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Chapter 09: Messaging for Performance - Instructional Message Design in Human Performance Technology

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Instructional Message Design:
Theory, Research, and Practice
(Volume 2)

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Key Points:

- Human performance technology (HPT) utilizes systematic methods to close systemic performance gaps
- Performance improvement is the application of instructional and non-instructional interventions.
- Established principles for instructional message design can be applied to instructional interventions within HPT

Abstract

Human performance technology (HPT) is the practice of applying systematic models and methods to uncover the causes of systemic performance issues, particularly within organizations. HPT seeks to improve human performance outcomes by placing an emphasis on the investigation of causal factors outside of training and education deficiencies; only looking for those causes after all factors outside of the individual have been exhausted. In these instances, instructional interventions are chosen to close the identified performance gap and improve performance. This chapter defines HPT as a practice and provides the professional foundation of prominent models and methods used to improve performance. In its application, HPT then uses interventions that are both instructional and non-instructional to achieve the desired performance outcome. The chapter then culminates in an examination of various examples of

instructional messaging practices as they are applied to achieving human performance outcomes. The chapter concludes with a discussion of message design practices organizations can apply to help them navigate the difficulties associated with performance change.

"Efficiency is doing better what is already being done."
-Peter Drucker

Introduction

Any individual, organization, team, business, or military who has ever endeavored to improve their ability to accomplish their goals has conducted performance improvement. In all of these cases the entity formulates an idea of some desired future state, recognizes its current state, and defines the difference between the "Is" and the "Should" (Rummler & Brache, 2013). One might look at performance improvement as merely the actions taken to improve, but actions taken without first defining a destination results, at best, in aimless wandering, and, at worst, in squandered resources or lost lives. Performance improvement is a process of identifying need and cause as well as the subsequent definition of current and future state. Only after these have been identified can the mechanism of transit from current to future state – the intervention – be developed and implemented. Human Performance Technology (HPT) formalizes this process through systematic approaches to clearly answer the essential questions of performance, then leverages multidisciplinary tools of intervention to close performance gaps.

What is HPT?

Definitions of HPT abound. Kang and Molenda (2018) highlight a history of 31 published definitions, but the International Society of Performance Improvement (ISPI) recognizes HPT as a "systematic combination of several fundamental subprocesses [that]…determine need…determine causes…design solutions…ensure solution's conformity and feasibility, [and]…evaluate results and

impact…" (as cited in Kang & Molenda, 2018, pp. 201). Across the numerous definitions of HPT, essential themes remain consistent. Where human performance improvement is the changing of behavior, HPT is the professional practice – the technology – of applying scientific principles to engineer that change in behavior (Gilbert, 2007). Chyung (2008) provides six essential characteristics of HPT.

1. Lawful - Human performance is lawful and can be examined through interdisciplinary methodologies.
2. Observable - Empirically supported through scientific observation.
3. Results Oriented – Change is measurable and enhances value.
4. Reactive and Proactive – Employed to eliminate barriers (reactive), change conditions that may create barriers (proactive), or improve current performance.
5. Systematic and Systemic – Applies proven methodologies (HPT models) while recognizing the systemic (layers of systems) nature of individuals and organizations.
6. Flexible – Interventions may be instructional or non-instructional based upon the need, cause, and goal.

Why HPT?

HPT is an applied field. That is, it is actuated through practice of the models and frameworks developed by academia and professional organizations like ISPI. In its application, HPT systematically improves organizational productivity through the design and development of "interventions that are results-oriented, comprehensive, and systemic" (Pershing, 2006, Ch. 2 A Definition of HPT). This focus on results represents one of many strengths of HPT. Whereas the theoretical fields merely admire problems, HPT engages them head-on. Tosti's (2010) four principles help define those attributes of HPT that set it apart from other approaches.

Tosti's Four Principles

Results

Organizational development (OD) is another field that shares applicability with HPT but where OD starts with an analysis of behavior and then scaffolds up from there, HPT begins with the desired outcome and works regressively to determine systemic causation, constructing an intervention that achieves the desired outcome. In this sense, HPT is free to investigate performance factors outside of the individual.

Systems

HPT views organizations and the individuals that comprise those organizations as systems. Whereas OD focuses heavily on internal factors of the individual, the systems perspective of HPT accounts for external factors that may influence the individual's performance like their environment, resources, direction, and feedback. Change that occurs above the systemic level will likely only ever be superficial because it does not address the root causation of the poor performance.

Value

The effective application of HPT creates value for the organization. Value can be measured in a number of ways (traditionally in terms of return on investment), but adding value is ultimately about helping an organization achieve its strategic goals. Astute HPT practitioners of HPT may conduct their front-end analysis and identify that a problem or opportunity does indeed exist, but for any number of factors the best action would be to take no action. A level of discernment should be applied that determines if the prospective intervention would ultimately serve to help the organization achieve its objectives, or would it be intervening merely for the sake of intervening? Gilbert calls this "worthy performance," a concept to be addressed later in this chapter.

Partnerships

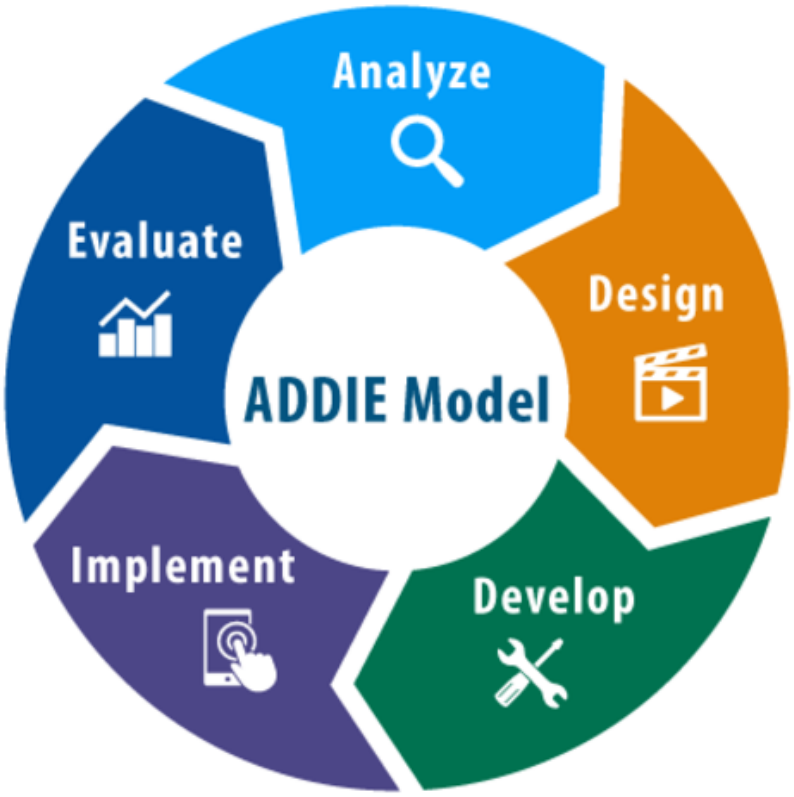
HPT is consultative. A client engages with a consultant about a perceived performance gap, and the two entities work together to uncover the cause and develop a solution. It is inherently a

collaborative endeavor. Successful partnerships between client and consultant exhibit openness, respect, shared power, and a commitment to support.

How HPT is Applied

Models have a unifying effect that helps "gain consensus regarding performance improvement" (Dessinger, Moseley, & Van Tiem, 2012, pp.10). Models organize theoretically supported thought into actionable processes or thought structures. Any conversation of HPT would be wholly incomplete without at least acknowledging the ADDIE process, and while debate exists as to whether ADDIE is a formal model or merely the aggregate of best practices (Molenda, 2015). Most established HPT and instructional design models follow a very similar structure (see Figure 1).

Figure 1
Classic ADDIE



Note. The classic ADDIE model describes the process from idea creation to idea deployment and support and can be applied in many, many HPT environments to guide design.
(modified from https://www.edapp.com/blog/the-addie-model/)

As ADDIE suggests, any HPT intervention must first understand the problem or opportunity. Different models may substitute the word, but a theme of analysis is consistent. Analysis is arguably the most important step in the process because it is where the systems perspective is applied. A thorough analysis helps uncover the systemic issues that will be corrected throughout the rest of the process. A number of notable models focus on this first phase.

Analysis Models

Behavioral Engineering Model (BEM)

In a departure from Skinner's behaviorist theories that approached training and education through application of stimulus and reward for desired behavior, Gilbert (2007) distinguishes accomplishment from behavior to define Worthy Performance. Rather than focusing on the behavior itself as the cause, the BEM invites practitioners to first examine the environment of the individual and the possible influence it may have on the individual's performance (see Figure 2). After deconstructing any environmental factors, the BEM examines the individual. Even here, the model examines those elements of the individual concerned with the resources and faculties of that individual. Essentially, the model attempts to identify any possible causal factors affecting behavior outside of insufficient training. To Tosti's characteristic of Value, the BEM's approach is essential because instructional interventions are likely the most costly and time consuming option an organization can take to improve performance.

Figure 2
The Behavioral Engineering Model

	Information	***Instrumentation***	***Motivation***
Environment	Data	Resources	Incentives
Individual	Knowledge	Capacity	Motives

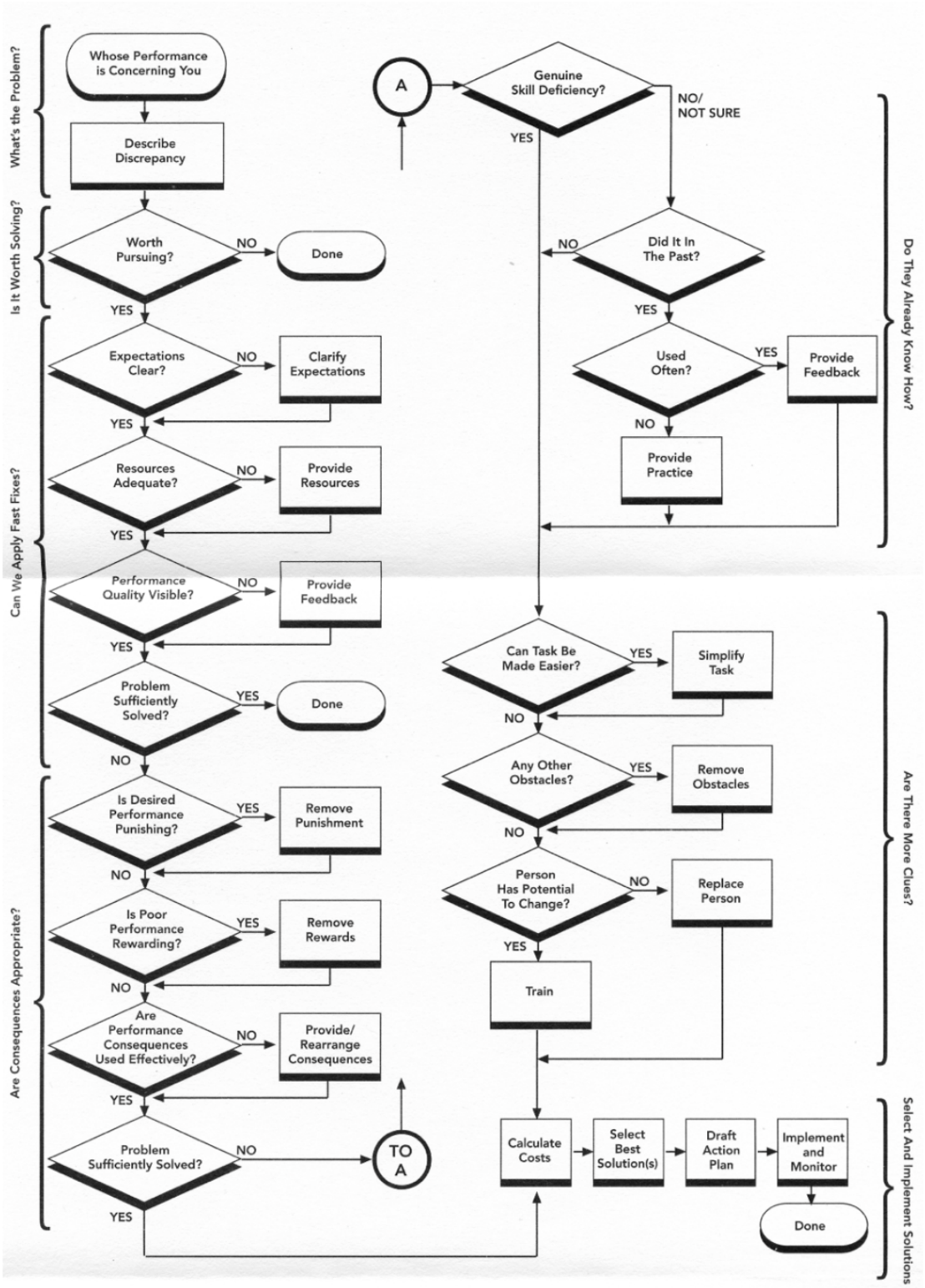
Note. The Behavioral Engineer Model, performance issues are caused by gaps between goals and existing status. Change can be achieved by analyzing data, resource, and incentives gaps in the organization's environment, and knowledge, capacity, and motive gaps in the individuals in the organization, (modified from Gilbert, 2007)

7 Step Analysis

Mager and Pipe's (1997) comprehensive flow chart forms a systematically executable analysis process that uncovers performance causation, and before discussing solutions, asks multiple questions that try to uncover easy solutions before instructional interventions are introduced (see Figure 3).

Figure 3

The Performance Analysis Flow Diagram



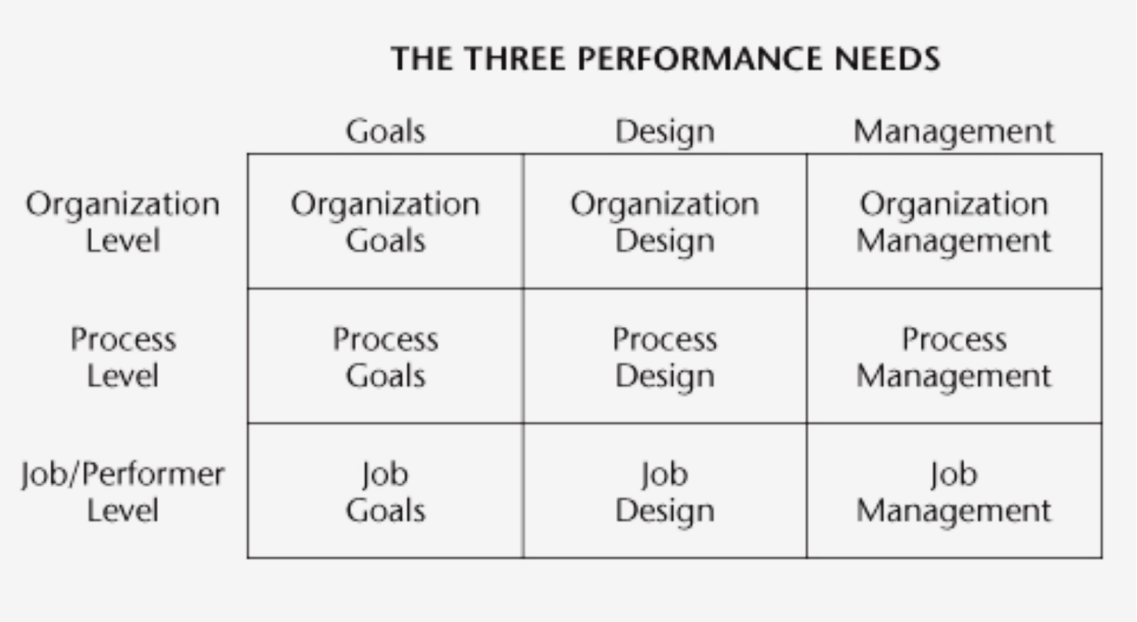
Note. (modified from Mager and Pipe, 1997)

9 Variable Framework

Like Gilbert, Mager, and Pipe, Rummler and Brache's (2013) nine performance variables form a framework for analysis of the organization as a system. The model aims to ensure that both vertical and horizontal alignment occur throughout the organization. Job goals, for example, should be aligned to accomplish organizational goals. Similarly, job management must be structured in such a way as to support the accomplishment of job goals (see Figure 4).

Figure 4

Three Levels of Performance

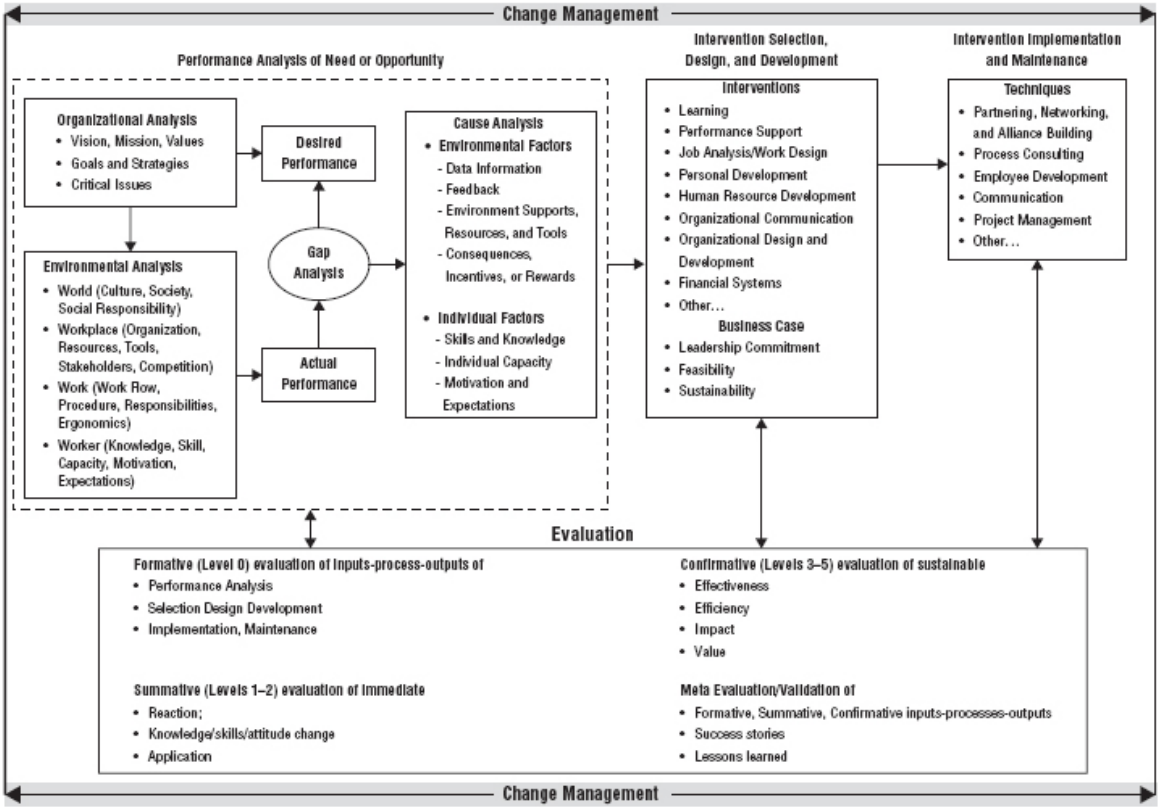


Note. This model describes three layers in a system, the organization layer where strategy is created, the process level where that strategy is turned into workflows, and the performer level where staff implement the workflow (modified from Rummler and Brache, 2013).

ISPI Model for HPT

Building from ADDIE, Van Tiem, Moseley, and Dessinger's (2012) Performance Improvement/HPT Model emphasizes focus on front-end analysis through gap and cause analysis and introduces it as both a linear and iterative approach (see Figure 5). Whereas ADDIE is most basically applied in a linear fashion – from A to E and then back to A again – the 2012 ISPI (International Society for Performance Improvement) model incorporates the evaluation phase throughout the rest of the process phases (Dessinger et al., 2012).

Figure 5
The ISPI Model for HPT



Note. The ISP HPT model describes a systemic phased approach from needs analysis to solution evaluation (modified from Van Tiem et al., 2012).

Interventions – HPT in Action

No matter the model or process you follow, at some point performance improvement requires action. As has been previously shown, sometimes the best action is to take no action at all. In a more practical sense, however, the practice of performance improvement can and will result in direct intervention to remedy the gap identified during the analysis phase.

Non-instructional Interventions

In some cases, instruction is neither practical nor would it be effective. The aforementioned models present systematic methods of analysis that emphasize alignment at various levels of a system; organizations being systems. Once a performance gap has been identified, the most appropriate intervention may simply recognize that there are not enough employees to perform a task rather than a need to better train existing employees. Mager and Pipe's (1997) performance analysis model seeks a "quick fix" in Step 3 by asking if the employees are properly equipped through physical and cognitive resources to perform the task. Gilbert's Worthy Performance balances the cost of improving the behavior against the negative effects of a behavior (Kaufman, 2019). Finally, Rummler and Brach's (2013) nine variable framework seeks to uncover systemic causes other than training prior to following the path towards a training intervention.

Instructional Interventions

It may be said that all instruction is a performance intervention, but not all performance interventions take the form of instruction. Sometimes, training and education is the most practical answer to performance gaps. The intervention then becomes instructional. For new hires, the obvious performance gap exists between their unfamiliarity with the new job and the requirements of that job. In academic settings, the performance gap is perpetual. Thus, the intervention is continual as children progress through their education. Instructional interventions are but one tool of HPT to achieve the performance goal, but the design of instructional interventions requires a certain level of instructional design expertise. Whereas

non-instructional interventions could be something as simple as identifying the lack of defined policy on a given subject, effective instructional interventions require design that is informed by knowledge of learning theory and may be aided by technical knowledge like graphic design.

Intervention example: Compliance at Apple, Inc.

Corporate ethics and ethical compliance are relatively new concepts within the business landscape (Waugh, 2019). Recent social change is creating both legal and ethical requirements for diversity, equity, and inclusion (DEI) initiatives to be added to the more typical compliance programs of sexual harassment, equal opportunity, and ethical corporate behavior. Any new enforceable policy inherently creates a performance gap on its effective date. Organizational members should receive training on these issues to make them aware of official policy, train them on reporting procedures, and raise awareness of available resources for any aggrieved party.

Apple Inc. has developed a robust compliance program which they make available to the public through their website. An entire page is dedicated to highlight the training that Apple employees receive on compliance issues, see Figure 6 (Apple, 2021a).

Figure 6
Business ethics at Apple

Note. (modified from Apple, 2021a)

But is training enough? When reviewing the parent Ethics and Compliance page (Apple, 2021a) the sections of the page often extoll the benefits of the policy in terms of training that employees receive on the policy. They also note that employees must sign a document acknowledging they have read the policies, see Figure 7 (Apple, 2021b). Does simply providing the training guarantee a development or change in behavior that ensures employees adopt to ethical approaches of Apple Inc.?

Figure 7
Apple and business ethics compliance

Note. (Modified from Apple, 2021b)

A slightly deeper examination reveals evidence of non-instructional approaches at work. The compliance policies themselves are non-instructional interventions. Looking back to Rummler and Brach's (2013) nine variable framework, establishing policy at the organization level is the first step in ensuring alignment can be created at the process and performer levels. The Ethics and Compliance parent page describes Apple's philosophy of compliance and their aspirational goal for business ethics with a quote from CEO, Tim Cook. Training is but one component of Apple's overall compliance program. Compliance, by Apple's description, is integrated throughout its entire organization and they conduct internal, and independent external assessments to ensure effectiveness of their program (Apple, 2021a).

Instructional Messaging

When instructional interventions are selected, appropriate message design delivers the intended learning outcome to the learner to create a change in behavior which, in turn, addresses the performance gap identified during the analysis phase. How this instructional goal is achieved is a matter of instructional messaging. Messaging can be thought of as both a vehicle (the medium through which the instructional content is delivered) and the information inside of that vehicle (the instructional content). While the instructional content is of pre-eminent importance, the vehicle through which it is delivered (traditional instruction, infographic job aid, asynchronous self-paced online instruction, public service announcement advertisements) also plays a significant role in message design.

Instructional message design as a distinct field of study seems to have fallen out of favor amidst the transition from instruction centered to learner centered design that took place during the 1990's (Bishop, 2013). While limited research or commentary exists beyond Fleming and Levie's (1993) seminal work, elements of the field can

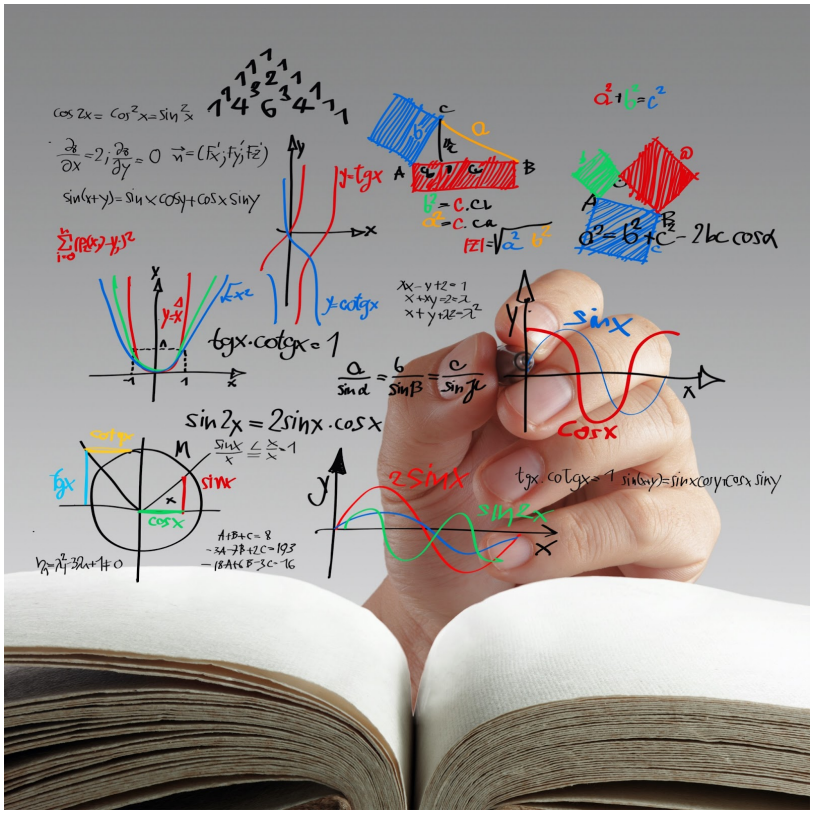
still be seen in research on multimedia learning theory and cognitive load theory (Bishop, 2013). The unifying principle of all these fields is to develop and appropriately package an instructional message such that it suits the needs of the individual learner.

Instructional Messaging in HPT

Once an instructional intervention is selected, its design can take a number of different forms. Below are some examples of how instructional message design principles are incorporated into various instructional interventions.

Formal Instruction

The most obvious example of an instructional intervention is traditional training or education. As stated earlier, childhood education is itself an instructional intervention. In business and industry such interventions take the shape of classroom instruction or on-the-job training.



Formal instruction as an HPT intervention
can be very effective

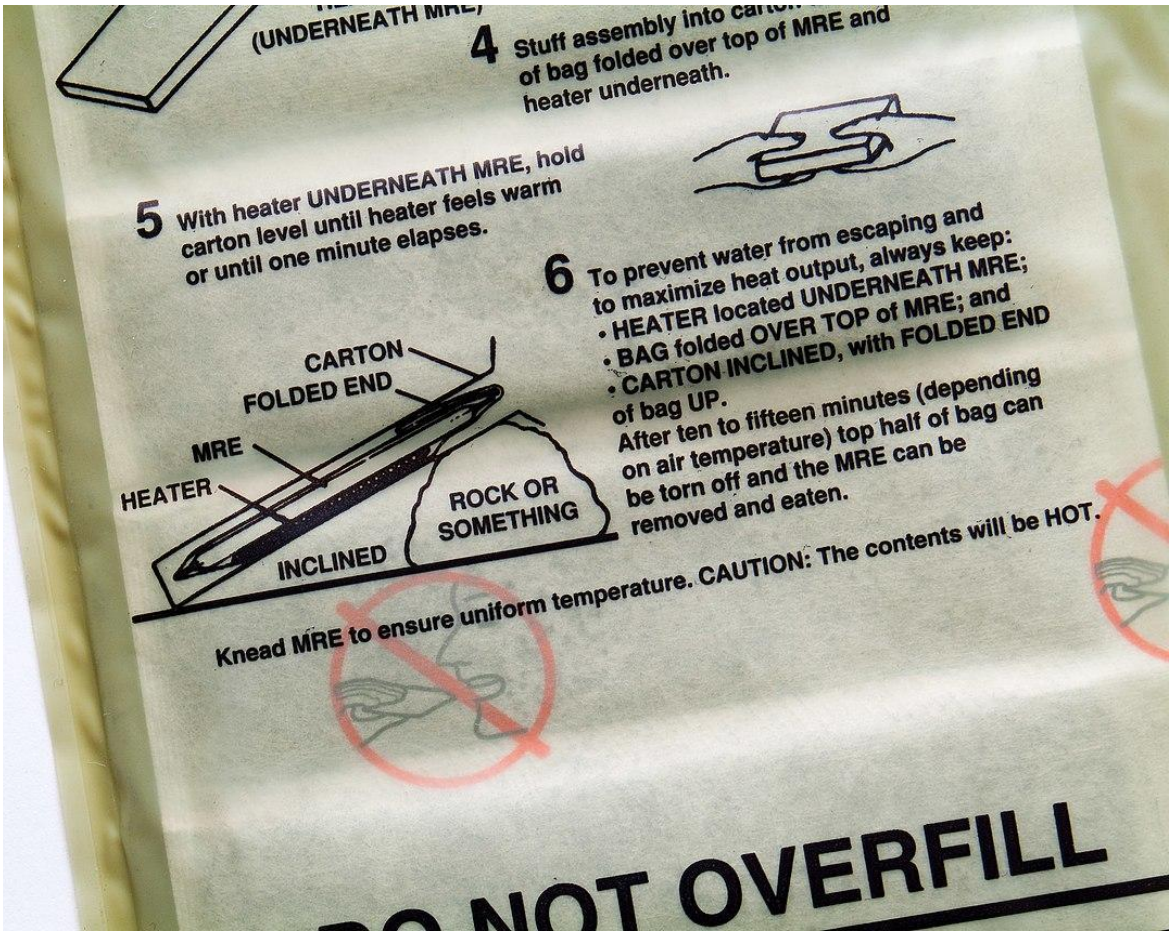
In either case, message design examines the context of the learner, their environment, and the performance gap to be addressed. Providing instruction on advanced mathematics, for example, does not lend itself well to a short, but entertaining video explanation and then examination. Such concepts require detailed explanation with extensive practice. Conversely, a new safety initiative at a manufacturing plant, targeted at an audience who has likely received dozens of similar briefs, would be well served to take a fresh and humorous approach that gains and maintains the learners' attention.

Safety training is a critical instructional intervention

Job Aids

Job aids exist to simplify processes through design that is intended for continual use by an individual (Belland, 2013). They are useful tools to quickly inform an individual on a simple process or procedure. While it is possible to have a text-only job aid, such an approach negates the simplification principle of job aids. Common examples of job aids include aircraft safety cards. Message designers make the images clear and intuitive enough to explain to the learner how to perform the task even without the use of text. Not including text recognizes the learner audience which is composed of individuals from a multitude of backgrounds and languages. Another example is the iconic instruction card found inside military Meals Ready to Eat (MREs). The flameless heater includes a mix of graphics and text that can be easily deciphered by U.S. military servicemembers or international disaster recipients. Note the importance of placing the activated heater on an incline against a “rock or something.” (see Figure 8).

Figure 8
The Importance of Job Aids



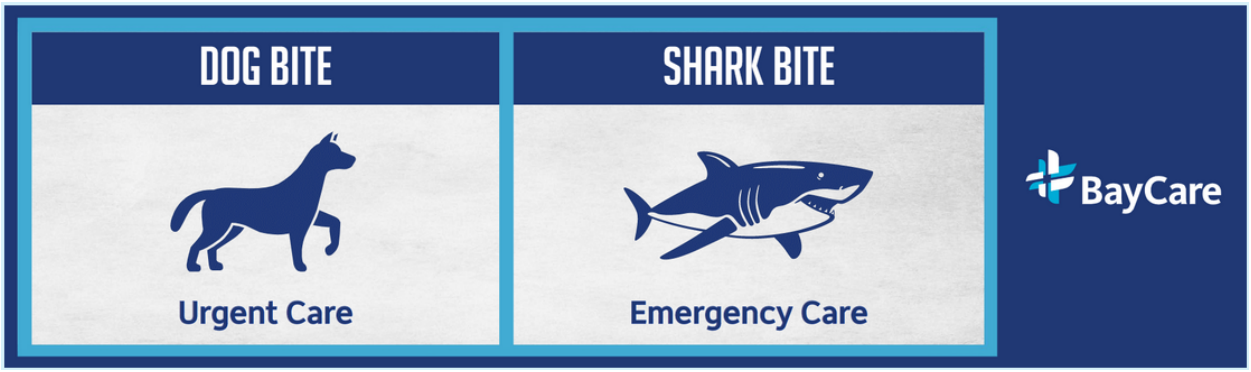
Note. A job aid may only be needed once, but for that one time it is a crucial help to our learner (modified from https://en.wikipedia.org/wiki/Flameless_ration_heater#/media/File:Flameless_Ration_Heater_0106.jpg)

Decision-making tools

A Tampa Bay hospital network identified a performance gap with their patients not understanding the difference between emergency care and urgent care. This lack of understanding caused emergency rooms to expend specialized resources on otherwise routine care. Urgent care facilities exist specifically to address acute

but non-life threatening conditions. In order to educate the public on the different scenarios that would require emergency versus urgent care, BayCare created a number of billboard advertisements to be displayed throughout their region (Baycare, 2021). The instructional message is clear and its humor gains and maintains the audience's attention (see Figure 9). It has the added effect of creating conversation beyond the learner's passing sighting of the billboard as they joke about it with their friends. Such conversation further reinforces the learning goal behind the billboard.

Figure 9
Simple, Effective Instructional Message Design



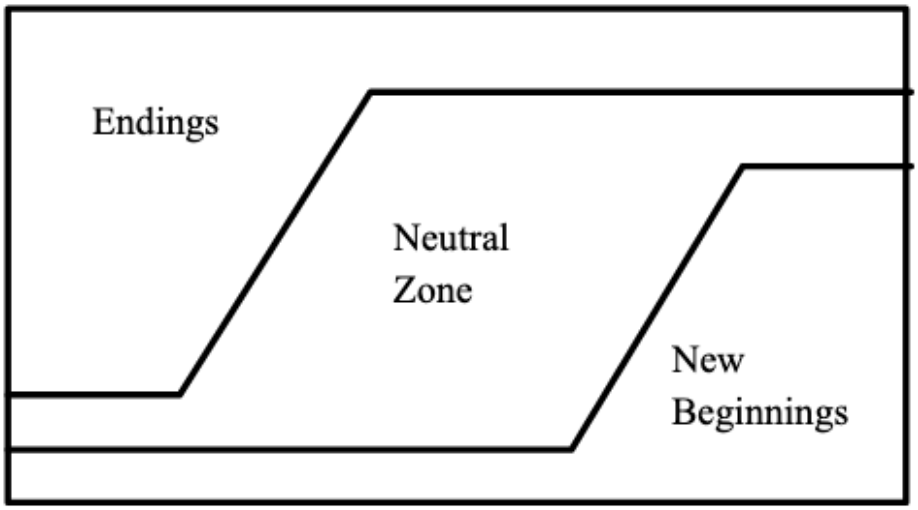
Note. (modified from https://baycare.org/services/emergency-care/er-vs-urgent-care)

Messaging for Change

Interventions whether instructional or non-instructional are implemented to produce a change in performance. Producing that change in performance is a cornerstone of HPT, but change is difficult and requires careful management. As Lencioni (2021) notes, "We don't hate change, we just struggle with the transition." Messaging forms a critical role in managing the change brought on through instructional and non-instructional interventions. William Bridges, a prominent author on corporate transition, assembled a framework for change management that can serve as a useful tool for HPT practitioners to help their clients more effectively integrate the change

brought through the designed interventions and help their organizations navigate the transition. Lencioni (2021) presents a useful summary of Bridges' three-phased model (see Figure 10).

Figure 10
Bridge's Three-Phase Change Model



Note. Humans do not fear change they fear loss, this model describes the transition between ending a current status and transitioning to a new organizational state.
(Bridges' transition model as presented by Lencioni: https://de7pikzj4hvyk.cloudfront.net/wp-content/uploads/2021/05/04155840/Transition-Management.pdf)

Endings and Loss. Change is the end of one process, mode, or state of being, and the beginning of another. Endings are about individuals experiencing and reacting to loss in one of seven categories: loss of turf, meaning/purpose, attachments, control, structure, identity, or future. When an intervention determines that a new policy should be enacted or a new training paradigm adopted, individuals will undoubtedly experience some sense of loss over "the way things used to be." Accepting this loss is a matter of both personal choice by the individual and guidance from their leaders. Organizational leadership and change agents need to understand that successful change requires helping those who are affected by change

to navigate the transition. Such assistance is done through effective messaging. In this sense, messaging is less a matter of font selection or multi-media platform and more focused on the message content; developing messaging that apprises team members of impending change. At a larger scale this may include flyers, mass-emails, or official statements from leadership announcing the change.

Navigating the Neutral Zone. Once change has been implemented individuals may find themselves in a zone of neutrality where they have to let go of the previous process or knowledge structure but have yet to fully adopt the change. Allowing an organization or its individuals to remain in this state prevents the full realization of the benefits brought through the intended intervention. When individuals find themselves in the neutral zone, messaging from leadership should be one of care and concern. Effective messaging demonstrates compassion for the specific type of loss experienced within the organization. It also reminds the organization of the intervention's purpose and what the future will look like once change has been implemented and adopted. Further, messaging in the neutral zone should define the path to the outcome and each individual's role in bringing about this change. At the macro level of the organization, effective messaging may take the form of imagery of the intended outcome. For example, moving to an upgraded facility represents a significant change for someone who may have worked in the same building for 20 years. They will undoubtedly experience loss of attachments and structure as their personal space and routines associated with the older facility fade away. Prominently displaying pictures or a model of the new building helps individuals like this understand the benefits of the change and provides an opportunity to see themselves in the future state.

Conclusion

HPT is the systematic application of performance improvement science that emphasizes a systems view of individuals and organizations. Through the conduct of a cause and gap analysis, HPT seeks to uncover the systemic attributes of performance problems and opportunities. Remedies for these problems are applied through

performance interventions that can be either instructional or non-instructional in nature. HPT practitioners are different from instructional designers in that they are particularly specialized in uncovering and correcting performance issues caused by factors other than insufficient training or knowledge. In some cases, however, the most practical means of achieving the desired performance outcome is through an instructional intervention. Effectively designing instructional messages for instructional interventions is the practice of adroitly packaging the instructional content into the most appropriate vehicle to deliver that content to the specific learning audience within the context of their learning environment. This practice is guided by current research in audio/visual and multimedia learning theory and is contextualized within the broader fields of pedagogical and andragogical research.

Ultimately, the goal of instructional message design is to tailor instructional messaging in such a way that most effectively and most efficiently achieves the desired performance outcome. It should be noted that instructional message design is not contained to the instructional message alone. HPT practitioners must design interventions that are accompanied by tools that aid the organization in the successful implementation of the intervention. The practice of change management incorporates message design that assists learners in managing the difficulties of a transition by reminding them of the intervention's purpose and giving them a vision of the future.

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