Peer Reviewed

Fast-Tracking Student Success

Curriculum Adaptations for a Compressed Master's Thesis Program

Dale Spurlin
U.S. Army Command and General Staff College

Abstract

The COVID-19 pandemic was a forcing function for the U.S. Army Command and General Staff College (CGSC) to reassess instruction for its master's thesis degree program. Institutional revisions realigned instruction to provide a broad overview of research activities following the outline of the research paper. Detailed instruction and resources allowed students to better focus on completing the degree within nine months. Learning activities and assessments provided just-in-time instruction and feedback to support student progress through the research design process. The CGSC timeline and program are unique among institutions of higher learning. However, there are some elements of the CGSC redesign that could benefit students in more traditional thesis programs without sacrificing quality or relieving research students from the individual effort expected to complete a thesis.

While the COVID-19 pandemic caused a great deal of disruption in academic programs worldwide, the virus was a catalyst for the U.S. Army Command and General Staff College (CGSC) to review its master's thesis degree program and associated curriculum. COVID-19 forced CGSC to transition many of its courses and lessons to a distance learning format to accommodate an unanticipated group of distance learners and to allow the continuation of instruction through quarantines of classroom groups due to a COVID-19 diagnosis. One such group of courses were those associated with the Master of Military Art and Science (MMAS) degree program. Evaluating and redesigning the courses associated with that thesis program resulted in improvements for both distance learning and resident students that could be transferable to other institutions in supporting their thesis writers.

The MMAS degree requires students to complete the 10-month Command and General Staff Officer Course curriculum and defend a thesis on an element of military art and science in the same time frame. Therefore, thesis students have around nine months to complete a thesis that is in addition to their mandatory coursework. A rigorous, compressed curriculum on a short timeline compounded an already stressful activity for many who lacked original research experience. In 2020, CGSC conducted a program review of the thesis-related curriculum and degree program to identify how to best support student success in completing a quality thesis. Issues with the program to overcome were a lack of student research experience, a compressed timeline, sporadic or virtual contact with faculty (due to COVID-19 meeting restrictions), and an already demanding graduate degree program curriculum.

Many curriculum development models begin with identifying the gap or educational problem to solve (Boyle, 2016; Department of the Army, 2018; Wiles & Bondi, 1984). In the case of the CGSC MMAS program, the most evident gap or problem was the delivery of the initial research methods course curriculum in a distributed learning modality rather than an in-person approach. Curriculum, student activities, and assessments required adjustment for a distributed learning environment where student interactions with instructors and other students were more restricted. However, gaps also existed in the curriculum content related to the skills students needed to complete a viable thesis.

Before COVID-19, the primary documents for student use in the MMAS research methods class were a syllabus and a student text (Student Text 20-10; U.S. Army Command and General Staff College, 2020) that described the outcomes of the course, assessments, and formats for the products associated with the thesis. The initial class size often exceeded 200 students. Faculty lectured from a lengthy PowerPoint presentation continuing in one class where they left off at the previous class meeting. Subject-matter experts occasionally taught individual lessons using

Lt. Col. Dale Spurlin, U.S. Army, retired, served 23 years as an armor officer and began teaching at U.S. Army Command and General Staff College (CGSC) in 2007 as a tactics instructor. He continued as an Army civilian instructor and curriculum developer upon retirement. In addition to his teaching and curriculum development responsibilities, Spurlin served on the Collaborative Academic Institutional Review Board and continues to support human subjects research reviews within CGSC. Spurlin holds a Doctor of Philosophy in Education with a concentration in curriculum and teaching from Northcentral University, where his dissertation on the effects of combat on learning within the classroom was recognized as the Northcentral University Dissertation of the Year. In addition to his doctoral dissertation, Spurlin has published in the *Cavalry and Armor Journal*, the *Infantry Magazine*, the *Research Ethics Journal*, and the *Journal of Military Learning*. He currently serves as an assistant dean within CGSC.

their own materials. The course manager assessed student learning with a class participation grade, a summative multiple-choice examination, and the submission of an outline of the proposed research project—the prospectus. Subsequent courses in the thesis program continued thesis development and execution. These courses relied on individual faculty members to work with students in small groups or individually to finalize the proposal and conduct the thesis research. Most of the thesis writing by students occurred in the final two months of the 10-month course. The thesis committee chair assigned a summative grade to the overall quality of the paper and its oral defense by the student (U.S. Army Command and General Staff College, 2020).

Across multiple curriculum development designs, four key functions are common: identify goals or objectives, determine the best approach to meeting those goals or objectives, develop the materials to implement the approach, and evaluate the effectiveness of the instruction (Tanner & Tanner, 2007). MMAS students had to complete their theses within nine months of course start (one month before graduation to allow for review and approval of the theses) despite a lack of prior experience with thesis writing. Individual theses needed to advance the body of knowledge for military art and science. Students therefore produced a written product on a meaningful topic that could withstand professional scrutiny. As Army leaders and new researchers, students had an expectation to understand the concepts and processes of research and how to critically analyze material in their profession so that they could mentor future researchers. The foundational research methods instruction had to be in an online format to support the distributed learners within the course. However, the modifications for an online format for the research methods course also had applicability to the in-person version of the curriculum.

Identifying the Goals

The goal of the MMAS curriculum was to educate students to produce a research thesis through an online format. To accomplish this overarching goal, students would describe and apply concepts and principles related to research, use appropriate research methods, follow the ethical requirements associated with research, analyze a topic relevant to the advancement of military art and science, and defend that analysis. These subgoals became the enabling learning objectives within the MMAS curriculum (see Figure 1). The curriculum had to ensure student engagement on a regular schedule to monitor student learning. Regular meetings would also encourage student interactions with one another and with lesson content. Assessments had to align with curriculum content and be structured in a manner that promoted student learning by providing tangible products that checked student mastery of lesson content while requiring progress in research design.

Figure 1
Program Goal and Enabling Learning Objectives

Goal: Educate students to produce a thesis to expand the body of knowledge within military art and science through an online format.
Enabling Learning Objectives:
• Describe and apply concepts and principles associated with research
• Apply appropriate research methods
• Follow the ethical requirements associated with research
• Analyze a topic relevant to the advancement of military art and science
• Defend the analysis

Developing the Approach

The pre-COVID research methods course relied on providing the bulk of instruction early in the first semester by meeting twice a week in many cases. This limited the ability of students to apply what they had learned in class. Students had to compose their thesis proposals on their own time after the bulk of research methods instruction and around academic requirements for the Command and General Staff Officer Course that they also attended. Most instruction was in a large class setting delivered by lecture, providing limited opportunities for student interactions with instructors. The research methods course culminated with an examination and the prospectus submission. Although resident course students had access to library resources locally and online, the availability of those resources to distance learners would not be equal or even guaranteed. The online approach would restrict student interactions to reinforce learning or address thesis design concerns in the absence of regular face-to-face access to other students and to faculty. Course activities had to provide meaningful interaction between learners (Moore & Kearsley, 1996)—a necessary component within adult learning theory (Merriam & Bierema, 2014).

Therefore, the initial research methods course needed to provide more opportunities for learner interaction. The curriculum schedule required space between lessons to allow distance learners time to find resources, including remotely accessing faculty

members in a different time zone for guidance. Few students would start the course with experience in research paper development, so lessons and learner activities would need to move the student progressively through the development, design, and execution of a research project. The research methods course was scheduled deliberately around Command and General Staff Officer Course classes to help students deconflict their research activities with other academic requirements. Ultimately, students would end the initial research methods course with a viable research proposal and requisite knowledge to execute the research project to make the most use of the four months for the course. Furthermore, students needed to recognize that the course design would help them attain their research goals (Moore & Kearsley, 1996).

Learner activities within the curriculum required authentic learning experiences that progressed the research plan development while reinforcing individual lessons (Boyle, 2016; Merriam & Bierema, 2014). Students needed less emphasis on how to write—a skill for graduate students assumed by the institution—and more placed on what to write and why to include that material within the research proposal. Because many students were new to the research methods content, the course redesign included recorded lessons for later viewing by students unsure of lesson content and without ready access to faculty. The Blackboard Collaborative Ultra module provided an online teaching platform with the option to record individual lessons and other instructional videos to augment classroom instruction. Lastly, instructors needed to post individual lesson assignments and assessments to the Blackboard system in a way that presented discrete waypoints through the curriculum to ensure student timely progression through the thesis development process. These discussion posts would not only reinforce learning but could also serve as an incentive for online students to continue with their research program (Shi & Xi, 2021).

The second MMAS course focused on research plan execution and thesis defense preparation. The critical requirements for this MMAS course were conducting data collection and analysis before providing a mock defense of the thesis in class. The format for the course was a small group practicum to develop the thesis defense with class sizes of more than 20 students. Student participation and learning was expected to increase with smaller class sizes that permitted more interaction with instructors and fellow students (Moore & Kearsley, 1996). The pre-COVID timing of the course required some students to present their mock defense for feedback well before their data analysis was possible. Therefore, adjustments in class size and learning activities were needed to provide opportunities for students to receive meaningful feedback on their thesis products.

The pre-COVID version of the thesis defense course provided a PowerPoint template for a thesis defense and little else in course structure. Students relied on their committee chairs rather than course content for detailed guidance resulting in some students being ill-prepared for either completing the thesis on time or successfully conducting its defense.

The final course in the MMAS sequence was the completion of the research project, the actual defense, and the submission of the final thesis for a grade. The pre-COVID course lacked a rubric for assessing the thesis components and quality. The variety of disciplines for study within the CGSC and the experiences of the faculty in their disciplines seemed to prevent the use of a common rubric. Still, the lack of detailed guidance on grading sometimes resulted in highly subjective, inflated grades and provided little actual feedback to the students. The revised courseware included a small set of detailed rubrics that would provide consistency in assessment and quality feedback to students relative to the degree program learning objectives regardless of the discipline or format of their papers.

Developing the Content and Learning Activities

Designing content begins with identifying what the learner should do or demonstrate at the end of instruction (Boyle, 2016; Department of the Army, 2018; Wiles & Bondi, 1984). Large class sizes require imagination in designing learning activities to transcend a lecture delivery of the curriculum and increase instructor-student and student-student interactions (Yang et al., 2018). Students need to demonstrate in an assessable manner that they comprehend individual lesson concepts and how to apply them to a research proposal. These assessments confirm to students that they attained the learning objectives for the course and to reassure them that they could complete a quality research project in the time remaining. More formative assessments were therefore necessary to improve learning outcomes and provide satisfaction to students on their progress in the research design process (Miknis et al., 2020).

A concern with the pre-COVID MMAS research methods course design was that the assessment of skills and knowledge occurred predominantly at the end of the course. Summative assessments of this type rarely provide substantive feedback to students on their areas for improvement because students sometimes lack an incentive to remediate their shortfalls or apply corrections to their products after the assessment (Miknis et al., 2020). Assessments at the end of the MMAS research methods course frequently resulted in students withdrawing from the thesis program when they realized too late that they had failed to master the knowledge and skills required to complete the thesis.

For the redesigned course, individual lessons needed direct formative assessment of learner actions throughout the course. Discrete assessments through the course would allow faculty to provide timely feedback and to identify struggling students soon enough to remediate learning shortfalls to keep them in the program (Boyle, 2016). Detailed rubrics would also permit student reflection on their learning and products before submission for a grade (Miknis et al., 2020).

Adult learners desire interaction with other learners during instruction (Merriam & Bierema, 2014). However, large class sizes typically preclude in-depth student interactions or prevent instructor assessment of whether individual students demonstrate competency in the lesson's content (Hamann et al., 2012; Yang et al., 2018). Blackboard allows students to post contributions as documents or online posts. The redesigned course would include reflective discussion board questions challenging students to apply lesson materials and gauge student progress in their research plan development. This approach was consistent with best practices encouraging synchronous and asynchronous interactions among students in an online setting (Snelson, 2019; Yang et al., 2018).

Research proposals generally follow a logical sequence of elements. First-time researchers frequently miss the relevance or connections between those elements. They are also anxious about conducting research and their ability to complete a research project (Earley, 2014). Lesson sequencing is on par with defining the scope of the curriculum in supporting student success (Boyle, 2016). Without the benefit of multiple semesters to provide research methods instruction before students produced a research proposal, it seemed appropriate to present the research methods course material in the same sequence as the organization of the research proposal and offer learning opportunities after lessons to apply the concepts to the developing research proposal.

The first block of lessons in the research methods course covered topic development, problem statement design, appropriate and aligned research questions, and the other elements of the first chapter of a research proposal. Discussion post requirements included appropriate activities that guided students to draft that first chapter. An important formative assessment was posting a draft problem statement and research questions, which allowed faculty to provide timely feedback to each student on the viability and alignment of those elements for a research paper.

The next set of lessons in the redesigned course covered the "Literature Review" chapter, including an orientation to college library resources, source analysis, and how to organize the literature review. For distance learners, the library resource discussion included potential resources in their communities. Students were located physically across multiple geographic areas, including overseas, so instructional content included using the CGSC's online library resources and how the CGSC could augment limited resources in other sites. Positioning the lessons after topic and research question development was expected to better focus student time in the library on what they needed for their research project rather than exploring potential topics. Discussion prompts solicited student successes and failures in using library resources and organizing their notes from those sources.

Methodology chapter lessons followed in the redesigned course. A perceived challenge to first-time researchers is the need for timely identification of an appropriate research methodology and how to implement its mechanics in a research project. In

response, the new MMAS curriculum provided an overview of the principal quantitative, qualitative, and mixed method designs for research. Instructors encouraged students to use one of a few standard approaches as first time researchers. Faculty composed short, scholarly written papers for popular techniques such as microethnography and case study designs. These papers included material from salient sources for the research design so students could quickly dive deep into implementing the chosen research approach without spending significant time searching through research method texts.

An addition to the curriculum was the creation of small seminar groups of 30 or fewer students working with a terminal degree holder with experience in a particular research method for an open dialogue session. Creating smaller work groups of students engaging with faculty was expected to enhance student learning and interest in the course material (Yang et al., 2018). This seminar opportunity allowed students to ask specific questions about individual research proposals and receive detailed answers to accelerate student research method development and documentation.

The final lesson focused on research ethics. Past experiences within the CGSC indicated caution was necessary when inexperienced researchers and supervising faculty integrated material from potentially restricted sources or from human subjects. The course added discussion of operational security considerations and student completion of basic instruction on human subjects research within the Collaborative Institutional Training Initiative (CITI) program. This instruction helped avoid noncompliance with Army operational security regulations and federal policies regarding research involving human subjects. The self-paced online CITI training completed before classroom instruction permitted more focused discussion during the class lesson time on the mechanics of ethically protecting human subjects within the final thesis.

The redesigned thesis defense course in the MMAS program sequence limited student seminar groups to eight students per faculty member to allow more time for discussion and practice presentations as learning activities. Program administrators grouped students with similar topics or research methods to promote more depth to discussions and feedback to peers. The assessments in this course included a mock thesis defense, feedback to peers on their mock defenses, and a draft thesis that demonstrated the integration of course lessons learned.

The final course in the MMAS sequence remained an unscheduled practicum between the students and their committees to complete the thesis and conduct an oral defense. However, the redesigned course included rubrics for both the defense and the final paper. These rubrics provided word pictures clearly describing the criteria for individual elements expected in both deliverables (Boyle, 2016). The rubrics remained flexible to the range of potential research methodologies and disciplines that might be employed but increased the calibration of grades across assessments.

Meetings—to include the thesis defense—were permitted to be virtual to accommodate those in quarantine or trying to minimize exposure to COVID. Virtual defenses also supported the addition of subject-matter experts from outside the CGSC who might be located in a different area.

Evaluating Instruction

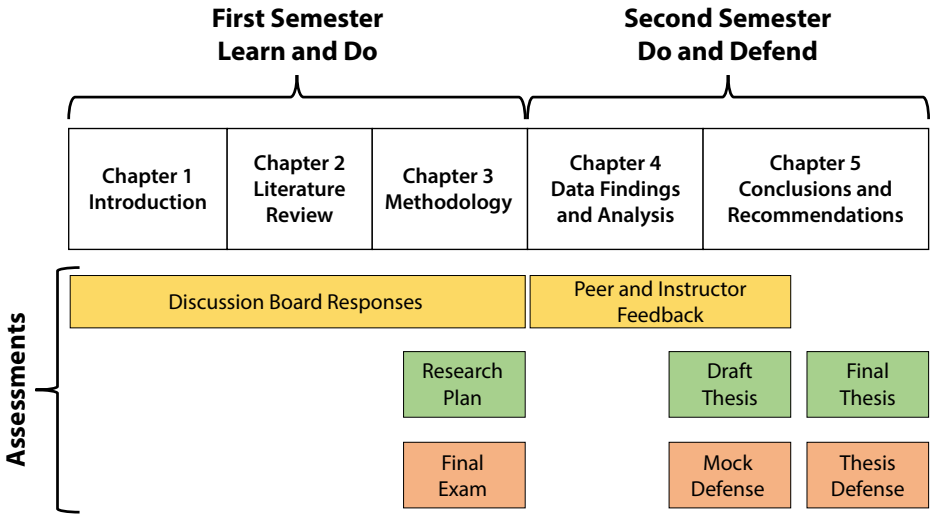
Assessments should assess student attainment of goals and enhance student learning as an activity within the curriculum (Boyle, 2016; Miller, 2019). The comprehensive examination at the end of the pre-COVID research methods course was consistent with the goal that learners would retain sufficient knowledge to conduct their research projects while also carrying that knowledge forward to mentor future researchers. The other original assessments did not align with the course goal to promote student learning. Classroom participation and the prospectus assessments lacked detailed rubrics to facilitate instructor grading and to permit students to anticipate assignment requirements. Checks on learning within lessons failed to test all students in their mastery of lesson material; only a few could respond within the classroom to quiz-type questions from the instructor to assess learning. Furthermore, the prospectus was more of an administrative document indicating students intended to continue with the thesis program rather than assessing individual application of learning within the course.

The prospectus assessment became the actual research proposal as a check on student learning but also as an incentive to complete a coherent research plan in a timely manner. Not all students would or could complete a detailed research plan in the time available due to the complexity or depth required for the topic. The rubric focused on whether the students used lesson content to develop the research project framework rather than on attaining a detailed, complete research plan. The intent was to encourage student effort in generating all elements of the research design while providing sufficient feedback to facilitate quick completion of a robust research proposal. Rubric word pictures with grade-associated standards for each element of the research proposal allowed students to adapt their priorities for out-of-class work efforts and reflect on their work. Timely faculty feedback allowed students to refine their research plans prior to entering the data collection phase of their projects during the second semester.

The final examination included questions from each lesson at comprehension and application levels of learning. This blend of learning levels ensured students demonstrated recall of key elements and that they could apply that knowledge to their research plans. Aligning questions to individual lessons provided a way to evaluate specific lesson content and delivery after analyzing student performance on examination questions.

Figure 2

Curriculum Design Based on the Research Paper Organization



Findings

The overall approach followed the Four-Component Instructional Design (van Merriënboer et al., 2002). The course advance sheet (syllabus) described *the learning tasks*—the course-enabling learning objectives—for student mastery from instruction. Scholarly written materials by faculty on specific research methods and small group seminars with faculty proficient in those research methods provided *supportive information* to augment lecture materials delivered in a larger group setting. Recorded lessons also were supportive as a resource for student reference after instruction. Following the outline of the five-chapter research paper in sequencing lessons provided a logical organization of the curriculum (see Figure 2) and introduced important concepts to develop the thesis in parts. This course structure with formative assessments was an example of just-in-time information delivered as the student needed it through research proposal design. Incremental development and assessment of the research proposal elements allowed students to complete *part-task practice* of what they were learning rather than tackling the entire research project at once as the pre-COVID course design favored.

Learning activities aimed at completing individual elements of the research proposal as students progressed through the program of courses. For example, the initial lessons focused on the elements of the "Introduction" chapter. A common thread in the research methods course design was the necessary alignment of the problem, research questions, and methodology. This emphasis ensured students developed

viable research plans from the beginning and maintained viability as they worked through writing the thesis. Discussion board questions for the Introduction chapter lessons prompted students to share their understanding and application of the lesson material. Student interaction and feedback to each other reinforced the lesson concepts and student self-efficacy in completing the research course.

The new approach to the initial methods course leveraged some of the capabilities of the Blackboard learning management system to enhance student interactions. The Blackboard Discussion function provided the ability to conduct student dialogue asynchronously between students and faculty. The discussion board posts demonstrated faculty monitoring of student progress weekly and provided timely feedback to student ideas (Mehrotra et al., 2001) without necessitating synchronous communications. The posts also provided a necessary opportunity for learners to reflect and express what they gained from the course—a good practice in distance learning design (Chickering & Gamson, 1991; Snelson, 2019). One requirement was to post the proposed problem statement and derived research questions to socialize these elements with other students for feedback, challenging students to think critically about their products and the work of others. These postings allowed detailed instructor feedback to correct research question misalignments early in the research design process.

Scheduling the initial research methods course with only one meeting per week across the first semester spread out the curriculum to allow students more flexibility to access library resources, faculty, and other learners between meetings. The lesson schedule also allowed students to focus on discrete tasks in the incremental design of their thesis proposal before progressing to the next lesson and its associated requirements.

After initial coverage of expectations for student progress in the second semester, classroom instruction provided an overview of the defense for several reasons. New researchers expressed a fear of the defense, lacking experience with this academic requirement. Students reported they believed the thesis defense would be confrontational with their committee. Providing an example presentation helped them appreciate the design of an acceptable defense. Recording the example defense allowed students to access the material at a time of their choosing, a key element in post-COVID adult instruction (Shi & Xi, 2021). Faculty modeling the question and answers associated with the defense provided a forum to discuss the types of questions to expect and how they related to a research plan. The Blackboard system provided a vehicle to record a defense using the course slide template, an effective way to augment classroom instruction on conducting the defense (Yang et al., 2018).

The example defense demonstrated the linkages between the research plan (already developed by the students), the data collection and analysis (in progress during the second semester), and the elements to include in the final thesis draft that anticipated committee (and reader) questions. Smaller class sizes meeting in standard

classrooms allowed social distancing to reduce the risk of COVID exposure. Students and faculty followed all COVID risk mitigations such as masks and antibacterial wipe downs. In some cases, seminars met virtually to accommodate individuals in quarantine from COVID. When in person, smaller group sizes permitted greater exchanges and student involvement in lessons.

To better align assessments with student learning objectives, each assessment within the revised curriculum aligned with course enabling learning objectives. Each assessment (except for the final examination) incorporated a rubric to assess discrete learning concepts and application to the research process. Grading rubrics should guide instruction and student learning as well as assess student learning. Coincidental to the publication of the rubrics were questions from students and faculty on individual rubric elements, allowing for additional discussions and calibration of expectations within the program.

The discussion post rubrics included word pictures for specific elements associated with the lesson content and application to help students understand the differences between mastery, objective attainment, and marginal performance on submitted products. These frequent discussion post responses created regular opportunities to assess student learning, which provided feedback to the instructor while also helping students gauge their progress in the course—key elements of a discussion forum (Hamann et al., 2012). Instructor feedback on poor student performance increased student interactions and depth in subsequent posts, better preparing students to complete their research plans. While students continued to drop from the program at a high rate as they had in previous years, the withdrawals occurred steadily rather than as a large group at the end of the course when students discovered they had missed key lesson concepts due to late or unstructured feedback on assessments.

Students were able to make iterative product improvement assessments after focusing discussion post prompts in the research methods course on discrete deliverables such as research question development, literature review organization, methodology selection with a justification, and data collection methods with potential areas of concern. As a result, students built their research plans as they progressed through the course while receiving feedback on their comprehension and application to their research plans. This approach ensured more frequent individual feedback through the first semester to avoid the end of semester realization that key concepts had been missed and a proposed thesis design was not viable.

Similarly, rubrics for the second and third courses in the program provided opportunities for student reflection on their work prior to submission. These rubrics calibrated faculty assessment of products and learning activities across academic disciplines. Students in the second course used the same rubric for their mock defense to provide feedback to their peers during other mock defenses; faculty used a separate rubric to assess the quality of student feedback to their peers. Sharing the mock defense rubric to provide feedback to peers provided an additional opportu-

nity for student self-reflection and evaluation of their own products. Students and faculty reported fewer surprises in third course assessment outcomes because students had gained confidence in using the rubrics to gauge their performance prior to product submissions.

An element of instruction design is to conduct a program evaluation to assess the quality of the curriculum in addition to how well students achieved learning objectives. The MMAS curriculum designer conducted a systematic review after each course to determine where the curriculum was failing to attain learning objectives and support student success. A formal survey of students who withdrew from the MMAS program revealed that 39% of withdrawals were due to lack of time management to complete thesis requirements while simultaneously completing the Command and General Staff Officer Course curriculum. Only 26% of the respondents to the survey believed the content or difficulty of the research methods course was the cause for their withdrawal from the program. Sensing sessions with students and individual survey comments identified areas for curriculum improvement.

MMAS students included those who had completed graduate and postgraduate degree programs earlier, which provided valuable insights for courseware improvements. Some feedback contrasted best practices from other research programs with that at the CGSC. Distance learners reported struggling with accessing library materials until they were physically at Fort Leavenworth, Kansas, due to connectivity challenges, local library limitations, and a lack of detailed instruction on accessing CGSC's library. This resulted in refinement of the library research material to include remote library access and improvements in library support to nonresident students. A group of experienced faculty members also collaborated on rubric revisions to improve the existing products based on user and faculty feedback.

Moving Forward

While the initial challenge for redesigning the MMAS curriculum was to provide lesson content to distance learners, resident and distance learners used the same curriculum due to the lack of predictability during the COVID period of academic year 2020–2021. Distance learners during the initial research methods course joined their resident peers for the second and subsequent courses once the Department of Defense was able to relocate students who started as distance learners. The revisions to the curriculum to include a hybrid course design to accommodate in-person and online instruction continued past the COVID period. These changes were beneficial to students who needed flexibility in their academic schedules and for faculty reacting to the loss of large meeting areas required for the first course's classes.

Feedback from faculty and students resulted in modifications to lesson content and sequencing to better align with student needs. These modifications helped de-

conflict MMAS requirements with those from the remainder of the CGSC course curriculum and assessments. For example, the lesson on source identification and library use was modified to include an optional video on using the CGSC library's online search functions and resources. Classroom instruction also provided examples of other library holdings and capabilities as a future resource for distance learners without direct access to the CGSC library. Another change included scheduling MMAS lessons around peak CGSC curriculum assessments. More faculty became involved in the methodology seminars permitting smaller groups of 15 or fewer students per faculty member. Unlike the initial year of implementation, all students had their specific research method questions addressed in the seminars by the end of that lesson.

The flexibility of the course to go online or in person supported resident and distance learning students. The reorganization of the curriculum to include more timely and regular assessments using detailed rubrics also increased student confidence in the role of *researcher* to complete a quality study despite the condensed timeline. The Blackboard discussion function benefited resident course students in subsequent academic years by providing a chance to reflect, apply, and analyze lesson concepts with peers and instructors when large classroom sizes precluded dialogue by most students during the lessons.

COVID forced many institutions and instructors to redesign their curricula to support online or hybrid instruction (Guidi et al., 2023). In the case of the CGSC MMAS thesis program, the redesign drove a detailed review of the existing program's support of student learning across all modalities resulting in enduring changes to support future resident and hybrid instruction requirements. The challenges of the CGSC program resulted in several key lessons that could enhance traditional thesis programs to improve student learning and success.

The first lesson was the design of a research methods course using the individual components of the research proposal as an outline for content and sequencing. The lack of student research experience and the initial requirement for an online course drove this design. However, it proved successful for resident and nonresident students by establishing the requirements for a successful research paper and by generating frequent opportunities for feedback to students during the research plan development process. Thesis committees—especially the chairs—serve an important role in informing student research plan decisions. Providing common instruction to students on essential design topics established uniformity—especially across multiple academic disciplines and research methods.

While graduate and postgraduate research methods courses cover quantitative or qualitative designs in detail, the accelerated pace of the MMAS thesis precluded more than a survey of the designs in sufficient detail to inform a student decision on research approach. Students in traditional programs might benefit equally from the CGSC adaptations. MMAS students covered both qualitative and quantitative

designs in class but relied on faculty-developed fact papers on specific research techniques to confirm student choices on methodology and to provide a detailed roadmap to using the chosen technique in their thesis. These well-written papers with liberal citations to authoritative texts permitted students to go directly to published works for greater detail on their chosen technique while remaining accountable in course assessments for general knowledge of other research design methods. Seminars for specific methods allowed students time to ask methodologists their questions on implementing the chosen research method.

Courseware included discussions and sources for problematic concepts in research—such as data saturation, triangulation, and deductive disclosure—to save students time from searching library sources on these topics. Students required extensive time to research their specific topics; the handouts, papers, and course content of the research methods course attempted to shift time to student topics and away from exploring the range of research methods and their variations used by researchers today.

An important element of the second course was holding students accountable for providing quality feedback to their peers during the mock defense presentations. Assessing students on their feedback to peers prompted students to think more critically about the work of others while simultaneously considering the potential shortfalls in their own work. Rather than providing simple affirmations and encouragement, students provided detailed feedback that indicated they had delved deeper into their peers' topics and methodologies than instructors expected. Seminar instructors reported that students were more critical—positively—in their feedback and frequently left the instructors with little to add in their own feedback. It was interesting to hear student reflections on their own developing research projects as they provided their feedback to peers.

While most institutions of higher learning will conduct thesis defenses within a discipline or a department of related disciplines, the CGSC MMAS topics cross many disciplines without the benefit of well-prepared faculty in the researched topics they supervise. Having senior faculty within the CGSC develop a cross-discipline rubric for products (especially the thesis) provided uniformity in expectations while allowing flexibility across disciplines. It also helped develop junior faculty members to take on more significant roles, including thesis committee chair, by facilitating discussions about quality and content within student submissions.

The risk of regulatory noncompliance in human subjects research is always a concern for colleges and universities to the extent that significant noncompliance can result in the termination of student degree programs, risk of institutional liability, and degradation of the community's trust in the institution's research activities. The addition of a CITI training program for all students and select committee members—including history students who typically do not engage in research involving human subjects—increased CGSC student and faculty awareness of what research activities

require institutional review and approval. This reduced the CGSC's risk of noncompliance while ultimately preparing current and future faculty (drawn from graduating students) to safeguard human subjects and the institution in future research.

Recommendations

The CGSC thesis program is arguably unique in its design and expectations. CGSC students are limited to only nine months to complete a graduate-level thesis. Yet, analysis of the changes in CGSC's thesis program yielded potentially transferable lessons for other thesis instruction programs.

Sequencing instruction to follow the elements of the research proposal provided just-in-time instruction to complete the proposal. This approach did not overwhelm students, even with the challenges and enormity of the project. Following a logical progression from topic through problem statement and research question development, an organization of the literature review around the research question variables, and then the methodology appropriate to answer the research questions improved alignment within research designs. Routine faculty feedback to discussion board contributions that included postings of problem statements, research questions, variable definitions, and other elements of the research proposal were formative assessments to ensure students understood the course concepts in their application. By the end of the research methods course, students had a viable research proposal.

Augmenting large-group instruction with smaller student working groups facilitated by a faculty member provided a necessary and valued opportunity for students to share their learning. While discussion board posts were valuable (especially for a completely the online course), small group seminars facilitated students sharing and learning outside of their thesis committees. Detailed exposure to other students' designs and challenges reinforced student learning and progress in their own research projects. Assessing the quality of student feedback in the second semester seminars encouraged students to probe and question their peers' work—resulting in a more critical analysis of their own research projects and progress.

Finally, detailed rubrics facilitated student learning as well as calibrated faculty assessments across different academic disciplines. Students probed the meaning behind rubric word pictures resulting in fruitful discussions on expectations across the thesis program and with specific faculty members. Faculty participating as committee members for students researching outside the faculty member's area of expertise had a guide to determine standards and encourage student progress toward those standards. Cross-walking specific elements of the rubric requirements to learning objectives in the course aided the end of program evaluation to determine where instruction, assessments, or course design required adjustment to improve student performance.

Conclusion

COVID forced the CGSC to reassess instruction for its MMAS thesis degree program. As with many other degree-granting institutions, the creation of an online program from what had been exclusively a resident program was conducted in a few months to accommodate the incoming class (Guidi et al., 2023). However, resident and nonresident students completed the revised curriculum due to the consequences of COVID-19's disruption of in-person meetings.

The revised curriculum was successful in graduating a like number of thesis students compared to previous years despite the disruptions of COVID-19 and the necessity to conduct the research methods course entirely online. Student surveys of withdrawn students indicated time management caused them to withdraw from the thesis program whereas the research methods curriculum supported their thesis development. A program evaluation prompted minor revisions in subsequent academic years for resident and hybrid instruction. Those revisions realigned instruction to provide a broad overview of research activities following the outline of the research proposal. Additional detailed instruction and resources helped students better focus their time and energy to complete the thesis within nine months. Learning activities and assessments provided just-in-time instruction and feedback to support student progress through the research design process. The CGSC thesis timeline and program may be different from those of other institutions of higher learning. Yet, some elements of the CGSC redesign could benefit students and institutions of higher learning with more traditional thesis programs without sacrificing quality or relieving research students from a large amount of individual effort to complete a thesis.

References

Boyle, W. F. (2016). *Curriculum development: A guide for educators*. SAGE.

Chickering, A. W., & Gamson, Z. F. (1991). *Applying the seven principles for good practice in undergraduate education*. Jossey-Bass.

Department of the Army. (2018). *Army educational processes* (TRADOC Pamphlet 350-70-7). U.S. Army Training and Doctrine Command.

Earley, M. A. (2014). A synthesis of the literature on research methods education. *Teaching in Higher Education, 19*(3), 242–253. https://doi.org/10.1080/13562517.2013.860105

Guidi, E., Jensen, T., & Marinoni, G. (2023). *Shaping teaching & learning and internationalization beyond the pandemic*. International Association of Universities. https://www.iau-aiu.net/The-Second-IAU-Global-Survey-Report-on-the-Impact-of-COVID-19

Hamann, K., Pollock, P. H., & Wilson, B. M. (2012). Assessing student perceptions of the benefits of discussions in small-group, large-class, and online learning contexts. *College Teaching, 60*(2), 65–75. https://doi.org/10.1080/87567555.2011.633407

Mehrotra, C. M., Hollister, C. D., & McGahey, L. (2001). *Distance learning: Principles for effective design, delivery, and evaluation*. SAGE.

Merriam, S. B., & Bierema, L. (2014). *Adult learning: Linking theory and practice*. Jossey-Bass.

Miknis, M., Davies, R., & Johnson, C. S. (2020). Using rubrics to improve the assessment lifecycle: A case study. *Higher Education Pedagogies, 5*(1), 200–209. https://doi.org/10.1080/23752696.2020.1816843

Miller, R. (2019). *Describe how your online activities will be graded*. University of Central Florida Center for Distributed Learning. https://cdl.ucf.edu/grading-online-activities/

Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view*. Wadsworth.

Shi, Y., & Xi, L. (2021). Exploring the characteristic of adults' online learning activities: A case study of EdX online institute. *Research in Learning Technology, 29*, Article 2622. https://doi.org/10.25304/rlt.v29.2622

Snelson, C. (2019). Teaching qualitative research methods online: A scoping review of the literature. *The Qualitative Report, 24*(11), 2799–2814. https://doi.org/10.46743/2160-3715/2019.4021

Tanner, D. & Tanner, L. (2007). *Curriculum development: Theory into practices* (4th ed.). Pearson.

U.S. Army Command and General Staff College. (2020). *Master of military art and science (MMAS) research and thesis* (Student Text 20-10).

van Merriënboer, J. J. G., Clark, R. E., & de Croock, M. B. M. (2002). Blueprints for complex learning: The 4C/ID-model. *Educational Technology Research and Development, 50*, 39–61. https://doi.org/10.1007/BF02504993

Wiles, J., & Bondi, J. (1984). *Curriculum development: A guide to practice* (2nd ed.). Charles E. Merrill Publishing.

Yang, N., Ghsilandi, P., & Dellantonio, S. (2018). Online collaboration in a large university class supports quality teaching. *Education Technology Research and Development, 66*(3), 671–691. https://doi.org/10.1007/s11423-017-9564-8