join request.
 - a. Note: This step is for information only; no action required.
6. Select “Apps” at the tab at the top.
 - a. Select “Get more apps”.
 - b. Note: Your team will have some apps automatically added (ex: OneNote, Planner, Power BI, Sharepoint).
 - c. Scroll down and select “Power Apps”.
7. Ensure the “Add to a team” menu displays the name of your team and “yes” is selected.
8. Select Install. Select the “X” to close the dialogue box.

Adding a Channel

These steps will guide you through adding a channel to your team and how to manage channel access and visibility by other members.

1. Click on the three dots (ellipses) next to your Team name. Click on “add channel”.
2. Name your channel **Instructor Channel**. Set the privacy setting to Private using the drop-down menu at the bottom of the dialogue box.
3. Select “Create”.
4. Type your instructors for this training in the box and select “add”.

Note: You should notice your new channel listed under your team with a small lock icon next to the name. All added members to this channel have default access to create, edit, add, etc. content.

5. Click on the three dots (ellipses) next to your Team name. Click on “add channel.”
6. Name your channel **Student Channel**. Ensure the privacy setting is set as “Standard” using the drop-down menu at the bottom of the dialogue box. Check the small box to automatically show the channel in every team member’s channel list.
7. Select “Add”.

Managing File Access

These steps will guide you through managing access to the files within your team and their storage location on Sharepoint. This will give your students read only permissions in an effort to prevent them from editing course files.

1. Select the “General” channel under your team’s name.
2. In the upper righthand corner of the view screen, select the three dots (ellipses).
3. Select “Open in Sharepoint”. A web-browser window will open to your Team’s Sharepoint site.

Note: You may be required to complete the Army 365 log in process prior to the Sharepoint site opening. Be patient, Teams may take a few minutes to fully create your team’s Sharepoint page. Move to the **Adding Content** to continue working while you wait for the site.

4. In the upper righthand corner of the screen, select the gear icon.
5. Select “Site Permissions”.
6. Select the arrow next to the “Site members” item.
7. Select the arrow under the members and change the permissions from “edit” to “read”.
8. In the menu on the left, select “Documents”.
9. In the upper righthand corner of the screen, select the gear icon.
10. Select “Library Settings”.
11. In the upper middle column, select “Permissions for this document library”.
12. In the upper lefthand corner, select “Stop Inheriting Permissions”.
13. Select the “Members” list item by checking the box next to the item.
14. Select “Edit User Permissions”.
15. Uncheck the box next to “Edit”. Check the box next to “Read”.
16. Select “Ok”.

Adding Content

These steps will guide you through adding content to your teams and channels.

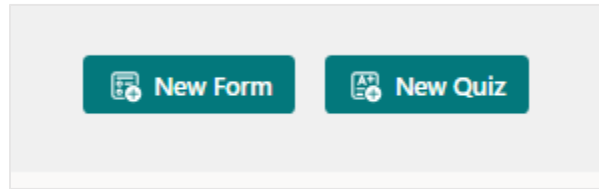
1. Select your Student Channel.
2. Select the “Posts” tab at the top of your Student Channel.
3. Select “New Conversation”.
4. Type a welcome message for your team members to read upon accessing the team.
5. Select the “Files” tab at the top of your channel.
6. Select “New” and add a folder to your files. Name the folder “Course Materials.”
7. Select “Create”.
8. Select the “Course Materials” folder you just created.
9. Select a file from your computer related to your practice teaching session and either drag and drop the file into the folder; or select “New” and “create” a new document for your folder.
10. Select your Instructor Channel.
11. Select the “Files” tab at the top of your channel.
12. Select “New” and add a folder to your files. Name the folder “Instructor Materials.”
13. Select “Create”.
14. Select the “Instructor Materials” folder you just created.
15. Select a file from your computer related to your practice teaching session and either drag and drop the file into the folder; or select “New” and “create” a new document for your folder.

Appendix C

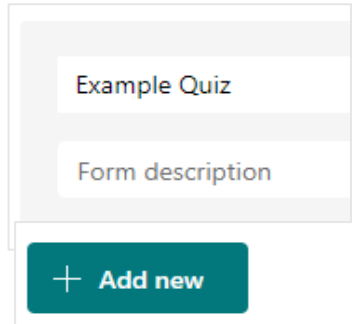
Microsoft Forms Instructions

How to create a quiz with Microsoft Forms

1. Forms is located under Apps in Army 365
2. You will need to login to the main page of Army 365 to access it (as of AUG 23, Microsoft Forms is not accessible through the Microsoft Teams desktop app).
3. Use this link for the browser version: [Microsoft Office Home \(apps.mil\)](https://apps.officeapps.microsoft.com/Forms.aspx)
4. In the top left corner, you will see “New Form” and “New Quiz”. “New Form” will create a survey with no right or wrong answers. “New Quiz” will create a quiz where you can set right/wrong answers and assign point values to questions.

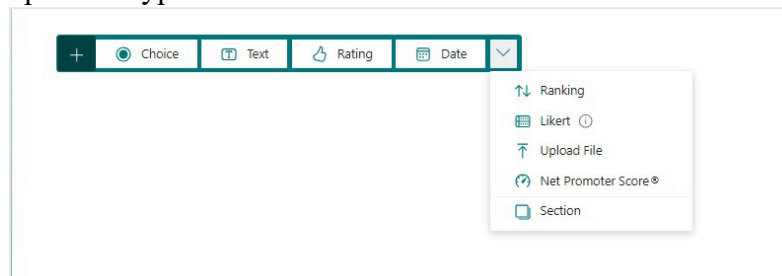


5. Name the form or quiz and provide an optional description.



Add Questions to your Quiz

1. Click “Add New” to choose the format and type for the question(s) you would like to add. Question types include multiple choice, Choice, Text, Rating, or Date questions. Select More question types for Ranking, Likert, File upload, or Net Promoter Score® question types.



- To create multiple-choice questions, select the “choice” question type. From there, you can type in the question and response options. You will also have the option to assign the points the question is worth, if it is required to answer, and if there can be multiple answers.
 - To mark the correct answer, select the check mark next to the correct option.

2. What state is Fort Moore located in?

- Georgia
- Texas
- Hawaii

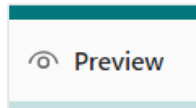
+ Add option

Points: 2

Multiple answers Required

Preview your Quiz

- To review the quiz from your students’ perspective, select the preview option on the upper right tool bar. You can also complete the quiz in preview mode to check response options.



Distribute your Quiz to Students

- To distribute your quiz, you first need to provide your students access to the quiz. In Microsoft Forms, click upper right button “Collect responses.”
 - “Only people in my organization can respond” means anyone in the US Army who has the link can respond to your quiz/Form.
 - “Specific people in my organization can respond” allows you to restrict who can access the quiz/Form.

Theme **Collect responses** Present ...

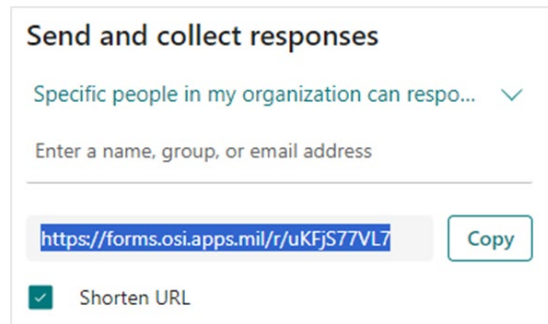
Send and collect responses

Only people in my organization can respond ✓

<https://forms.osi.apps.mil/r/uKFjS77VL7> Copy

Shorten URL

2. To add an entire team, search for your team in the “Enter a name, group, or email address” field.
 - If you use this approach, ensure that all students have been added to the Team before you limit access to just the Team. Any students added after the initial selection of this option will not be able to access the quiz.
3. To add individual students (such as when you want to add only a channel within a team), enter their name/emails in the dialogue that appears.



Send and collect responses

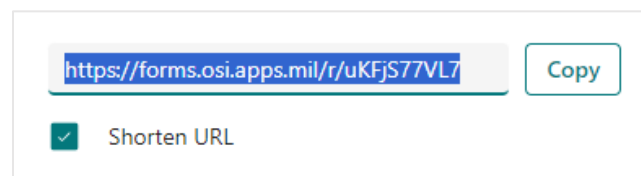
Specific people in my organization can respo... ▾

Enter a name, group, or email address

<https://forms.osi.apps.mil/r/uKFjS77VL7> Copy

Shorten URL

4. To officially distribute the quiz, you need to send your students the link to the quiz. Generally, select “shorten URL” and click “Copy.”
 - **DO NOT COPY THE URL FROM WEB ADDRESS BAR – that will give individuals with the link access to change your form.**



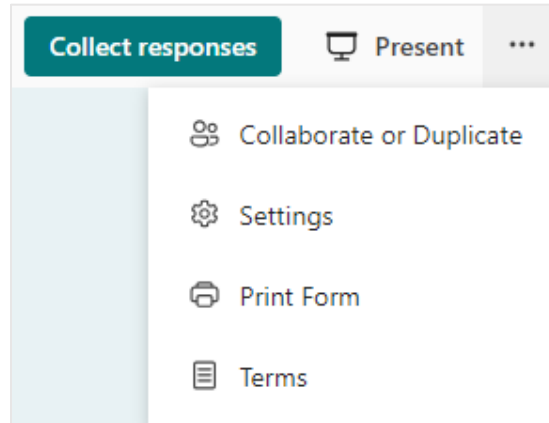
<https://forms.osi.apps.mil/r/uKFjS77VL7> Copy

Shorten URL

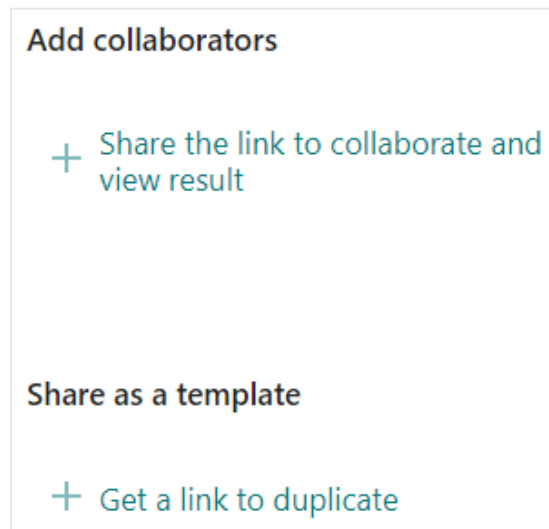
5. Paste the quiz/Forms link that was generated to the chat or as a post in your channel to give students access to the quiz/Form.
6. As a contingency, consider creating a private Word document where you have all the links to your quizzes and Forms organized ahead of time.

Sharing your Quiz with other Instructors

1. If you're co-creating a quiz or Form with another instructor, click on the three dots to the right of "Collect responses" > "Collaborate or Duplicate" > "Share the link..." > "Specific people in my organization can view and edit" > Enter your collaborator's name > Copy and send the link to your collaborator.



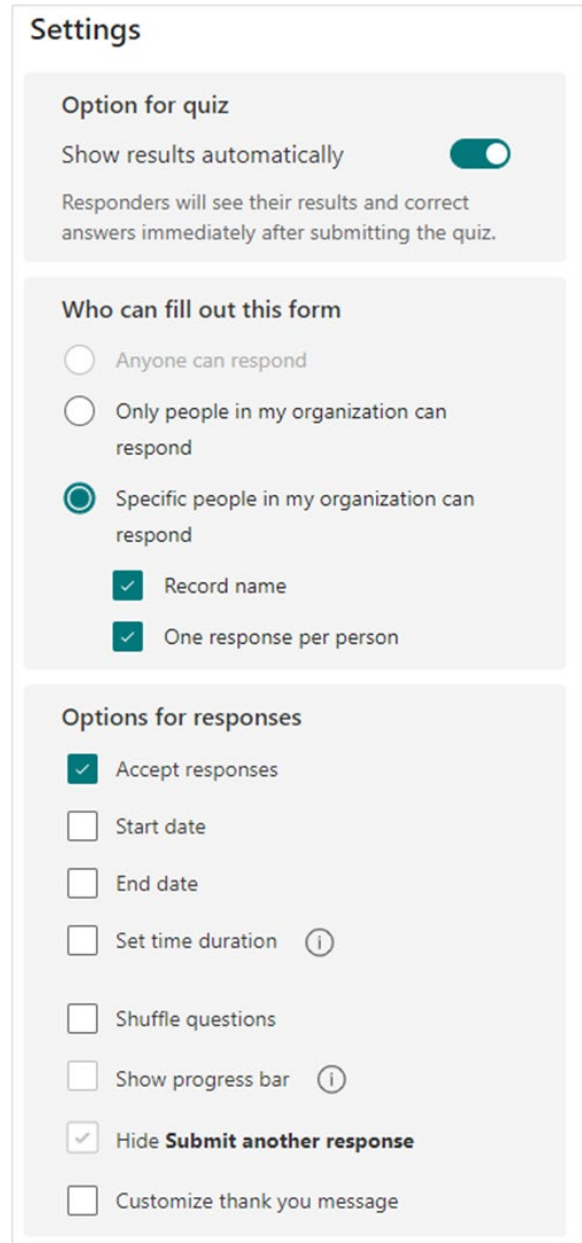
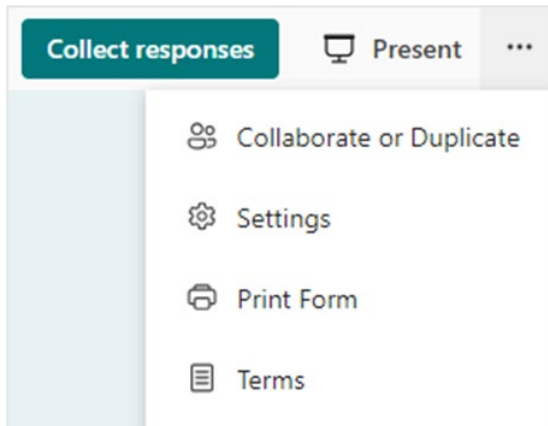
2. If you and fellow instructors want to customize quizzes from a shared template: click on the three dots > Collaborate or Duplicate > "Get a link to duplicate"
 - When your fellow instructor edits it, a copy is automatically saved for them without changing the original. This is great for instructors who want to use the same quiz or Form but only want to see responses from their class.
3. You can also copy Forms and quizzes to share with other instructors from the Forms page > Three dots next to quiz name on Form card > Copy and send the link.



Additional Quiz Settings

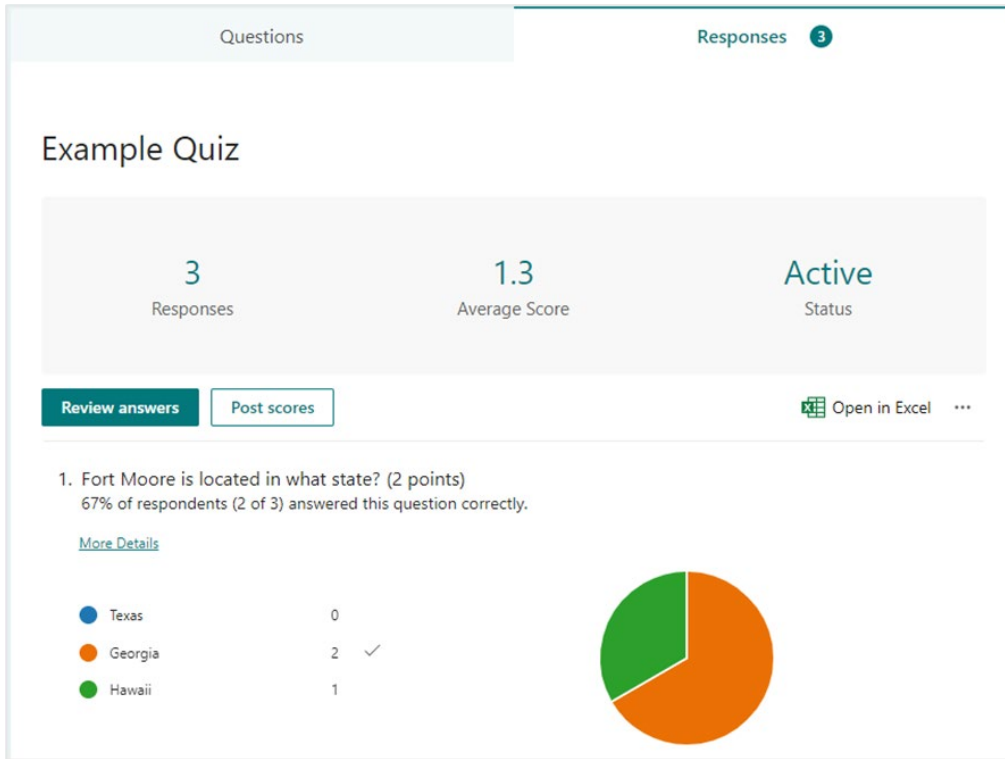
1. You also have the option to set specific dates for the quiz to be available, if students can take the quiz multiple times, if the questions will be shuffled, and if they will see their results right away.

2. Follow the path: three dots next to “Collect responses” > Settings
 - Toggle on or off if you want students to see results right away,
 - Set dates for when you want to accept responses,
 - Select or de-select “One response per person,” and
 - Shuffle questions to change the order questions appear in for all students or lock question order.



View Class Results

1. To view students' responses, first open your quiz in Microsoft Forms and click the Responses tab.
2. Microsoft Forms will provide a summary of responses for each question.
3. To review responses for a specific question or student, click "Review answers."
 - You may or may not want to share results during class.
 - If you choose to share results, make sure you are on the overview page.
 - "Review answers" will show individual student data, and it is recommended not to allow students to see this screen.

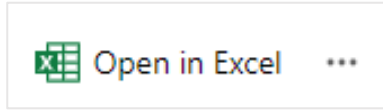


The screenshot shows the 'People' tab for the quiz. It displays individual student data for Jayne Allen, including their ID (3), name (JAYNE ALLEN), time to complete (00:20), and score (2/2 points).

Respondent	Time to complete	Points
3 JAYNE ALLEN	00:20	2/2

Export Results

1. The quiz results can be downloaded and organized into an Excel file. To do this, click “Open in Excel” from the responses tab.



ID	Start time	Completion time	Email	Name	Total points	Quiz feedback	Fort Moore is lo	Points - Fort Mo
1	8/15/23 12:20:56	8/15/23 12:21:05		LAUREN POSTIER	0		Hawaii	0
2	8/15/23 12:23:07	8/15/23 12:23:23		Victor Ingurgio	2		Georgia	2
3	8/15/23 13:01:06	8/15/23 13:01:26		JAYNE ALLEN	2		Georgia	2

Appendix D

Practice Teaching Session: Observation Rubric

Class Element	Item	Always/Yes	Sometimes	Never/No	N/A	Observations
DL	Used at least two DL functions (i.e., chat, raise hands, poll, MS form, PE, or breakout room) to engage students (i.e. facilitate discussion, as a check on learning, or break up instruction)					
	Modeled how to use the DL functions and provided expectations/guidelines as needed					
	At least one DL function was a check on learning					
	Provided feedback on check on learning, if applicable					
	Incorporated at least two strategies to foster social presence (i.e., collaborative activities, calling on students by name, sharing or asking about personal experience, using humor, etc.)					
	Use of technology for DL functions was smooth					
Overall	Asked before telling and actively observed, listened to, and responded to students					
	Waited patiently for answers and called on students when/if needed (ask, pause, call)					
	Used personal experiences (students and/or SGL) to drive discussion when possible					
	Facilitated group discussion and peer interaction, if applicable					
	Effectively managed pace to cover necessary material on schedule (≤ 15 minutes)					
ELM	Which ELM steps were used?					
	If steps of the ELM were used, were they effective?					