Resident or Virtual: The Impact of Foundational Education Modality on New Army Instructor Job Performance Outcomes

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ABSTRACT

The following paper presents data on respondent self-identified competency and job task performance frequency of military training organization instructors and explains performance outcomes based on foundational instructional modalities. Specifically, is there a difference in the frequency of performance-based competencies resulting from original instructor training being conducted face-to-face compared to virtual environments? In December 2021, a quantitative study highlighted the competency and job task performance frequency of Instructional Systems Specialists (ISSs) within military training organizations. That study indicated that Instructional Design (ID) competencies and ISS position description (PD) job duties specific to the Instructional Systems Design (ISD) or ADDIE process were performed only quarterly or less. A 2020 qualitative study on ID practices in military training organizations suggested that those without the requisite educational backgrounds, those in instructor or 1712 positions, were often performing ADDIE-related competencies and tasks instead of the ISS. This study seeks to extend a similar assessment to the job performance frequency of instructors within military training organizations, while specifically considering foundational instructional modality. The results of this study in conjunction with the results of the 2021 and 2020 studies provide a more complete view of job performance across training and education personnel specific to the Army Training Enterprise. The authors argue that identification of instructor task performance and differences within learning environments can inform instruction design gaps and considerations for instructor training depending on the educational venue. It can also inform Army Faculty and Staff personnel of design considerations for the Army's instructor training courses to improve instructor job performance areas identified as low-performance frequency.

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INTRODUCTION

No other profession would exist without a teacher. More aptly stated, no other profession would exist as well as it could without a skilled and talented teacher, not even that of the teacher. "The Army's primary reason for existence is to deploy, fight, and win the Nation's wars by providing ready, prompt, and sustained land dominance by Army forces across the range of military operations as part of the joint forces" (U.S. Department of the Army, 2019c). Providing ready Army forces. Ready is defined as being "in a suitable state for an activity, action, or situation; fully prepared. Ready means being trained. And with professions, such as Army Aviation, that are operating under ever-increasing dynamic and complex environments, it is precarious that only two weeks of training specific to the art and science of education is required for those specifically asked to both train and educate the force to fight, win, and survive against enemies with closely matched capabilities. Additionally, it is curious which design considerations are intentionally included or excluded with respect to instructor training curricula that seek to ensure, at a minimum, proficient instructor job task performance. Deliberate design and redesign considerations specific to the instructor curriculum did not necessarily surface while under pandemic conditions. This leads to an important question, how did instructional modality impact instructor development and preparation during this time?

We need to consider that most people are given to see the profession of aviation, the specific sampled population of this study, as predominantly consisting of pilots. However, training all aspects of aviation, from pilot to maintainer, requires a tremendous amount of technical training for all involved. Just the creation of a single instructor pilot requires both years and plenty of flight hours. However, most of the technical training, simulations, and education surrounding aviation require further *polish* beyond that of simple task competencies. In fact, the more an aviator's attention is taken from the physical act of flying, to further increase both situational awareness in dense tactical situations and the ability to better integrate with forces across multiple domains, the more attention is required in their general education of concepts, theory, and systems integration. Instructor pilot are only receive one nine-hour lesson on the methods of instruction embedded within the Instructor Pilot Course (IPC) the remainder of which focuses on re-teaching the fundamentals of flight learned in the Initial Entry Rotary Wing (IERW) common course. Our emphasis might need to be on the more refined development of the student-instructor as a more informed and skilled educator to ensure we do not inadvertently set up a conversation about future sub-standard training. This implies that modality and deliberate design require further consideration regarding a deliberate push into the "future learning ecology."

Recent studies conducted in 2020 and 2021 regarding practices and talent management respectively of the Army's Instructional Systems Specialists indicated that instructional systems specialists are not performing core instructional design process, or ADDIE, related tasks (Parker, 2020; Parker & Momeny, 2021). Instead, they are more routinely performing or are asked to perform non-design associated tasks such as data entry, administrative functions, research specific to regulations in order to answer specific requests for information, and yes even teaching or mentoring. The results of these studies led the authors toward the need for expanding that study for a holistic military educational perspective that includes instructor job performance. The impacts of the pandemic on the military training organization presented a unique opportunity to compare identified job performance against instructional modality as well. This was thought of as ideal as it sought to capture cross-modality comparison and provide insight into organizational flexibility to continue relevant education in extremis while simultaneously identifying student acceptance of both course validity and delivery.

Up until this point in modern military education, it was thought that all educators conceptually understood that resident and virtual training required varying instructional approaches. However, the reality of the situation thrust upon those educators by the pandemic revealed that many found it difficult to seamlessly employ instructional and educational approaches thought to be ideal for virtual instruction. Many instructors and educators, both civilian and military, found it initially hard to teach

differently based on the distinct environmental differences, regardless of both educational modalities being synchronous. In many cases, most instructors and educators were not prepared to use the selected technology as an instructional platform during the initial onset of the pandemic. More significant than this was the concept of effective engagement of students in a virtual environment, as many instructional instances demonstrated a lack of preparation to teach without lecturing. "The organization did not plan well for this extreme change in methodologies, nor did it capture lack of 'technological' ability of individual instructors to adapt quickly" (Parker & Momeny, 2021b). As a result, academic training suffered. Our lectures fell on tuned-out, unengaged, and under-stimulated ears. This insight was assessed and reported under the watch of seasoned instructors, not necessarily new ones.

During the pandemic, the atypical instructional modalities were rapidly converted from face-to-face with some asynchronous computer-mediated content to the formation of virtual classrooms using multiple learning or collaboration systems such as Blackboard, Zoom, Microsoft Teams, and Adobe Connect. While the virtual classrooms intended to eliminate a potential perceived transactional learning distance between instructors to the student, there remained a discernable gap between the two. Both instructor and student alike thought this gap was mainly due to the limitation of software available for usage on government computer systems. The limited software selection is mainly attributed to the need for maintaining the best possible information technology-oriented security which ultimately, even if inadvertently, restricts flexibility within the digital learning environment. The goal remained to increase the fidelity of the human interaction prevalent in face-to-face instruction using the software systems not originally designed for educational learning environments. Due to the rapid nature of the transition, Instructional Systems Specialists experienced in designing for varying learning environments were not enlisted to support design efforts. Instructors transitioned courses and lessons to a virtual modality themselves though lacking "the requisite background and education" to do so, as only 1 of 18 respondents in this research had a degree based in education (Parker & Momeny, 2021, p. 2). Instructional content moved through multiple iterations at the speed of the individual technical abilities of the course instructor rather than designing a curriculum to achieve the same learning outcomes in a different modality. Deliberate design by an ISS to embrace the potential needed change in curriculum did not necessarily occur for some time; instead, both student and instructor figured out the instructional platform and content delivery together. Not an ideal series of events, but this represents how the change to training occurred at the height of the pandemic.

Instruction, absent the challenges of a pandemic, and when conducted with skill has demonstrated time and again that advanced and facilitated techniques of instruction are working within traditional classroom settings for both performance and cognitive tasks. Both of which are standard in the realm of technical instruction. It should be noted that when time and pressure are not points of concern both design and instruction can be complementary of each other to ascertain similar results in a virtual educational environment, regardless of even the most understandable challenges of limited selection for software. "The concerns with the transition to a Virtual Learning Environment (VLE) included a loss of personal interaction and interactivity, inexperience with delivering instruction within varying platforms, or differing learner preferences that are not considered when using a VLE platform. The general consensus of the instructor population seemed to be that a VLE would have either a neutral or negative impact on training and then, by association, wartime readiness" (Parker & Momeny, 2021b). That impression seemed rooted in the perception that training is not intentionally designed for the virtual environment and that instructors require training specific to the environment to achieve effective education.

The change in foundational instructional medium left significant impressions on instructors and students alike. One queried individual noted the following regarding initial synchronous virtual instruction, "We got caught short (infrastructure and training) when everyone went home [teleworked due to the COVID-19]. This did not plunge the Army back to the Stone Age, our readiness did not suffer. Why? The students, as digital natives, were accustomed to learning on their devices. As digital immigrants retire, I think the Google generation will take Army training to the next level" (Parker & Momeny, 2021). This qualitative reflection could ring true for many who simply made the situation work based upon being a digital native; however, this does not necessarily mean traditional educational theory, concepts, and practices were absorbed during this period to the point of practiced competence.

The Army identifies as a learning organization, and as such seeks to empower and develop learners through deliberate curriculum and assessments that cultivate specific knowledge, skills, and behaviors. The Army seeks to do this despite instructional mediums that may challenge the cultural and instructional status quo, more specifically, a focus on in-person lectures. Instead, the Army would rather the ideal learning strategy and instruction design focus specifically on learner-centric activities for task competency and ill-structured problem-solving in high-tech, complex settings. To accomplish this, instructors must be prepared to fully leverage every element of educational theory, instructional practices, and all available tools to ensure that students are not simply capable of performing tasks, but fully competent in every aspect of their

profession. (U.S. Department of the Army, 2017a, 2017b, 2017c, 2019c, 2020b, 2021; Walcutt & Schatz, 2019) It is significant to determine whether or not this is being accomplished despite changes in the instructional medium. Until now, no one has assessed whether new instructors who received initial education and training via synchronous virtual medium have identified or demonstrated ideal competencies despite *different* foundational instructor course experiences.

PURPOSE

This paper will provide a more complete view of job performance across training and education personnel specific to the Army Training Enterprise with descriptive and inferential statistical evidence regarding the presuppositions surrounding the difference in job task performance influenced by educational medium, whether traditional in-person or synchronous virtual environments. The authors determine to also ascertain whether further evidence exists regarding both the misunderstanding and misapplication of the professional instructional designer as a key enabler of government and military organizational change.The provided data collected through a survey that contextualized the IBSTPI competencies and the Army instructor position description to identify task performance and frequency have demonstrated that current instructors, based upon foundational educational experience, do have different opinions regarding their skillset and its application. The concluding data will accompany recommendations for improved application of these professionals in support of enhanced talent management, support of learning environment-specific design and implementation, and subsequent unrealized gains in potential organizational change and development across both government and military organizations.

LITERATURE REVIEW

Instructing the Instructors

It is an Army requirement that any person selected to conduct platform instruction, save both instructor pilots and any personnel or supervisor who will perform instructor evaluations, must complete a three-tiered certification process in order to assume the role and responsibility of an instructor. Tier One of this certification process is successful completion and graduation from a designated instructor training course. The Army has had a multitude of variations of an instructor training course over the past 20 years. Currently, it is the Common Faculty Development-Instructor Course (CFD-IC). The CFD-IC is described as a two-week, 80-hour competency-based course designated to satisfy the required qualification to complete instructor certification as outlined in TRADOC Regulation 350-70 and TRADOC Pamphlet 350-70-3. Through the course, the student-instructor is expected to demonstrate instructor competencies to teach, train, and facilitate learning in a military training learning environment. During the two-week period of time, students are introduced to some of the following topics: Instructor as a profession, critical thinking tools, teaching and learning models with an emphasis on Adult Learning Theory (ALT), classroom management, design and development of learning objectives, and lesson plans, and instructional skills that are intended to maximize engagement and learning transfer through experiential learning instructional methods and activities. Tier Two of the certification process is to observe the course and its environment as taught by a certified instructor. This is where student instructors are considered Assistant Instructors and are encouraged to take notes, ask questions about content, delivery strategies, student engagement, environmental influences on training, etc. For Tier Three in the certification process, students are to teach each lesson to standard and to be signed off on that lesson by a certified instructor ensuring that content was informationally correct and instructional strategies were employed well and with intended success (U.S. Department of the Army, 2017a).

Student Instructors are expected to actively participate in discussions, practical exercises, and homework assignments that are intended to exemplify The Army Learning Model 2030-2040 encouraged instructional methods and strategies such as direct instruction, questioning techniques, flipped classroom structures, Experiential Learning Model, problem-based learning, cooperative learning, and the like. Successful demonstration of instructional skills, techniques, and strategies through teaching practicums provides initial professional development in the application of instructor competencies. Student-instructors within the CFD-IC are required to pass two of three evaluated practicums whereby they facilitate, at increasing time intervals, a selected topic using two different instructional strategies: direct instruction (i.e., lecture) or Experiential Learning Method or ELM (i.e., discussion).

It is the lofty goal of the CFD-IC and its facilitators to not only train new instructors in specific and desired instructional

[1] While inferences are drawn from the collected data, the researchers, due to small sample size, felt traditional inferential statistical methods did not necessarily find application in this work.

responsibility, and impact of an techniques and skills but also to imbue these fledgling instructors with a sense of pride and prowess in purpose, role, Army Instructor. Throughout regulations and pamphlets, the Army purports to want instructors who can develop the Soldier that can win in a complex world by role modeling and epitomizing professionals committed to reading, thinking, and learning about future armed conflict and determining future capabilities needs and also teaching that. Army teaching and learning are touted as the "essential building blocks for developing foundational capabilities that permit future Army leaders and teams to conduct joint combined armed operations" (U.S. Department of the Army, 2017a, 2017b, 2017c, 2019c, 2020b, 2021).

The CFD-IC provides new instructors an opportunity to reflect on their future roles as a teacher, leaders, and mentors—all of which include responsibility for the professional development of their future students. New instructors will be responsible for understanding both the legal and ethical requirements of their new role. The intent of this course is to establish firmly in the minds of new instructors that they are accountable professionals, having responsibilities with respect to their students' professional development. Army instructors are not only responsible for teaching and learning, or for achieving learning objectives: they have an additional, and perhaps more important, role in the development of the character, values, and ethics of their students. Instructors demonstrate knowledge, skill, and ability through the quality and focus of their discussion comments and questions, preparation for class, ability to think critically and creatively, their performance during practical exercises and case studies, and group work. (U.S. Department of the Army, 2017a, 2017b, 2017c, 2019c, 2020b, 2021).

At the time of this study, the Training and Doctrine Command (TRADOC) and ArmyU referenced the *International Board of Standards for Training, Performance, and Instruction* (IBSTPI) instructor competencies to inform desired instructor skills and competencies. IBSTPI established a set of fourteen core instructor competencies that reflect the decision, actions, and behaviors that competent instructors must demonstrate in order to be considered successful instructors. (IBSTPI, 2000). The list of instructor competencies includes the following: a) Communicate effectively in visual, oral, and written form, b) Update and improve your professional knowledge and skills pertaining to instruction and education, c) Comply with established ethical and legal standards, d) Establish and maintain professional credibility, e) Plan instructional methods and materials, f) Prepare for instruction, g) Stimulate and sustain learner motivation and engagement, h) Demonstrate effective presentation skills, i) Demonstrate effective facilitation skills, j) Demonstrate effective questioning skills, k) Provide clarification and feedback to learners, l) Promote retention of knowledge and skills in learners, m) Promote transfer of knowledge and skills in learners, n) Use media and technology to enhance learning and performance, o) Assess learning and performance in learners, p) Evaluate instructional effectiveness, q) Manage an environment that fosters learning and performance, and r) Manage the instructional process through the appropriate technology.

It is important to note that Army U is in the process of writing its own instructor competencies list that looks to continue to reflect core IBSPTI competencies, but will also incorporate the Army Values with the intent of better encapsulating Army Instructor desired competencies.

The Learning Sciences and Modernizing Learning

The Learning Sciences is an umbrella discipline that is the scientific study of learning. Specifically, how learning works. Where early considerations of learning focused on behaviorism (external), cognitivism (internal), and constructivism, the modern study encompasses these theories and also incorporates neuroscience, cognitive neuroscience, philosophy, linguistics, anthropology, sociology, and the like.

> "Changes in our neural architecture are accomplished by two methods: learning and evolution. Evolution is a slow process occurring over thousands of years or more. This is genotypic plasticity; we change the genetically. Given that the digital revolution is only in the tens of years, our genes are unlikely to have changed. Learning itself, which changes the brain wiring, is a process of action and reflection. It's phenotypic plasticity; we change the behavior or the capability. And while we might change the conditions (i.e. environment/modality) under which action occurs it's using the same mechanisms of neural strengthening. Technology is not changing the way we learn it is merely changing the medium or conditions under which learning occurs. This is good if done well. That is not a change in learning, however. It is a change in instruction." (Quinn, 2021).

With the advent of the Army Learning Concept 2015, which has since evolved to the Army Learning Concept 2020-2040,

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the Army has attempted to modernize the way it trains and educates its Soldiers. And with the impending near-peer competitors, and matched capabilities, there is a drive to modernize mission and education efforts (U.S. Department of the Army, 2019a). Emerging technologies such as artificial intelligence, machine learning, nanotechnology, and robotics are driving a fundamental change in the character of war. Interestingly, all the regulatory pamphlets dedicated to Army Modernization, such as the Army Modernization Strategy and The U.S. Army in Multi-Domain Operations 2028, address what needs to be modernized and why. How modernization will occur, however, and what training or education may need to be required seem to be assumed within the documents. References to these operational modernization-oriented pamphlets are made within those related to institutional modernization pamphlets such as The Army Learning Concept but references are not made in the reverse. References to training needs are not noted within operational modernization pamphlets.

The Army is a learning organization. Therefore, the Army's vision is to immerse Soldiers and Army civilians in a progressive, continuous, learner-centric, competency-based learning environment from their first day of service. In the Army, learning occurs in all training domains (operational, institutional, and self-development), by means of all pillars (training, education, and experience), and in all settings and environments (classrooms, training areas, joint, civilian, deployed, and others) (U.S. Department of the Army, 2019c). Notice that virtual learning environments are captured under the term 'others' seemingly unconsciously placing the emphasis on face-to-face learning environments. And within these institutionally oriented modernization pamphlets, too, it seems that the explanation reflects that training needs to modernize toward more learner-centric, technologically scalable, facilitated instructional strategies. They do not emphasize the skills necessary to design or deliver the training that embodies this description. Nor do they overtly encourage the support or development of needed skills. The identification of requisite skills and professional development needs are left up to interpretation and assumption.

The modernized learning environment of the Army reflects a "future learning ecosystem" that recognizes the increasing need for cognitive agility and personal attribute as well as knowledge and skill development (Diviney, 2021; Walcutt & Schatz, 2019; Walcutt, 2019). Modernization of the learning ecosystem includes consideration of the following: a flexible technological infrastructure for pervasive learning; intentional design in order to thoughtfully capitalize on educational technology and optimize learning under austere training conditions; an clearly articulated and shared understanding of design and instruction across echelons and organizations; clear representation of the infrastructure, design, and vision across policy and doctrine; and the human dimension. personalization and considered talent management (Walcutt & Schatz, 2019).

The Impact of Transactional Distance between Resident and Virtual Modalities

Transactional distance originally conceived by Michael Graham Moore in the 1970s was developed as a concept as a pedagogical theory in distance education. According to the theory, each educational transaction has a relative transactional distance. The component of structure in a given course is a measure of how tightly the instructional designer has specified what the instructor and the student(s) are to do. Structurally, flexibility is measured by the key components of the course learning outcome or objective, the teaching strategy, and the evaluation method. This is a key component when viewing the relationship in context with intentional instructional design of courseware, learning outcomes, method of delivery, and evaluative measure of effect or the efficacy of the instruction when modality is a variable (Weidlich & Bastiaens, 2018).

"Transactional Distance Theory (TDT) is the cognitive gap between the teacher and learners; it functions as the interplay of the structural method and the autonomy of the learner, facilitating dialog that underpins the complex practice of learning processes at a distance" (Keegan, 2005). It is the perceived distance that a student feels from their peers, their instructor, the content due in large part to the incorporation of online, computer-based, web-based, distributed, or distance learning capabilities. Educational research indicates instructor presence impacts the psychological distance between them and their students, enhances their experience, and leads to greater learning (Keegan, 2005). Teacher presence can be both verbal and non-verbal communication in both physical and virtual spaces. If a teacher remains cognizant and diligent in their presence in conjunction with the learning environment, they can impact the feelings of satisfaction expressed by students. Positive experiences and satisfaction with instructor presence support and encourages high-order thinking and reflect students' learning self-efficacy (Zilka et al., 2019). "Shortening the transactional distance by facilitating dialog will boost the learning experience and help enrich learners' [classroom] and online self-efficacy" (Delgaty, 2018, p.63). Furthermore, "interactions with students in contemporary online learning environments are a function of multidimensional constructs known as the community of inquiry (CoI) model. This reflects the interplay of cognitive presence, social presence, and teaching and cognitive presence" (Castellanos-Reyes, 2020, p.3).

Recent studies in transactional distance seem to indicate that students perceived teacher-student distance and slightly higher student-student and student-content distance. "Male students perceived lower levels of teacher-student and student-content

transactional distance than female students. Students with previous experience in distance learning perceived lower levels of student-student transactional distance than those without such experience. Additionally, correlations exist between the three dimensions of transactional distance and satisfaction, with the strongest, negative correlation, observed between satisfaction and student-content transactional distance" (Gavrilis, et.al, 2020. p.56).

METHODOLOGY

As with previous research (Parker & Momeny, 2021), the authors felt that this study lacks a degree of formality due to limitations in scope. In part, this limitation is due to the limited number of sample returns. Quantitative methodologies have been primarily employed to explore the extent of perceived frequency and utilization of professional instructional competencies as contextualized and outlined by IBSTPI and associated instructor position description information. Additionally, this collected information was gathered with respect to the foundational educational modality by which the professional Army Instructor received initial instructor training. The primary methodological design utilized was quantitative descriptive, and the approach of choice was survey methodology.

Design Synopsis (Purpose, Design, and Methodology)

The purpose of this analysis was to collect quantitative information that provided insight into recently graduated Army Instructors and their frequency of performance of specific competencies and position-related tasks. Additionally, the research purpose was further enhanced by the identification of whether differences existed in job task performance and frequency based on the modality by which initial instructor training was received, resident or synchronous virtual environment. The main effort focused on extending the previous work of others (Parker & Momeny, 2021; Parker, 2020) in order to provide a more well-rounded view of job performance throughout the Army's Functional Community 32 – Training and Education Job Series. The authors assert that additional quantitative data creates an even sounder base of argument with which to better support the informed discussion of talent management and curriculum design for professional instructors. Essentially, the authors wanted to find out if instructor competencies were being performed, and how often, despite differences in initial instructional modalities.

It was reasoned that a quantitative design, utilizing survey methodology, would render both tremendously beneficial descriptive and inferential statistics. While the initial population size for this study is small, the intent is to add richness to the known data and not to draw inferential large differences in the population as a whole. The authors endeavored to collect data that would ultimately influence the modernization of foundational Army training in an effort to push the greater Army educational experience into the future learning ecosystem (Walcutt & Schatz, 2019). Additionally, this research should develop other research lines that complement and add to the inquiry for enhancing instructor quality throughout the subject population. There was no major guiding initial hypothesis, but instead a desire to build upon the work initiated by Parker (2020) and Parker and Momeny (2021) in order to provide "learning engineers" with additional data to better negotiate both Army talent management and instructional design through the complexity of learning modernization (Walcutt & Schatz, 2019; Kurzweil & Marcellas, 2019). This work, combined with the aforementioned previous research, provides both qualitative and quantitative information on the experiences of both the Instructional System Specialist and the Army Instructor, there by equipping the greater organization with holistic insight into potential avenues of improvement.

The population for this data collection effort was drawn from recent graduates, both Army Civilian and Service Members, of the Common Faculty Development – Instructor Course (CFD-IC). Graduates attended the CFD-IC between March and November 2021. Respondents were graduates from both the resident and non-resident or VLE, courses of instruction. Five Resident and five VLE graduated rosters were solicited to participate in an anonymous online survey. This particular research effort, in part due to limited voluntary participation, resulted in a focused case study scenario at an Army base in the southeastern United States where aviation is the prime focus of training. Graduates of the course are all current instructors in the US Army, but none of them necessarily teach the exact same curriculum.

The utilized method of sampling was fixed convenience. There was not a pre-established minimum sample size, *n*, as a response to the participatory survey email was not mandatory. 18 usable surveys were returned. Of the returned surveys, 14 were representative of graduates from the resident course and 4 from the synchronous non-resident or VLE course. Though the research design was liberal in nature, the sampling emails were still handled via a secondary source, Army University, thereby ensuring ethical concerns and respondent protections were adequately maintained. Given the case study nature of this research, again due to limited participation, it is not recommended that the results of this study be considered generalizable. Still, the study does present relevant data that may drive replication studies in the future.

Proposed Instrument (Survey)

The data collection instrument was a digital survey, titled *Instructor Performance Survey*. The survey followed the same basic design as the *ISS Performance Survey* (Parker & Momeny, 2021) and was broken down into three distinct portions: Part I – Demographics, Part II (a) – Instructor Performance Survey, Part II (b) - Instructor Performance Survey, and Part III – Instructor Performance Survey (Qualitative). The demographics collected were fairly generic, including gender, assessment of instructor experience, nature of civilian education and the like.

Part II (a), items 9 thru 26, hosted questions created from declared IBSTPI Instructor competencies that had been adopted to a Likert-scale response to assess the frequency of performance of the competency. Items 27 through 40 of Part II (b) hosted questions created from Army Instructor Position Descriptions, specifically related to desirable task performance. Again, these questions were designed with a Likert-scale response to assess the frequency of performance of the instructor task. The options for all questions include the following: Never, Rarely (annually), Sometimes (quarterly), Almost Always (weekly), and Always (daily). Scores were later applied to the question responses, values 1 thru 5 respectively, thereby allowing eventual calculation of weighted means for eventual statistical analysis.

As mentioned earlier, the survey utilized the previous instrument design and approach from the ISS Performance Survey (Parker & Momeny, 2021). The authors assumed that the face validity, or "judgment by a panel of experts" to establish survey/instrument validity, was maintained and then reiterated once more through Army University review prior to publication of the final survey (Leedy & Ormrod, 2013, p. 91). A beta version of the survey was developed and refined between the authors and Army University personnel from the Institutional Research and Assessment Division (IRAD). It is the position of the authors that the instrument maintains a strong degree of face validity.

Data analysis was conducted via Microsoft Excel and the reliability score of the new survey was identified as $\alpha = \sim 0.95$. The Cronbach alpha is not a provided function found in Excel, and so the authors relied on an *Anova: Two-factor without replication.* To solve an Anova: Two-factor without replication, the following equation was utilized: $\alpha = 1 - (\text{Mean Square Error} / \text{Mean Square Rows})$ (Parker & Momeny, 2021, p.8). The resulting Cronbach alpha score points toward excellent reliability for this version of the survey. Additionally, the overall approach for instrument creation, which was duplicated from the ISS Performance Survey from earlier research (Parker & Momeny, 2021, p. 8), has resulted in subsequent scores of .96 and .95 respectively, thus establishing consistent reliability of the instrument.

Research Procedure

The authors submitted their initial proposed abstract that insisted quantitative data could be collected via survey, information analyzed, and findings synthesized in sufficient time to present a complete paper for consideration. The authors supplemented the overall research effort with assistance from Army University, as that institution acted as a third party to circulate surveys, collect, and then analyze initial data. Again, this was a voluntary effort and participants were able to disregard initial emails. Additionally, since the survey was distributed via email by a third party, all participants identities were protected, and provided responses cannot be traced back to any specific individual.

Data Analysis and Statistical Procedures

Data analysis focused primarily on utilization of descriptive statistics and responses to Likert scale derived information were considered ordinal. The descriptive statistics assisted in the organization of information for eventual presentation of findings by focusing on basic values such as weighted means and modes. Inferences from this study are not via traditional inferential statistical methods, e.g., nonparametric tests. Instead, inferences were drawn from the application of weighted means to specific responses by survey participants. The small sample return, specifically from graduates of non-resident instructor training limited the perceived value of employing either a chi-square test for homogeneity or some other nonparametric test.

FINDINGS AND DISCUSSION

Finding 1:

All collected data can be a little off-putting at first, as seen in Figure 1, *Average Resident Student Survey Responses,* and Figure 2, *Average Non-Resident Student Survey Responses*. The findings, for the most part speak to an overwhelming sense of confidence in respondence with regard to frequency performance of very specific Instructor Competencies and Duty Performance Tasks (see Figure 3). In many ways, this could mean the course is built well to establish the performance of desired instructor competencies;

however, overwhelming positive response can also bring insight into a weakness in the mixed research developed survey instrument. Essentially, the question now becomes one of determining what the data is not telling the researcher.

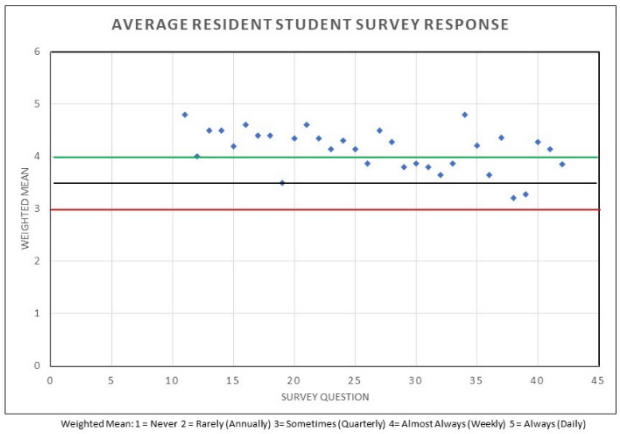

Figure 1. Average Resident Survey Response

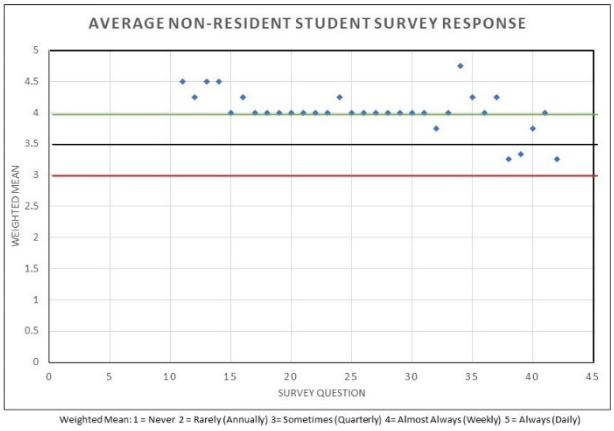

Figure 2. Average Non-Resident Survey Response

When combined with qualitative data, it becomes apparent that while newly minted instructors are performing desired competencies with frequency, there is a misunderstanding of instructional strategy, style, and, if you will permit, swagger among new instructors. Specifically, the new instructor tends to avoid implementation of ELM and instead only relies on direct instruction for most aviation training. The typical comment notes that many instructors find little utility within fresh theories of instruction, ultimately thinking new educational theory, at least beyond direct instruction methods, lacks application in their day-to-day activities. So, this is when it appears that the crafted survey instrument fails to collect a full picture regarding the situation surrounding the initial training of the Army Instructor, save for the few qualitative questions supplementing findings. If the course is not conveying or pushing students beyond direct instruction, or better known as death by PowerPoint, how can the course more efficiently prepare instructors to help the Army best make use of techniques required in the future educational environment? How can the course better prepare its modernized instructors toward more dynamic and complex instructional environments that reflect and respond to more dynamic and complex operational environments?

Findings 2:

While there were overwhelmingly positive replies (see Figure 3) applied throughout the survey, there were some siginficant points of difference between resident and non-resident responses (see Figure 4). The data from the case study seems to demonstrate that non-resident instructed students felt more comfortable with the following abilities: 1) demonstrate effective facilitation skills, 2) provide training in DL classroom environments, and 3) analyze lessons to ensure accuracy of information. It is assumed that the resident student-focused primarily on teaching in front of others during the course, and the transactional distance between instructor and students for the non-resident experience potentially allowed for more focus on more technical activities. Additionally, it would seem that both groups of students felt less confidence than normal with respect to writing lesson plans and otherwise designing elements of training in support of classroom activities. It is this finding, in particular, that confirms and provides greater insight in conjunction with the 2020 and 2021 research focused on Instructional Systems Specialist (ISS) job performance and frequency. The data in that research highlights that it is, in fact, the job series 1712, the instructors, who are most often performing ADDIE specific job tasks such as lesson plan development and selection and use of design elements beyond direct instruction (lecture) instead of the job series 1750, the ISSs or Instructional Designers. Indications of lower instructor confidence levels in these tasks supports the recommendation for careful talent acquisition and management efforts for all education and training personnel. After all, is it appropriate that those lacking "the requisite background and education" to develop training, as only 1 of 18 respondents in this research had a degree based in education, feel uncomfortable in the performance of this particular competency (Parker & Momeny, 2021, p. 2).

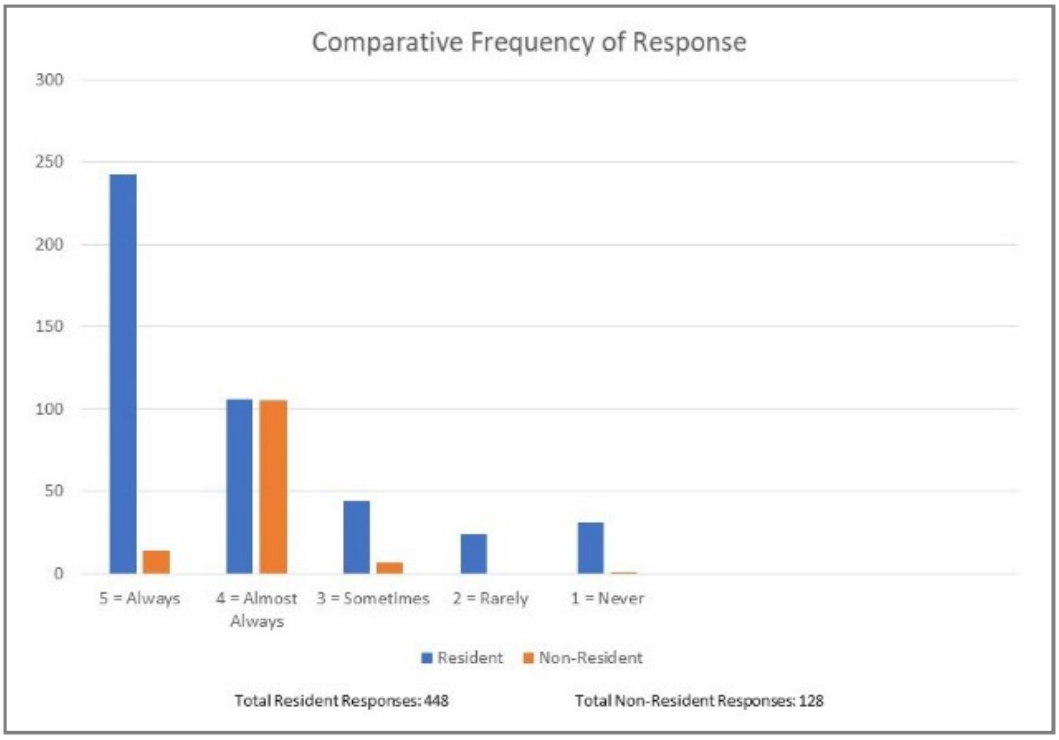

Figure 3. Comparative Frequency of Response

	Non-Resident	Resident
19. Demonstrate effective facilitation skills.		
Mean	4	3.57
Mode	4	5
32. Provides training in standard, contemporary, and advanced distributive learning classroom environments.		
Mean	3.75	3.64
Mode	4	4
36. Analyze lessons to assure proper teaching concepts, references, instructional methods and media, training aids and equipment, and time estimates/requirements.		
Mean	4	3.64
Mode	4	5
38. Writes lesson plans, designs, and produces training aids to support classes taught.		
Mean	3.25	3.21
Mode	4	2
39. Contacts outside sources to obtain and adapt material or information to fill gaps in available references in order to enhance course content.		
Mean	3.33	3.29
Mode	3	4

Figure 4. Specific Response Differences

RECOMMENDATIONS

Until now, no one has assessed whether new instructors who received initial education and training via synchronous virtual or resident mediums have identified or demonstrated ideal competencies despite different foundational instructor course experience.

Recommendation 1: Intentional Instructional Design for Educational Modality

The small but targeted discovery may also have larger implications. It may also suggest that training organizations as a whole need to consider the knowledge and skills sets of individuals to be placed in instructional positions. Can the individual recognize learning opportunities that would enhance the learning if a different method or environment was employed? Can they transition fluidly between instructional method as well as instructional environment? How are the experienced Instructional Systems Specialists being engaged to bridge that knowledge and skill gap? The Army's Instructional System Specialists have both the education and skillset required to enhance both the content and delivery of our education across the non-traditional educational environments. Rather than looking at the effects of this global pandemic on our educational processes as something merely to survive and then forgotten, even if unintentionally, we should instead leverage what has been learned, and emphasize the valuable resource of Instructional System Specialists available at every Center of Excellence and leverage technological and instructional solutions to move training and soldier performance to the next level.

Recommendation 2: Policy and Practice Improvements for Blended Learning and Transactional Distance

ArmyU is considering and preparing for the convergence or expansion of blended learning theory to close the transactional learning distance for students by incorporating blended learning strategies into the CFD-IC. Again, the assumptions are being made that because curricula and regulatory pamphlets have been designed, and so, instructors will inherently be able to execute a blended learning course structure. Even though they have an elevated sense of instructional self-efficacy, finding two suggests that educators will be unprepared to facilitate and provide portions of training within DL [blended] environments. Professional development opportunities will need to be considered and captured in order to bridge the gap. Professional development practices should include the identification and nurturing of instructor attributes that successfully support instructor skill development. Those attributes may include but are not limited to: As seen in the transactional distance in all modalities of instruction, there exists a real or perceived distance for the instructor to student and student to student. The authors contest not only has the gap between students not been bridged, but that the instructional design specialists were underutilized in redesign of curriculum to help narrow the gap and consequentially the efficacy of instruction has remained narrowly focused on individual student outcome versus efficacy of instruction retention. Furthermore, a larger sample of application or impact evaluation must be conducted to measure efficacy of retention to ensure the virtual classroom environment is meeting student outcome requirements for development of instructor's responsibility of training and educating the force.

Recommendation 3: Careful Talent Acquisition and Management of Instructors

"The Army must exercise careful talent management to make the most of these high-quality personnel and integrate them into trusted teams of professionals who are able to thrive in ambiguity and chaos. Improving the resilience of leaders and Soldiers—the Army's most valuable capability—requires training, educating, equipping, and supporting them to execute Multi-Domain Operations in all of its intensity, rigor, and complexity" (U.S. Department of the Army, 2020a). The Army may benefit from a considered review of instructor assignment and hiring practices. Currently, there are no dedicated guidelines for the hiring of talented civilian instructors that assess innate instructor presence within varying learning environments or fluid adaptability between educational technologies. Military personnel are assigned to instructor billets based on bodies and perhaps previous military occupational specialty (MOS) experience versus observed instructor talent, competency, and skill. Assignment and hiring practices should consider the desire to assume instructor roles and responsibilities, dynamic presentation skills that minimize transactional distance effects due to blended environments, critical and creative thinking skills, a life-long learner mentality, and an ability to match the learning environment to the complexity of the current operational environment.

Summary

This study suggests the value in the deliberate design considerations made for instructor training courses, both resident and virtual, as well as of the data collection tools that inform those considerations. A seemingly high level of confidence in job performance for new instructors suggests potential for unconscious incompetence which fosters a limited insight

to the value of instructional theories, methods, and strategies on deeper learning. The study also suggests that some specific considerations for review is on lesson plan writing, and design elements of training to support educational activities, better suited for the Common Faculty Development – Developers Course intended to establish design thinking and designing skills.

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