

Army Training and Talent Management: Finding Developmental Leverage in the Rediscovery of the Instructional System Specialist

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ABSTRACT

The following paper explains how Army training organizations can improve intellectual habits of mind as well as the quality of its instruction by providing clearer insight into actual versus optimal instructional design practices within military training organizations. In May 2020, a qualitative study highlighting practices of Instructional Designers (IDers) within United States Army training organizations, published findings that indicated Instructional Systems Specialists (ISSs) were not routinely performing ADDIE related competencies. ISSs performed data entry duties with little to no involvement in analysis, design, development, or evaluation of training and education meant to facilitate both organizational and behavioral change. This paper confirms the findings of the 2020 study, quantitatively, by identifying exactly which International Board of Standards for Training, Performance, and Instruction (IBSTPI) ID competencies and ISS position description (PD) job tasks are commonly conducted by ISSs.

Twenty-five percent of approximately 80 ISSs from Army Training and Doctrine Command (TRADOC) installations within the Southeast region of the United States participated in the survey conducted in July 2021. This quantitative descriptive case design was used to collect data with the intention of supporting current Army Office of Personnel Management (OPM) and Army University initiatives to improve talent management. The authors contend that leaders, with insight into the misuse of the ISS skillset in comparison to their described job performance expectations, will be better equipped to leverage talents as an asset to Army curriculum design and development. This identified gap in knowledge can inform future organizational structures and hiring practices that enhance application of expertise and benefit the execution of training and education within Army TRADOC. The provided descriptive information should naturally feed into the US Army's consistent pursuit of improved soldier job proficiency, performance, and ultimately enhance wartime readiness under Large-scale Combat Operations. Finally, the authors use the uncovered descriptive data to generate low-cost recommendations for Army leaders to enhance talent management of Army ISSs. The intent is to use ISS skills to innovate organizational approaches toward training development through the intentional incorporation of advanced educational technologies, cognitive and neuro-cognitive principles, learning science theories, and machine learning concepts.

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INTRODUCTION

One of the key elements within the pursuit and study of organizational development is the ability for military and civilian leaders and personnel to adjust with rapidly changing and complex environments (Daft, 2010). To accomplish such adjustments, organizational leaders must embrace organizational learning and revised knowledge management through the application of professional and dedicated change agents. Instructional Designers are considered change agents. Such change agents are found throughout every organization, to include the US Army as Instructional Systems Specialists (ISSs). Whether or not they are properly utilized impacts outcome and efficiency of organizational leadership and training development efforts. This intersectionality of organizational training development capability and talent management can be consistently found within the change-agents known as Professional Instructional Designers, as they create and enable change through effective education of organizational members. For the Army, this effort is specifically executed through the Training and Doctrine Command (TRADOC). However, are those valuable team members being effectively applied to the needs of the organization? After all, talent management of an organization's change agents is key to leader efficacy as well as organizational development and survival. In the US Army, that includes actual survival while fighting under the dire conditions of large-scale combat operations (LSCO).

Most professional Instructional Designers (IDers) recognize that many leaders in both industry and government cannot consistently describe a standard duty description of an IDer or articulate the best methods of applying their unique skillsets to the educational needs of the organization. To a certain degree IDers, themselves, are even challenged when explaining both the nuance of their career field and application of their talents, whether realized or unrealized in the organizational setting. "Unlike many other fields, [instructional design] is constantly changing due to emerging theory, practice, and technological innovations" (Kelly, 2016, p. 5). The situation is further convoluted as government and military organizations designate IDers as Instructional Systems Specialists (ISSs) and umbrella the job series under the term Training Development (TD). The name change itself is not entirely detrimental; however, it does immediately detract from the communication of a critical skillset offered by the IDer to military leaders potentially unfamiliar with the professional educational landscape.

The assumption that government and military training organizations do not fully understand the roles and application of Instructional Design (ID), or the Instructional Systems Specialists (ISSs) as they are titled within the government sector, within their ranks is not unfounded, per current research (Parker, 2020). IDers or ISSs, instructors, and training specialists are used interchangeably within many organizations across the Department of Defense (Parker, 2020; Department of the Navy United States Marine Corps, 2009). In many cases, the designer is utilized primarily in an administrative capacity, performing data entry or serving as contract managers instead of as designers (Parker, 2020). This means that ISSs, the organization's personnel with the requisite background and education in design are typically far-removed from actual course development and its associated deliverables such as: mission analysis, content analysis, needs analysis, target audience analysis, theory based courseware design, instructional delivery media, lesson plans, student handouts, and assessments, to name a few. In the place of the organization's ISSs you will instead find individuals with little or no experience in professional educational development performing instructional design responsibilities. (Department of the Navy United States Marine Corps, 2009).

It would seem that the systemic belief supporting this continued practice is the assumption that all educational backgrounds (e.g. Elementary Education, Secondary Education, or Adult Education) are equally capable of instructional design and development. This misconception has created a mismanagement of IDers, resulting in their performance of non-ID duties under the job title of ISS, and further supplementing an erroneous definition and expectation of

ISS work. This problem then proliferates across the organization temporally through the further perpetuation of a position description that is misapplied with respect to the application and performance of either the newly hired ISS or IDer. Allowed to stagnate, this situation creates ill-informed cultural norms within the military training-based organization. Moreover, there is no date of expiration on educational requirements, meaning a person out-of-synch with current theoretical development within the ID community is considered a reasonable hire to the uninformed leader or hiring authority. “Essentially, a potential hire that has completed only the required 24 academic credit hours in a physical education degree in 1980 is considered to be on equal footing with a person who has acquired a doctorate in Instructional Design in 2021” (Parker, 2020). As such, the potential of IDers in government or military organizations is vastly underutilized, and one could argue greatly impacting the efficiency of organizational change potential across government and military organizations.

For organizations to combat the misconception and misunderstanding surrounding the roles and capabilities of their assigned ID personnel, it is important for leaders to understand the abilities and full unrealized potential of the instructional designer. A formally trained Instructional Designer possesses the skills to identify areas of inefficiencies in an organization, as well as to identify both training and non-training solutions for resolving them. These skills are highlighted with the International Board of Standards for Training, Performance, and Instruction (IBSTPI) ID competencies list referenced by Army University to inform job roles and responsibilities. They are after all purported engines of organizational change. Instructional Designers are experts specifically trained in analysis and design to identify opportunities for enhanced efficiency in areas of organizational doctrine, training, material, leadership, management development, personnel development, and/or facility and infrastructure. The IDer applies change through application of new methods, ideas, or products (Parker, 2020). It is curious how the role of the instructional design professional as change agent is consistently overlooked (Parker, 2020; Rowland, 2005). If organizational leaders fail to see the benefit of potential contributions through more refined application of their assigned ID personnel then they lose a powerful avenue toward greater success, and the potential change agent is ultimately rendered ineffective.

This paper will provide statistical evidence regarding the presupposition surrounding both the misunderstanding and misapplication of the IDer 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 ISS position description to identify task performance and frequency has demonstrated that current IDers are typically tied up with other administrative tasks and rarely participating within activities that are known to be the hallmarks of the Professional Instructional Designer. The concluding data will accompany recommendations for improved application of these professionals in support of enhanced talent management and subsequent unrealized gains in potential organizational change and development across both government and military organizations.

LITERATURE REVIEW:

Research reflecting the performance of instructional design tasks within military training organizations does not exist. Since the inception of instructional design as an official profession in 1975 at Florida State University, countless studies have been conducted to answer the question: What does an Instructional Designer do? (Rowland, 1992). These studies have primarily been conducted by collegiate researchers. Furthermore, the research is representative of ID practices occurring in academic or corporate organizations. The data presented, therefore, only reflects instructional design in academia or industry, not within government or military training environments. This seems a strange revelation given that Instructional Design may not have emerged as a profession were it not for the U.S. Army and U.S. Department of Education during World War II (Booker, 1946; Reiser, 2001; Walcutt & Schatz, 2019; Parker, 2020).

The research over the past 30 years focuses mainly on two topics. The first topic is the difference in design performance between novice and expert designers (Parker, 2020; Hannum, 2005; Osguthorpe & Osguthorpe, 2007; Rowland, 1992; Tracy & Boling, 2014). The second topic is the different between how IDers perform their jobs in comparison to what they were taught within their respective academic programs (Parker, 2020; Cox & Osguthorpe, 2003; Denner & Spector, 2007; Schwier et al., 2004; Tracey & Hutchinson, 2013). While the academic instruction versus job performance data may infer how instructional design is conducted on the job, the inference is a weak one. It does not provide clear insight into which competencies and tasks are or are not being performed. It merely reflects that competencies and tasks are being performed differently than taught. For example, that competencies and tasks are being performed simultaneously rather than linearly or that experts perform analytical tasks more quickly than novices. The ID literature suggests that knowing how IDers perform is important because the data influences learning theory (Kenny et al., 2005); maintains a

current and accurate view of the profession as it evolves (Byun, 2001; Gibbons, 2013; Patel, 2010; Reiser, 2001; Tracey & Boling, 2014); maintains updated job and task analyses that lead to changes in educational programs (Cox & Osguthorpe, 2003); and prepares Instructional Designers for different career environments (Dennen & Spector, 2007; Larson & Lockee, 2009). We contend that it can also inform organizational leadership on appropriate talent management and human capital strategy practices and benefits.

The Department of Defense (DOD) is the largest global employer worldwide (WorldAtlas, 2020). Many positions within the DOD are civilian instructional designers or ISSs. However, the perceptions and practices of ISSs in this sector have only just come under investigation within the last year or so. Without considerable forethought toward the talent management of ISSs, there is little to no support for professional development or true job performance. If an ISS is asked to make course modifications in response to unit and Army mission needs the emphasis is on product over process, quantity over quality, or cost over contribution. There is a considerable lack of understanding of the ID profession (Klein & Kelly, 2018) by leaders as well as practitioners within government and military training organizations. Training decisions are made with little consideration that design based solutions can improve the quality of training and maximize utilization of course resource constraints with a little support.

Instructional Design Practices in Military Training Organizations

In a recent 2020 study, the International Board of Standards for Training, Performance, and Instruction (IBSTPI) Instructional Design (ID) competency list was used to assess which of the 22 competencies are or are not being routinely performed by Instructional Systems Specialists (ISSs) within military training organizations. Fourteen of the 22 competencies directly reflect the Instructional Systems Design (ISD) process, more commonly referred to as the Analysis, Design, Development, Implementation, and Evaluations (ADDIE) process. In short this study suggested that ISSs are not fully performing any of the ADDIE related competencies.

Only three of the 22 competencies are reportedly performed as fully as defined: Communicate effectively, professional development, and maintain working relationships. Competencies such as research, design, development, and evaluations are either not performed or reportedly performed by other, non-ISS personnel. For example, the competence “apply research and theory to the discipline of instructional design” was reportedly performed as the reference of Army regulations and publications in response to leader requests for information rather than a review of learning, design, or cognition related theories in support of educational sound training development that connects content and target audience to a desired learning outcome for effective mission accomplishment.

ISSs are not performing needs assessments to determine appropriate instructional or non-instructional interventions to organizational or job performance problems. They are not performing target audience analyses nor are they selecting instructional techniques or technologies/media that best suits the educational need. In many cases, the ISS is not privy to the needs that trigger a design change to training articulated by leaders (Parker, 2020). While leaders of the institutional domain are well versed in decision making processes, they are often making decisions that impact training and educational from a militaristic or political perspective rather than an theoretically-based educational one. These decisions, then, often have a negative impact on the successful job performance once assigned to a unit. Additionally, the ISS, trained in ID, has the required educational background to conduct a needs analysis with the intention of determining both instructional and non-instructional solutions. Sometimes the issue is not a training one and a skilled IDers can design interventions for those as well. The same holds true for target audience analysis performance. More often than not, ISSs stated they assumed the characteristics that made up an intended instructional audience. These assumptions tended to reflect, only, the military occupational speciality (MOS) for which the training was built, completely disregarding other significant audience factors that can have sway over how a group or individual will receive, store, and retrieve the course content.

ISSs, also, are not using an instructional design process appropriate for a specific topic. While the ADDIE process is the ID process of record for the Army, those developing course materials are actually employing the Rapid Prototyping process. Additionally, the training database that acts as a training product repository relegates design to a specific format for programs of instruction (POIs). Lesson plans, for example, retrieved from the repository are produced in only one format, regardless of instructional method or strategy. Over time this templated view of training development seems to have inadvertently fostered a rushed, “check the box” approach to design and development of instructional courseware. It could unintentionally support the lack of true and helpful analysis and design prior to the rapid development of educational materials.

ISSs primarily reported acting as “data entry clerks” (Parker, 2020) for the course materials that were developed by personnel whose position did not hold the same educational background requirement. The non- ISS personnel select instructional methods and media as well as produce lesson plans, student handouts, and assessments. Lecture, therefore, is the most commonly selected instructional method. PowerPoint presentations are the most commonly selected instructional media. This may simply be because of a strong experience with lecture and a lack of familiarity with methods and media other than those emphasized in the two week Army instructor training courses.

ISSs did report conducting evaluations of instructional interventions but not non-instructional ones. Most ISSs also defined evaluation as “a review of the work of others” rather than materials designed by either them or other ISS personnel. They explained that formative and summative training development evaluations was something they did not routinely perform but described it as something they should do.

The results of this 2020 research suggests that personnel in ID are learning how to do their jobs while on the job and usually from non-design thinking personnel. Additionally the ISS, in general, either performs modified or re- defined competencies or does not perform the competency as IBSTPI or their position description implies they should.

Talent Management Practices in Military Training Organizations

As the Army continues to transition from counter insurgent operations (COIN) to large scale combat (LSCO)/ multi-domain operations (MDO) and the changes that have occurred to learning environments due to the global pandemic, the last two to three years have seen an expressed increase in the focus on human capital strategy and talent management for both the Army’s operational and institutional domains. One of the tenets of the TRADOC Pamphlet 525-8-2, *The U.S. Army Learning Concept for training and education 2020-2040* is that, “the Army assesses and manages the development and employment of talent to maximize learner competencies, promote learner readiness, and optimize teams to conduct multi-domain operations.” (U.S. Department of the Army, 2020b). *The Army People Strategy* (2019), the leading reference for the organization’s talent management, describes a shift from how we will distribute personnel to a more deliberate management of talents of Army Soldiers and civilians. “This means creating a talent management system with policies, programs, and processes that recognize and capitalize the unique knowledge, skills, and behaviors possessed by every member of the Army team for maximum effect”. It is imperative to develop, maintain, and employ talent appropriately in order to achieve total army readiness in ever increasing complex operational environments. Talent management needs to act as the Army readiness link to meet LSCO and MDO challenges.

The constant messaging regarding Army talent management seems to be that to successfully address necessary changes required to reframe the military approach to learning and performing to meet peer and near-peer threats on a comparable battlefield, a comprehensive talent management system for ISSs is now, arguably, a must (Walcutt, 2019). Army talent management strategies must be understood at a granular level in order to inventory skills and capabilities within both the military and civilian force (U.S. Department of the Army, 2020a). “It requires a deeper understanding of what skills are needed, how we can enhance them through advanced educational methods and delivery options” (Walcutt, 2019). Army publications, however, reference these messages in future tense in many cases, acknowledging the fact that improved acquisition, development, employment, and retention of talents are needed. “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” (U.S. Department of the Army, 2021). The authors of this paper argue that the ISS is a significantly under-utilized resource, trained in change agency, analysis, and design theories and techniques that could be leveraged for, “learning content and delivery systems to extend learning competencies across the operational, institutional, and self-development training domains”, and improve unit performance in LSCO and MDO by optimizing their knowledge, skills, and abilities (U.S. Department of the Army, 2021).

The Military Training Organization’s use of the International Board of Standards for Training, Performance, and Instruction (IBSTPI) Competency Models

In a field that is constantly growing with the changes of technology, the International Board of Standards for Training, Performance, and Instruction (IBSTPI) has solidified standards and competencies to maintain integrity within the field. The IBSTPI is a non-profit organization that works to identify and define standards and competencies performed by instructional professionals throughout industry, academia, and government agencies (IBSTPI, 2020). IBSTPI develops, validates, publishes, and disseminates the competencies and performance statements for several professional areas, making the distinction between Instructors, Training Managers, Instructional Designers, and Evaluators. Competencies

include knowledge, skills, and abilities for successfully performing the roles required by the position (Koszalka et al., 2013; Richey et al., 2001). The IBSTPI competencies for IDers were first established in 1986 but are regularly reviewed and updated to remain current and relevant to the field (Byun 2000; Kelly, 2016; Koszalka et al., 2013; Richey et al., 2001). Army University at Fort Leavenworth, Kansas internally developed a list of 21st Century Soldier Competencies for reference within the development of general learning outcome (GLOs). This list was replaced by the reference to the IBSTPI competencies in 2015.

The most recent competencies released by IBSTPI ID Competency model includes 22 instructional designer competencies. Each competency is labeled as either essential, advanced, or managerial. These labels are indicative of the job role the IDer holds. Knowledge, skills, and abilities that should be mastered by all IDers are considered essential. Knowledge, skills, and abilities that should be mastered by experienced IDers are considered advanced. Knowledge, skills, and abilities performed by IDers in managerial or supervisory positions are labeled as managerial (Koszalka et al., 2013). The IBSTPI ID Competency model captures the 22 competencies under five overarching categories: Professional Foundations, Planning and Analysis, Design and Development, Evaluation and Implementation, and Management. It is important to note that three of the five categories directly reflect the ADDIE Instructional Design Process (Byun, 2000, p. 21). These three categories encompass 14 of the 22 competencies, nine of which are considered essential and five are considered advanced.

There is no analytical data provided by Army University as to why this list of competencies was selected for reference over other lists established by other professional organizations such as the International Society of Performance Improvement (ISPI) or the Association for Talent Development (ATD). The IBSTPI organization does, however, focus on non-school setting competency development (Koszalka, Russ-Eft, & Reiser, 2013). The IBSTPI ID competency model in use by Army University, therefore, is the model referenced for the interview and coding schema developed for this study to determine practices of Army ISSs.

The Military Training Organization's Instructional Systems Specialist's (ISSs) Position Description

The ID field has been in a state of constant development and change, moving in a myriad of directions and leading to a need for clearly delineated duties and tasks (Larson & Locke, 2009; Raynis, 2018). In 2000 and 2016, researchers conducted extensive analyses of ID job announcements and associated competencies (Byun, 2000; Raynis, 2018). In both analyses, job announcements were collected and "key responsibilities and qualifications for instructional designers in Corporate, Government/Military, Health, Higher Education, and Non-profit industries" were analyzed (Raynis, 2018, p. 166). Announcements were collected via headhunter sites, such as Monster, ATD, EDUCAUSE, Indeed, and Indeed health (Raynis, 2018) or via email dissemination (Byun, 2000). Results suggested that announcements for government/military ID professional competencies, such as design and development, communication and collaboration, assessment and evaluation, project management, and teaching and mentoring were below 4.4% (Raynis, 2018). In Byun (2000), Government/Military ID competencies were grouped with Non-Profit Organization (NPO) data but reported only NPO specific results. The results of these studies were inaccurate. The competencies did not accurately reflect the ID positions within the Government/Military sector for two reasons.

First, job announcements were collected using the term Instructional Designer. Government/Military ID positions were titled ISS and therefore did not show in the job announcement sources that were used. Secondly, ISS positions were posted in the USAJobs announcement site, which was not one of the referenced sites of Raynis' (2018) analysis. "The percentage of ID professionals reported as working in each career environment varies by the source cited...the discrepancy in figures between sources is often a result of the population and sample selected" (Larson & Locke, 2004, p. 23). Therefore, it was important to have a general understanding of not only the design process and the ID competencies in use by Army organizations, but to also have an understanding of how the Army described the purpose and duties of the ISS position.

Most ISSs occupy GS 11 and 12 positions. For the ISS position at this level, individuals are expected to apply the ADDIE process with the intent of providing educationally sound advice and guidance to all echelons of leadership about the theories and strategies of learning as well as training design and development. The ISS is expected to respond and adapt to information, procedures, and processes that change frequently while at the same time performing a variety of highly complex, intensive tasks which results in multiple instructional products which includes audit trail documentation of the design process as well as executable curriculum development courseware materials (FASCLASS, 2005). An analysis of the existing ISS position description highlights roles as product manager, analysis team member, developer, evaluator, and trainer. Two decidedly obvious trends emerged. One, Army organization ISS PDs include trainer/instructor tasks

as inherently linked to ISS work while the IBSTPI makes a clear distinction between Instructional Designer and Instructor. Two, the ISS PD does not include any design specific tasks.

METHODOLOGY

While not a formal study due to limitations in scope, time, and available instruments, the authors employed quantitative methodologies to explore the extent of perceived frequency and utilization of ISSs as contextualized toward professional instructional design competencies outlined by IBSTPI and associated ISS position description. The primary methodological design utilized was quantitative descriptive, and this was informed via survey methodology.¹

Design Synopsis (Purpose, Design, and Methodology)

The purpose of this analysis was to collect information that quantitatively demonstrated the perceptions of ISSs with respect to conducting their actual design specific work and competencies. The main effort focused on extending the previous work of others (Parker, 2020), specifically enhancing published qualitative research with more deliberate enumeration of ISSs regarding their performance-oriented tasks. The authors assert that quantitative data creates an even sounder base of argument and inquiry with which to improve the topic of talent management among Professional Instructional Designers.

The research design emphasis on descriptive statistics and survey methodology allows the derived quantifiable data to provide more concrete support for the aforementioned problem set, that talent management of ISSs have been unnecessarily complicated by a lack of proper knowledge and utility of these professionals based upon intended standards and competencies as outlined by IBSTPI. The initial hypothesis, based upon the results of Parker (2020), insists ISS personnel lack employment in accordance with their educated strengths. Given Parker (2020) collected and published qualitative results, the authors selected quantitative design to add a proper numeric description to the current knowledge set based upon opinions from actual IDers serving in various ISS-oriented positions across military organizations within the southeastern United States.

The population for data collection were civilian ISSs currently employed within either government or military organizations. The population sample draws specifically from personnel employed at various military training bases in the southeastern United States. All those sampled currently hold positions as nonsupervisory Instructions Systems Specialists. The sample excludes all intern-level positions related to ISS, typically GS-7 to GS-9, thus ensuring practicing professionals were the only ones sampled.

Finally, the authors utilized fixed convenience sampling for data collection. A more formal study is more indicative of a deliberate minimum sample size, represented by the variable n and typically calculated using a specific formula.² This research was more liberal in nature, seeking available participation through fixed convenience sampling, specifically utilizing secondary sources to email potential survey participants. While this can influence eventual generalization, it was reasoned adequate for the purpose of this effort. Of over 80 personnel contacted via email, approximately 25% responded and completed the survey.

Such a strong response rate provided exceptional confidence for the data collected, at least as it relates to the specific sampled population. The limits of generalization would be to other military training bases that fall under the umbrella of Army TRADOC, as the authors focused data collection on IDers in Army positions. Ethical considerations regarding impact upon surveyed personnel were minimal.

¹ Given the constraints of this publication, readers can reach out to the authors for additional information regarding methodology, survey, and other collected data.

² Minimum sample size is typically calculated using the following formula, $n = \hat{p}\hat{q} \left[\frac{z_c}{E} \right]^2$

Proposed Instrument (Survey)

As mentioned earlier, the tool for data collection was a digital survey. The survey was broken down into three major parts: Part I – Demographics, Part II (a) – ISS Performance Survey, Part II (b) – ISS Performance Survey, and Part III – ISS Performance Survey. The first portion collected basic data on gender, civil service, education, and prior military service. The second part of the survey, specifically questions 11 – 55, is comprised of 45 questions that contextualized both the IBSTPI ID competency model in use by Army University, and all relevant aspects of the ISS PD into functional questions. Respondents utilized a Likert-scale series of responses that allowed comment on frequency of performance with respect to ISS related tasks, competencies, and duties. The responses included the following: Never, Rarely (annually), Sometimes (quarterly), Almost Always (weekly), and Always (daily). Those scores were provided numerical values of 1 thru 5, thereby allowing eventual calculation of weighted means for eventual statistical analysis. Finally, Part III contained three open-response questions.

The authors utilized face validity, or “judgement by a panel of experts,” to establish survey / instrument validity (Leedy & Ormrod, 2013, p. 91). The contributing experts convened via an individual pilot study. Multiple ID professionals were allowed to view, take, and comment on the early beta version of the survey that led to eventual refinement of the final data collection tool. Based upon the judgement of ID professionals during a pilot study of the survey, the authors maintain the designed survey has a strong face validity.

Since this was a new survey, it was necessary to determine a reliability score. Reliability of an instrument deals with the internal consistent reliability of the tool, or the extent to “which all of the items within a single instrument yield similar results” (Leedy & Ormrod, 2013, p. 91). Internal consistency of an instrument refers to the Cronbach alpha score, α . The Cronbach alpha is a, “value that ranges between 0 and 1, with optimal values ranging between .7 and .9 (Creswell & Creswell, 2018, p. 154).

The final reliability score of the survey was $\alpha = 0.96$. Calculation of a Cronbach alpha is not a typical function on Microsoft Excel, the program utilized for analysis, and so the authors conducted an *Anova: Two-factor without replication*. This provided the necessary information to perform the following equation: $\alpha = 1 - (\text{Mean Square Error} / \text{Mean Square Rows})$. Thus, the resultant alpha value indicates the designed survey to have excellent reliability / internal consistency, giving the authors the necessary confidence in extracted data.

Research Procedure

The research procedure was in keeping with the I/ITSEC 2021 requirements for paper submission. While not a formal research project, the authors constructed an initial proposal abstract that based on presenting concrete quantitative data points collected via survey. Beyond incorporation of I/ITSEC specific procedural steps and committee evaluation, the authors utilized Army University (ArmyU) in Fort Leavenworth, Kansas as a third party to assist in IRB approval, finalization and distribution of the ISS Performance Survey, data collection, and initial data analysis.

Army University distributed surveys via email to the desired population. Participants were voluntarily able to interact with or disregard the email. Army University, as the selected third party, also oversaw the time limit for survey completion, which was approximately two weeks. At the conclusion of data collection ArmyU provided some initial data analysis. Once complete, ArmyU gave the authors both the raw data and initial analysis for further examination.

Data Analysis and Statistical Procedures

Descriptive and inferential statistics were utilized in the final preparation of the collected data. Inferential statistics included use and analysis of weighted means for both individual questions and data areas. The data areas consisted of consolidated groups of questions that were then averaged out to produce a collective mean and included the following competencies and PD information: Professional Foundations, Planning and Analysis, Design and Development, Evaluation and Implementation, Management, Product Management, Analysis and Team Lead, Developer, Evaluator, Production Management, and Trainer. All data analysis was completed using Microsoft Excel.

Finally, all inferential data was based upon the numerical values attributed to various Likert-scale responses, or 1 thru 5. Those responses along a number line can provide the following visual understanding for interpretation of presented results:



Figure 1. Qualitative Scoring

The highlighted areas in *Figure 1* represent statistical values to be associated with negative, neutral, and positive responses. This can also be written in the following manner: negative response is $x \leq 2.5$ and positive response is $x \geq 3.5$. A score of 2.5 or less means that respondents are performing certain tasks or competencies either never or rarely (annually), and it is difficult to think anyone would perform a core competency annually or less. A score of 3.5 or better means that respondents are performing certain tasks or competencies either almost always (weekly) or always (daily). Any organization would appreciate both consistent and frequent application of their talented team member’s skills in support of their organization’s goals and work; however, the information presented in the concluding section of the paper will demonstrate the reality of perceived jobperformance. The authors maintain that scores of 2.5 or less are indicative of a talent management related problem set.

FINDINGS AND DISCUSSION

The prime area of focus for this research dealt with assessing the perceived frequency with which US Army ISSs performed either competencies or associated PD related tasks throughout the course of their tenure within a US Army TRADOC organization. The responses to these questions appear visually in *Figure 2*. Upon first glance, it would appear that a neutral feeling regarding the topics of performed competencies and PD related tasks is prevalent, and the perceived neutrality is indicative of null results. Nothing could be further from the truth.

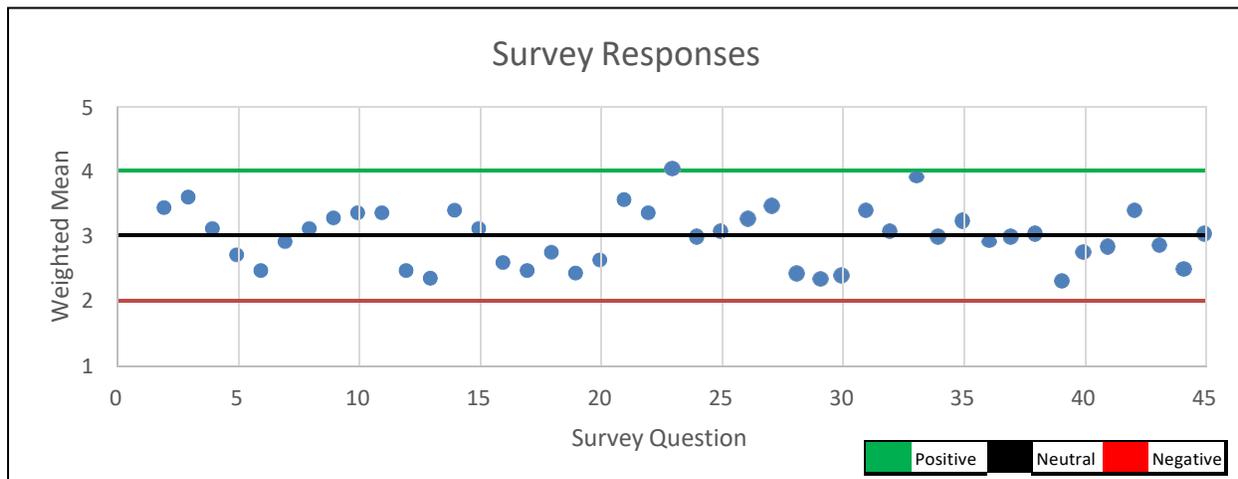


Figure 2. Survey Responses

Finding 1: Lost organizational efficiencies and effectiveness.

The authors consider the depicted weighted mean values within *Figure 2* to demonstrate an inconsistent application of relevant and necessary competencies typically associated with the professional IDer. For instance, *Table 1* demonstrates the single data points of *Figure 2* as grouped in meaningful wholes, or larger overall competencies. The reader is able to discern multiple areas to be exceptionally neutral in nature, or ~3.0 in value, thereby indicating performance of area related competencies being performed quarterly and sometimes slightly less. When referencing an ID professional and their assumed work-related tasks it would seem highly unusual to consider this person only performing either the competency of *Planning and Analysis* or *Design and Development* sometimes, or quarterly. These two competency group areas cannot afford to be wasted on ineffective talent management.

| Competency / Topic Area | Weighted Mean |
|----------------------------------|---------------|
| a. Professional Foundations | 3.56 |
| b. Planning and Analysis | 2.95 |
| c. Design and Development | 2.954 |
| d. Evaluation and Implementation | 2.56 |
| e. Management | 3.18 |
| f. Product Management | 2.99 |
| g. Analysis and Team Lead | 3.22 |
| h. Developer | 2.66 |
| i. Evaluator | 2.76 |
| j. Trainer | 2.66 |
| k. Production Management | 3.36 |

Table 1. *Competencies as Grouped Data Points***Finding 2: What are they doing the other half of the time?**

Along with the issue of neutrality in scoring, *Table 1* shows that many competency areas are only being employed or performed either quarterly or less. This data driven revelation leads to the question, what are my Instructional Designers doing the rest of the time? Furthermore, can Army TRADOC leaders afford to have ISSs only performing key developmental roles and strategies half the time during a calendar year? This finding fully indicates that the Army ISS is only being used effectively (in accordance with acknowledged competencies) either half the time or less. Conversely, the other half of the time ISSs are therefore presumed to be performing non-ISS related tasks such as data entry, administrative duties, and or instruction as indicated within the Parker 2020 study.

Recommendations

The presented findings demonstrate a discernable gap within the application of serious talent within subordinate US Army TRADOC organizations. The presentation of these findings are simple but two key points were discussed. First, the overwhelming response toward a neutral score by respondents indicate that the ISS is only occasionally (recall a value of “sometime” referenced quarterly performance) performing most IBSTPI-based competencies. This appears to be indicative of poor talent management of highly educated people. The other point of issue is a lack of consistent performance in competencies indicates other, potentially less productive, activities that lack application of IBSTPI competencies have taken their place.

Recommendation 1: Adjust the Position Description

To combat these instances of challenge within ID talent management the authors are recommending two solutions that are no, to very low cost for the greater organization. First, do not necessarily scrap and rewrite the current position description, PD. Instead, amplify the PD to insert the more design related aspects of the ISS position, ensuring the revised PD highlights the focus of tasks to be performed and those tasks in turn resonate with IBSTPI-based competencies. Why this recommendation? Well, when in doubt of what team members are supposed to be doing during the day, new leaders will turn to their employee PD to better understand their ideal assigned tasks. The revised PD can act as a bridging mechanism to better educate leaders and the ISS on the efficient employment of the ID professional. However, to accomplish this the PD must say the right thing, thus removing the ambiguity of current ISS employment outlined in the presented data.

Recommendation 2: Educate the Leader New to the Training Environment

Many leaders and professionals in a TRADOC organization have little to no previous exposure of the ISS and the world of professional instructional design. If leaders receive training based upon on their own job-related specialties and courses during pre-command, then they should also receive training related specifically to leading an organization focused on the education and training of others. The course could educate leaders on points such as education theory, design and development, and the details surrounding specific positions such as the 1712, *Instructor / Writer*, and the 1750, the *Instructional Systems Specialist*. A leader armed with specific knowledge of both education theory and a

better understanding of the supporting cast of specialists that focus on developing training and training others would have tremendous impact on both TRADOC and the Army as a whole. This impact would be because the educated leader would know how and where to better employ their organizational talent. There would be no confusion on who to communicate with on matters of course development and whom to include in both analysis and decision-oriented discussions. It is almost a foregone conclusion that an educated TRADOC leader would be more apt to include specialist, such as the ISS, in far more communication, analysis, and decision-making activities and events if they just knew more about them.

Summary

The intent of the authors was to present quantitative data points that demonstrated a consistent misapplication of talent with respect to the ISS within TRADOC organizations. As it turns out, surveyed ID professionals in these organizations echoed similar sentiments uncovered in previous research (Parker, 2020) regarding this phenomenon of poor talent management with regard to the ISS. Real change will only occur when PDs are more relevant and inclusive of aspects of the ISS knowledge set typically outlined by the IBSTPI competencies. Additionally, the authors maintain that with a bit of leader education regarding the specifics of both the professionals within the training organization and education theory, the understanding of the ISS and their subsequent application would greatly improve.

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REFERENCES

- Brooker, F. E. (1946). *Training films for industry: Final report on the war training program of the division of visual aids for war training*. Federal Security Agency. U.S. Office of Education.
- Byun, H. (2000). *Identifying job types and competencies for instructional technologists: A five-year analysis* (Publication No. 9993525) [Doctoral Dissertation, Indiana University]. ProQuest.
- Christensen, T. K., & Osguthorpe, R. T. (2004). How do instructional-design practitioners make instructional-strategy decisions? *Performance Improvement Quarterly*, 17(3), 45-65.
- Cox, S., & Osguthorpe, R. T. (2003). How do instructional design professionals spend their time? *TechTrends*, 47(3), 45-47.
- Daft, R. L. (2010). *Organizational theory and design* (10th). Mason, OH: Southwestern Cengage Learning.
- Dennen, V. P., & Spector, J. M. (2007). Preparing educational technology leaders: Reflections on the past, present, and future. *Educational Technology*, 47(4), 5-12.
- Department of the Navy United States Marine Corps (2009). *GS-1700 civilian series front-end analysis report*. Retrieved from <https://www.tecom.marines.mil/Portals/90/EducationCOI/ReferencesEdCOI/Civilian%201700%20Series%20FEA.pdf>
- FASCLASS (2005). *Army position description: Instructional systems specialist*. Retrieved from https://acpol2.army.mil/fasclass/search/fs/search_fs_output.asp?fcp=zutpk3eFRtaToL2jprlGuam0buidbX%2BfmqVYgGC7hLBkaIedkqk%3D
- Fowler, F.J. (2014). *Survey research methods* (5th ed.). Thousand Oaks, CA: Sage.
- Gibbons, A. (2003) What and how do designers design: A theory of design structure. *Tech Trends*, 47(5),22-27.
- Gray, C. M., Dagli, C., Demiral-Uzan, M., Ergulec, F., Tan, V., Altuwajri, A. A., Gyabak, K., Hilligoss, M., Kizilboga, R., Tomita, K., & Boling, E. (2015). Judgment and instructional design: How ID practitioners work in practice. *Performance Improvement Quarterly*, 28(30), 25-49. <https://doi.org/10.1002/piq.21198>
- Hannum, W. (2005). Instructional systems development: A 30 year retrospective. *Educational Technology*, 45(4), 5-21. IBSTPI (2020). *About us*. Retrieved from <http://ibstpi.org/about-us/>
- Kelly, W.Q. (2016). *Competencies for instructional designers: A view from employers* (Publication No. 10190299) [Doctoral Dissertation, Florida State University]. ProQuest.

- Kem, J.D., & Bassett, W.E. (2018). The right education and training at the right time: Deciding what to teach and ensuring it happens. *Journal of Military Learning*, 3-16.
- Kenny, R.F., Zhang, Z., Schwier, R.A., & Campbell, K. (2005). A review of what instructional designers do: Questions answered and questions not asked. *Canadian Journal of Learning and Technology*, 31(1), 9-16.
- Klein, J. D., & Kelly, W. Q. (2018). Competencies for instructional designers: A view from employers. *Performance Improvement Quarterly*, 31(3), 225-247.
- Koszalka, T., Russ-Eft, D., & Reiser, R. (2013). *Instructional design competencies: The standards* (4th ed.). Information Age.
- Kurt, S. (2017). *ADDIE model: Instructional design*. Retrieved from <https://educationaltechnology.net/the-addie-model-instructional-design/>
- Larson, M. B., & Lockee, B. B. (2004). Instructional design practice: Career environments, job roles, and a climate of change. *Performance Improvement Quarterly*, 17(1), 22-40.
- Larson, M. B., & Lockee, B. B. (2009). Preparing instructional designers for different career environments: A case study. *Education Technology, Research and Development*, 57(1), 1- 24. <https://doi.org/10.1007/s11423-006-9031-4>
- Larson, R. & Farber, B. (2015). *Elementary statistics: Picturing the world*. Upper Saddle River, NJ: Pearson.
- Leedy, P. & Ormrod, J. (2013). *Practical research: Planning and design* (3rd ed.). Upper Saddle River, NJ: Pearson.
- Merrell, M. D., Drake, L., Lacy, M. J., & Pratt, J. (1996). Reclaiming instructional design. *Educational Technology*, 36(5), 5-7.
- Osguthorpe, R. T., & Osguthorpe, R. D. (2007). Instructional design as a living practice: Toward a conscience of craft. *Educational Technology*, 47(4), 13-23.
- Paquette, G. (2014). Technology-based instructional design: Evolution and major trends. In M.J. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), *Handbook of research on educational communications and technology* (pp. 661-671). Springer.
- Parker, C. K. (2020). *Instructional design perception and practice in United States Army training organizations: A case study* [Doctoral Dissertation, Indiana University]. IUScholarWorks. <http://hdl.handle.net/2022/25601>
- Parker, C.K., & Momeny, L.S. (2020). COVID-19 uncovers differences in resident and virtual learning environment (VLE) instructional approaches. *The DL Star*, 31, 11-12. Retrieved from <https://tadlp.tradoc.army.mil/newsletter.html>
- Parrish, P. E. (2009). Aesthetic principles for instructional design. *Educational Technology Research and Development*, 57(4), 511-528. <https://doi.org/10/1007/s11423-007-9060-7>
- Patel, L. (2010). Instructional systems design in an on-demand world. *TD Magazine*, 64(12), 42-44. Retrieved from <https://www.td.org/magazines/td-magazine/instructional-systems-design-in-an-on-demand-world>
- Raynis, M. (2018). Analysis of instructional design job announcements (2016). *Current Issues in Emerging eLearning*, 4(1), 166-223.
- Reiser, R.A. (2001). A history of instructional design and technology: Part II: A history of instructional design. *Educational Technology Research and Development*, 49(2), 57-67.
- Reiser, R. A., & Dempsey, J. V. (2007). *Trends and issues in instructional design* (2nd ed.). Pearson Education.
- Richey, R. C., Fields, D. C., & Foxon, M. (2001). *Instructional design competencies: The standards* (3rd ed.). ERIC Clearinghouse on Information and Technology.
- Rowland, G. (1992). What do instructional designers actually do? An initial investigation of expert practice. *Performance Improvement Quarterly*, 5(2), 65-86.
- Rowland, G. (1993). Designing and instructional design. *Educational Technology Research and Development*, 41(1), 79-91.
- Schunk, D.H. (2012). *Learning theories: An educational perspective* (6th ed.). Allyn & Bacon.
- Schwier, R. A., Campbell, K., & Kenny, R. (2004). Instructional designers' observations about identity, communities of practice and change agency. *Australasian Journal of Educational Technology*, 20(1), 69-100. Retrieved from <http://www.ascilite.org.au/ajet/ajet20/schwier.html>
- Siemens, G. (2002). *Instructional design in elearning*. Retrieved from <http://www.elearnspace.org/Articles/InstructionalDesign.htm>
- Smith, P. L., & Ragan, T. J. (2005). *Instructional Design* (3rd ed.). John Wiley & Sons.
- Tatar, D. (2007). The design tensions framework. *Human-Computer Interaction*, 22, 413-451.
- The Army University (2017). *About the army university*. Retrieved from <https://armyu.army.mil/about>
- Tracey, M. W., & Boling, E. (2014). Preparing instructional designers: Traditional emerging perspectives. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), *Handbook of Research on Educational Communications and Technology* (pp. 653-669). Springer.

- Tracey, M. W., & Hutchinson, A. (2013). Developing designer identity through reflection. *Educational Technology*, 53(3), 28-32.
- Townsend, S. J. (2018). *TRADOC: Designing and building the future Army*. [PowerPoint slides]. Retrieved from <http://www.tradoc.army.mil>
- U.S. Department of the Army. (2017a). *Army learning army educational processes: TRADOC pamphlet 350-70-7*. Retrieved from <http://adminpubs.tradoc.army.mil>
- U.S. Department of the Army. (2017b). *Army learning policy and systems: TRADOC regulation 350-70*. Retrieved from <http://adminpubs.tradoc.army.mil>
- U.S. Department of the Army. (2019). *The Army People Strategy*: Army University. Retrieved from https://www.army.mil/e2/downloads/rv7/the_army_people_strategy_2019_10_11_signed_final.pdf
- U.S. Department of the Army. (2020a). *U.S. Army in Multi-Domain Operations 2028: TRADOC Regulation 525-3-1*. Retrieved from <https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf>
- U.S. Department of the Army. (2020b). *U.S. Army Training Concept 2035: Training the Multi-Domain operation ready force*. Retrieved from <https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf>
- U.S. Department of the Army. (2021). *Education Modernization Strategy & Implementation Plan 2028*. Army University. Retrieved from https://www.army.mil/e2/downloads/rv7/2019_army_modernization_strategy_final.pdf
- Walcutt, J. J. (2019). Cognitive Weaponry: Optimizing the Mind. *Interservice/Industry Training, Simulation, and Education Conference*.
- Walcutt, J. J. & Schatz, S. (Eds.) (2019). *Modernizing Learning: Building the Future Learning Ecosystem*. Washington, D. C.: Government Publishing Office. License: Creative Commons Attribution CC by 4.0IGO
- Williams, D. D., South, J. B., Yanchar, S. C., Wilson, B. G., & Allen, S. (2011). How do instructional designers evaluate? A qualitative study of evaluation in practice. *Educational Technology Research and Development*, 59(6), 885-907. <https://doi.org.10.1007/s11423-011-9211-8>
- WorldAtlas (2020). *The World's Largest Employers*. Retrieved from <https://www.worldatlas.com/articles/the-world-s-largest-employers.html>
- Yin, R. K. (2017). *Case Study Research and Applications: Design and Methods* (6th ed.). Sage.