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Transactional Communication Model

Quick Look

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IJO Quick Look Series

Scope and Intent

The SMA IJO effort assesses the ways in which the Air Force (and by extension the Joint Force) can most effectively consider and integrate information into its activities to influence attitudes and behaviors across the competition-conflict continuum. Whether intentional or unintentional, every action or inaction, communicates a message (i.e., we cannot *not* communicate). Therefore, it is important to include communication as a first-order concern in planning and operations rather than an afterthought. As the Joint Concept for Operating in the Information Environment (JCOIE) recognizes, “The future Joint Force will need to transition to a model that helps it visualize how audiences interpret information to facilitate effective and meaningful communication” (JCOIE, 2018).

The challenge of effectively using and communicating information is one that faces all individuals, groups and organizations. There is a broad body of research across multiple disciplines that addresses the issues faced by the Air Force and Joint Force. This Quick Look series mines that literature and identifies the theories, findings and applications that can provide a foundation for Joint Force efforts to effectively integrate information and influence into its activities across the competition-conflict continuum.

Series Structure

This series of Quick Looks builds out from a central hub; a model that lays out the elements and interactions that comprise an effective transactional communication process, and describes how internal and external influences can distort that process, causing miscommunication and misperception. Building from this, we have identified specific topics that bear most directly on the challenge facing the Joint Forces, and provided a deeper dive into these in a dedicated Quick Look. Figure A provides a visual of that coverage, and also illustrates how, through their connection to the central hub, each, while a stand-alone piece, both informs and is informed by the others.

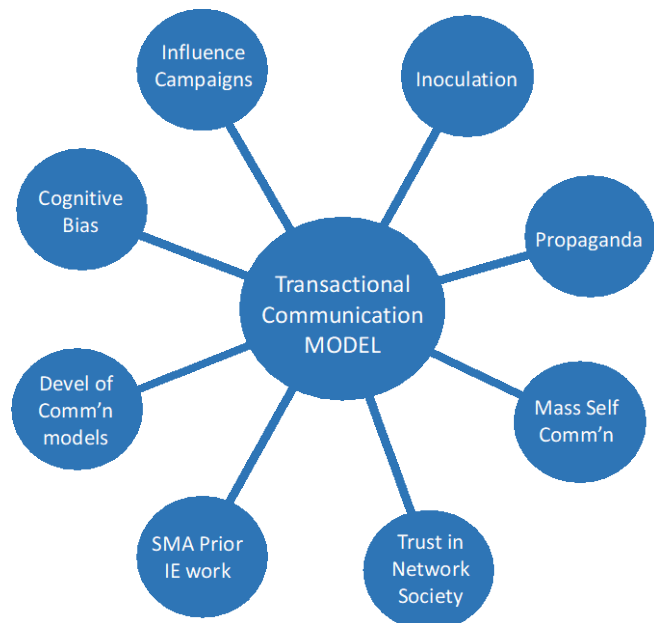


Figure A: Structure of IJO Quick Look Series

Transactional Model of Communication

The single biggest problem in communication is the illusion that it has taken place.

~ George Bernard Shaw

Introduction

This report presents a model for understanding the core communication process, and elaborates on mechanisms to strengthen it. We begin with an overview of the core communication process itself then discuss where and how factors internal and external to the communication process can influence the effectiveness of message transmission and interpretation. As the theoretical foundations of the model are covered in a companion IJJO Quick Look, “The Development of Communication Models,” in this report, we have kept the theoretical section to brief definitions of the key terms.

What is an Effective Communication Process?

Before discussing the components of effective communication, we need to delineate the term “effective.” In the context of USG efforts to inform, influence, and/or persuade (IIP), effective communication, must 1) be *received* by the intended audience within any relevant time parameters and 2) be *interpreted* as the sender intended. Thus, even disinformation (misleading or false information) constitutes effective communication if the intended audience interprets the message as intended. Over time, effective communication *informs* the actors involved, creating shared meaning. An effective communication process underlies our ability to *influence and persuade* another’s attitudes and behaviors; this either strengthens and maintains favorable behaviors and attitudes or changes unfavorable ones. The establishment of a line of communication lays the groundwork for effective influence campaigns. A separate Quick Look examines six characteristics of influence

campaigns, of which the communication process is a key part.¹

Core Communication Process

In its most generic form, communication can be modeled as a transactional and iterative process

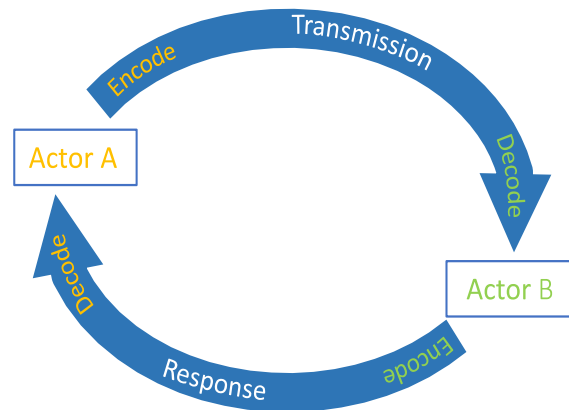


Figure 1: Core Communication Process

where actors are both senders and receivers of information (Figure 1), the exchange of which creates shared meaning. An actor, A, encodes a

¹ For a full discussion of the characteristics of effective influence and communication campaigns see companion

IJJO Quick Look, “Influencing Public Behavior: Takeaways from Public Communication Scholarship.”

message, which is then transmitted through one or more channels to another actor, B, who decodes that message and sends a response that is in turn decoded by A.

Encoding is the process of turning thoughts into communication (words or actions), and *decoding* is the process of turning communication into thoughts (Henderson, 2004; Bankovic, 2013; Grimes & Roch, 2018).

In these processes, the actors are not solely “senders” or “receivers,” but “communicators” (Barnlund, 2008). For example, when bargaining for a car, you may send a verbal message about how much you are willing to pay while also simultaneously receiving a non-verbal message from the salesperson about whether they are satisfied with your offer.

Transmission and response involve the distribution of an encoded message through one or more channels. In this context, the term channel refers to the system or method (e.g., radio frequency, newspaper, social media platform) through which a message is sent. An actor’s choice of channel can affect the speed of transmission, as well as the likelihood that the message will be transmitted without distortion. Choice of channel can also determine whether a message is received at all. If the intended audience for a message cannot, or does not, access the chosen channel, the message will not be received, regardless of how effective the transmission process is. For example, attempts to reach audiences through social media platforms assume that the audience is attentive to the specific platform chosen and that audience

members have access to the internet. In the current IE, channels of communication are increasingly diverse and fragmented, making the identification of the most effective channel increasingly challenging.²

As with most models of human behavior, the core communication process can be modeled fairly simply if we isolate it from the influences of individual-level factors (i.e., actors’ perception) and environmental factors, viz., a modeled operating environment (OE). However, the reality of how we communicate to effectively inform, influence, and persuade is profoundly influenced by the information environment (IE) and the wider OE. Moreover, our understanding of the IE and OE is in turn influenced by our own perceptions. The core communication process thus assumes that communication is both ongoing and continuously changing. These changes are a function of the communication process itself and reflect the continually evolving environment in which that communication is taking place.

Internal influences on Core Communication Process

Every individual’s response to his or her environment is mediated through that person’s unique physiology, cognition, and experiences. As such, each one of us lives in a reality that is, to varying degrees, unique. In most instances, we share common understandings with others regarding the conceptualization of what event, person, or object we are mutually experiencing (e.g., a four-legged furry creature with a wagging tail and expressive eyebrows = dog). However,

² For further discussion, see companion IJIO Quick Looks, “Understanding Mass Self Communication” and “Communicative Power in a Globalized “Network Society.”

we can differ on the characteristics attributed to an object—that is, our perception and evaluation of an event, person, or object can vary dramatically depending on experiences and personal exposure (e.g., a dog seen as “man’s best friend” vs. “dangerous animal”). In foreign policy, disparities in how actors perceive events or other actors can have profound implications. Disparities in perception can create misunderstanding and miscalculations that lead to conflict escalation or a failure to recognize and respond adequately to threats.

Actor Perceptions

The Joint Concept for Operations in the Information Environment (JCOIE) employs the notion of worldview to help explain why an actor’s perceptions of a situation or entity can vary, thus accounting for this critical factor for understanding the IE. The JCOIE defines worldview as a:

A mental model of reality—a framework of ideas and attitudes. The beliefs, values, and behaviors of a culture stem directly from its worldview. An observer’s worldview frames the informational aspects of physical and socio-cultural activities to assign meaning. (JCOIE, 2018)

The idea of worldview is closely related to the more general concept of schema used across the social sciences. A schema is a pattern of thought or behavior that organizes categories of information and the relationships among them (DiMaggio, 1997). Schemas have been incorporated in various ways in communication models,³ primarily as an influence on message

encoding and decoding (Schramm, 1954; Fiske, 1990; van Ruler, 2018). Given their importance in organizing interpretation, thought, and behavior, schemas play a key role in understanding how communication can go awry (i.e., how perceptual interpretations of the IE become confused between parties). It is important to remember, however, that effective communication does not imply agreement between actors. Furthermore, while effective communication enables actors to clearly signal their intentions at multiple stages of escalation, it cannot prevent conflict if one or more actors perceive their interests are best protected or advanced through conflict.

Schemas

Individuals employ schemas to structure their knowledge of the environment into recognizable patterns over time as small units of information combine to make more meaningful complexes of information (Jones, 2016). Schemas thus influence people’s interpretations and help them direct their attention, structure their memories, and, consequently, make sense of events (Brewer & Nakamura, 1984; Hastie, 1981; Taylor & Crocker, 1981). These stories we tell ourselves set the expectations for how we believe others are communicating (performing their role). Of particular relevance to the foreign policy context, they also create structured responses for actors in conflict with each other.

Schemas organize knowledge and guide our cognitive processes, including how we make predictions and set expectations for the behaviors of others (DiMaggio, 1997). We accept new information more readily when we can fit it within an existing schema—that is, when we can

³ A more detailed discussion of this literature is provided in an earlier Quick Look, “The Development of Communication Models”.

assimilate that information (Aosved et al., 2009; Di Paolo et al., 2014). The goal of *assimilation* is to reduce uncertainty and the need to change by keeping existing schemas and knowledge intact; the cognitive task becomes simply identifying where to store new information within prior-developed mental categories (Salkind & Rasmussen, 2008). When new information cannot be assimilated into an existing schema, this schema must be altered; or new ones developed through a process known as *accommodation* (Di Paolo et al., 2014; Salkind & Rasmussen, 2008). Accommodation is more resource-consuming than assimilation, as adjusting our existing interpretations is cognitively taxing. To avoid having to incur this cost and effort, the mind may distort or alter new information to make it fit within an existing schema (Salkind & Rasmussen, 2008).

By influencing our cognitive processes in this way, schemas influence attitudes and, ultimately, behavior. In the previously discussed core communication process, schemas influence how actors both encode and decode information (Figure 2).

For example, this is why President Bush's characterization of the war on terror as a "crusade" in a September 2001 speech passed almost unnoticed in the US, yet immediately raised alarm bells in Europe and the Middle East.

Different types of schemas are employed by people to help them navigate their environment, and each of these types contributes to an actor's overall worldview (Baldwin, 1992). Schemas provide default values to objects, people, and events within our environment. We assume these defaults are correct unless and until contrary evidence is found and accepted (Van Dijk et al., 2014). How an individual's schemas are formed and acted upon is the product of

individual circumstance, life experience, and exposure to the external environment (McVee et al., 2016). Schemas are commonly categorized in terms of their referent (object, person, phenomenon).

Object schemas: What an object (animate or inanimate) is and how it works or behaves. We begin building object schemas as children (Piaget, 1936) and continue throughout our lives, increasing the depth and complexity of our schemas as our knowledge and experience expand. Even simple shapes or geometric structures can have profound mental complexities as a consequence of schema.

Self-Schema: A personal image of one's self—what you know about your current self, as well as ideas about your ideal or future self (e.g., Greenwald, 1980; Markus & Worf, 1987).

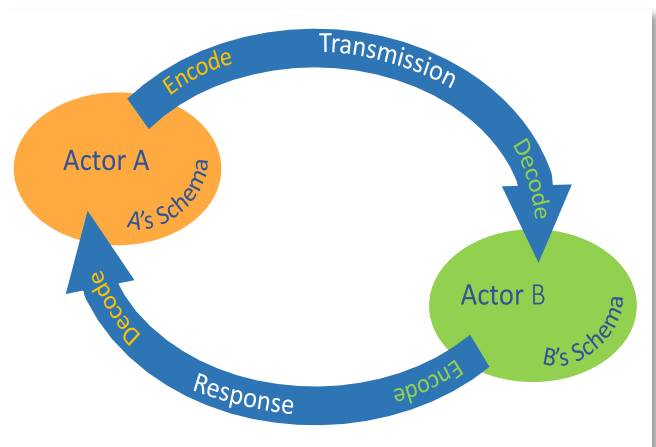


Figure 2: Internal Influences on Communication

Person schemas: The collection of information we conjure when thinking about a specific individual. This can include information about physical appearance, personality, known behaviors, and attitudes.

Social schemas: Internalized representations of the patterns inherent in past social interactions that guide the processing of future social cues

(e.g., expected and appropriate behavior in a work environment). Social schemas can guide how future social cues are processed (Crick & Dodge, 1994).

Event schemas: The patterns of behavior you have learned to follow given a certain sequence of events; in effect, these are standard operating procedures (Zacks and Tversky 2001).

Looking at this list, the connection to the concept of worldview discussed in the JCOIE becomes clear: A worldview can be thought of as a set of schemas. This worldview constitutes a map and guidebook that helps an individual navigate his or her environment and determine the appropriate response to the actors and events he or she encounters.

Schemas and Cognitive Bias⁴

While schemas are critical to our ability to navigate and interpret our environment, they can hardwire biases into our thinking and communication. These cognitive biases are continuously invoked to varying degrees as we process information. They have a multitude of effects on our understanding of the world, and thus the overall effectiveness of our communication. The fixedness or flexibility of preconceptions held about other actors (person schemas), our own view of self (self-schema) as well as of the world and its ordering (social schema; event schema) are all factors that increase the likelihood of bias in message encoding or decoding (Polansky & Rieger, 2020).

Internally Generated Noise

In communication studies and information theory, noise refers to any factor that interferes with the transmission of a message or the decoding of the intended meaning in the mind of the receiver (McCroskey, 2018). As such, noise reduces the effectiveness of communication and increases the likelihood of misperception and miscommunication. Some sources of noise are internal to the communication process. They are created by the communicators themselves, and in many instances are a consequence of actor schemas.

Physical and Psychological Noise

Physiological noise is distraction caused by factors that affect an actor's physiology; altering how they feel and think (e.g., hunger, fatigue, pain, or medication) or conditions that impact how they communicate, such as difficult speech patterns or hearing problems (Wood, 2010). This type of interference can influence how accurately an actor may decode a message, as well as whether he or she receives it at all.

The term psychological noise is used to refer to internal factors that affect how people communicate with and interpret others. These include emotions, mental health pathologies, pre-existing ideas, and preoccupations. For instance, if an actor is preoccupied with a problem, they may be inattentive. Likewise, prejudice and defensive feelings can interfere with effective encoding and decoding of communication (Wood, 2010).

⁴ For a detailed discussion of cognitive bias, see companion IJJO Quick Look, "Cognitive Biases: Causes, Effects, and Implications for Effective Messaging"

Semantic Noise

Semantic noise is created when differences in language, understanding, or terminology exist between communicators (Jones, 2016). Lacking a shared language, or one or more actors needing to speak in their second language, is the clearest example of internally generated semantic noise (McDaniel et al., 2009). However, even between participants who share a common language, use of jargon or unnecessarily technical or complex language will generate noise (Wood, 2010). In either case, semantic noise increases the likelihood that message encoding or decoding will be distorted.

Internal Triggers of Cognitive Bias

Not all forms of cognitive bias stem from the influence of schemas on information processing (encoding and decoding). Physical or psychological noise can contribute to heuristic-based processing⁵ (e.g., rule of thumb), making cognitive biases more likely to occur in either encoding or decoding (e.g., Eagly & Chaiken, 1993; Fiske & Taylor, 1991; Gilbert et al., 1988; Peer & Gamliel, 2012; Petty & Cacioppo, 1986). Distractions, strong emotions, limited cognitive resources, mental and physical fatigue are all factors that can increase the likelihood of bias in message encoding or decoding (Polansky & Rieger, 2020).

How Internal Factors Influence Communication Effectiveness

- Failure to account for internal influences on the communication process can increase the likelihood of unintentional errors in encoding and decoding, leading to misperception and misinterpretation of intent.
- Knowledge of worldviews makes it possible to craft messages that are more likely to be interpreted as intended, including when the intention is to mislead.
- Knowledge of worldview helps craft messages tailored to the salient issues and values of the targeted actor, thus making the messages more compelling.
- Failure to account for worldview can impact how receivable and believable message transmissions are on certain channels.
- As the IE becomes more complex, tense, and uncertain, conflict-oriented cognitive biases emerge, distorting the encoding and decoding processes. Globalization has accelerated access to information and ability to transmit ideas triggering the explosive growth of complexity of the IE.
- Beyond language and terminology, effective communication must account for schemas, particularly conflict-oriented biases.

⁵ Heuristics are a problem-solving method that uses shortcuts to produce good-enough solutions given a limited time frame or deadline. For more discussion of cognitive bias and heuristic-based processing, see companion IJJO Quick

Look, “Cognitive Biases: Causes, Effects, and Implications for Effective Messaging”

External Influences on the Core Communication Process

Communication does not occur in a vacuum, and as both theorists and DOD doctrine acknowledge, communication is both ubiquitous and environmentally embedded (Watzlawick, cited in Griffin et al., 2014). Elements within the communication environment—anything from the communications infrastructure and ongoing events to the attitudes and behaviors of other actors—can influence the core communication process. These effects can either be direct (affecting message encoding, decoding, or transmission) or indirect (affecting one or both actor’s schemas and perceptions). They can also either increase or decrease the effectiveness of communication. As shown in Figure 3, the information environment itself effects the communication process by producing noise via the nature of interactions and relationships produced within it (McCroskey, 2018).

Environmental Noise

Sensory interference from sources external to the message sender or receiver creates environmental noise in the core communication process. Environmental noise is not restricted to auditory stimuli (e.g. music, surrounding

conversations); lighting levels, temperature, seating, and other physical aspects of the environment generate noise that interferes with the communication process by distracting our attention (Jones, 2016).

Semantic Noise

While most semantic noise is a function of internal factors, it can also be occasioned by external factors. Technology can in some instances interfere with a message during transmission. For example, an incorrect autocorrect in a text message changes the message’s meaning, as can inaccuracies in machine language translations.

Other Actors

Just as individuals engage in multiple, simultaneous communication processes to navigate their daily lives, actors in the IE are engaged in multiple communication processes at any given time. All such interactions have the potential to influence and alter the schemas or attention level of the other actor.

As shown in Figure 3, A’s communication with X and Y provides new information, which must be

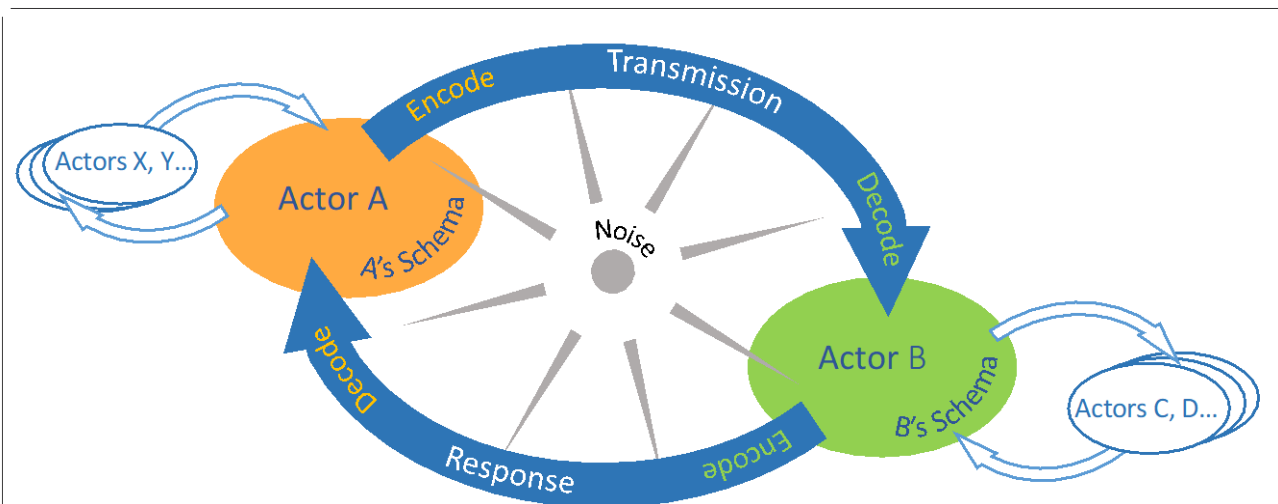


Figure 3: Internal and External Influences on the Core Communication Process

assimilated or accommodated into A's existing schema(s). If this new information changes A's schema related to B or the issue on which A and B are communicating, it will alter A's communication process with B. The same process can be playing out with B as it communicates with C and D. All communication processes A and B are involved in are interdependent in this way and may be distorted or disputed by one another.

These other communication processes also occupy some of A and B's attention. When these other processes are unrelated to the core communication process, the likelihood that a message between the two will be either delayed in receipt and decoding or missed altogether increases. However, if these other communication processes are related to the core communication process, they provide the opportunity for increasing the effectiveness of that core process by aligning other actors behind a similar message.⁶ Situations where communication processes overlap also create challenges; increased complexity makes misperception and miscommunication more likely as actors are faced with more information from often divergent and contradictory sources.

Socio-political Environment Influences

An actor's schemas are bounded by specific socio-cultural guardrails (i.e.: religion, politics, philosophy), and socio-cultural narratives. Events that challenge these, especially those that change the status quo balance between competing narratives, create uncertainty and thus insecurity (Mitzen, 2006). For example, for the US and the West, the Baltic states' entry into

NATO and the eastern expansion of the EU fitted their shared schema of global peace and stability through Western-led institution-building. It connected to a very different schema for Russia however, that of the West's desire to destroy Russia. It was thus decoded by the Russian government, and communicated to their population as an existential threat to its sovereignty and culture.

World events such as natural disasters (earthquakes, droughts, floods, pandemics) and economic crises can also alter the messages states try to communicate and the manner in which messages, whether intentionally sent or not, are interpreted. An essential component of making information a first-order concern in operations is an assessment and awareness of the broader socio-political context in which communication is occurring.

External Triggers of Cognitive Bias⁷

Certain features of the information environment may also contribute to the heuristic-based processing that makes cognitive biases more likely to occur. Too much information, conflicting information coming in from the broader environment, or the recognition that there is relevant information that we lack (known unknowns) can all trigger cognitive biases that distort information encoding or decoding, as can the perception that one's self or group is under threat (Polansky & Rieger 2020).

⁶ For further discussion, see companion IJJO Quick Look, "Communicative Power in a Globalized "Network Society."

⁷ For a detailed discussion of cognitive bias, see companion IJJO Quick Look, "Cognitive Biases: Causes, Effects, and Implications for Effective Messaging"

How External Factors Influence Communication Effectiveness

- The more complex the IE, the more environmental and semantic noise is created, making the choice of message channel more important to effective transmission.
- All actors are involved in multiple communication processes at any given time, all of which inform that actor's evolving worldview. Understanding of an actor's communication network provides further insight into how best to frame our messages to avoid errors in encoding and decoding.
- Awareness of how any specific communication process fits within an actors' communication network as a whole makes it possible to increase the effectiveness of the specific process by aligning and leveraging others.

Communicating Effectively in the IE

As we probably all know from personal experience, attempting to inform, influence, or persuade the attitudes or behaviors of another individual is a complex and contingent endeavor. An understanding of the components of the communication process and the internal and external factors that can influence the receipt

and interpretation of messages provides a model for developing effective communication. While applying this model requires considerable investment in time, resources and expertise, the principle on which it can then be built out for any particular context is simple: Know your audience, know yourself.

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