CHAPTER 33

Metacognitive Underpinnings of 3C Development

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Global Cognition

ABSTRACT

This chapter discusses a perspective on the development of Cross-Cultural Competence (3C) that regards it as an activity that students do for themselves in a proactive way rather than as an event that happens in reaction to teaching. It argues that metacognitive, self-regulatory learning strategies provide the basis for the efficient and effective development of 3C over time. In the chapter, the authors define the essential qualities of self-regulation, describe the structure and function of self-regulatory processes in the context of cultural learning, and, finally, give an overview of approaches for guiding students to learn on their own.

INTRODUCTION

For an increasing number of people, the world is becoming their workplace. Whether employed by a multinational organization, the government, or the military, people in professions that require them to work in different parts of the world across their careers, share a critical job characteristic. Mainly, they inevitably encounter situations in other cultures where their current knowledge does not suffice. That is, they are confronted with situations that do not meet their expectations. In order to perform effectively in situations where the answers are not immediately known, people must acquire new knowledge on the fly rather than merely reproduce knowledge they have already learned.

In this chapter we discuss the results of a number of expertise studies aimed at

characterizing the competencies that enable highly experienced cross-culturalists to learn about and become effective in new cultural environments quickly. These studies indicate that cross-cultural experts develop certain metacognitive strategies that help them self-regulate their own learning about new cultures—and that enable them to learn more effectively than novices. In other words, cross-culturally competent individuals are experts at becoming experts in new cultures. In this chapter, we define the essential qualities of self-regulatory learning, describe the structure and function of metacognitive self-regulation processes in the context of cultural learning, and, finally, give a brief discussion of approaches for empowering students to learn about cultures on their own.

Cross-Cultural Competence

3C refers to the knowledge, skills, and affect/motivation that enable individuals to adapt effectively in cross-cultural environments. A central aspect of 3C involves comprehending individuals from distinct cultural backgrounds, as well as the ability to convert this knowledge into action (Selmeski, 2007). Selmeski defines 3C as:

The ability to quickly and accurately comprehend, then appropriately and effectively engage individuals from distinct cultural backgrounds to achieve the desired effect; despite not having an in-depth knowledge of the other culture, and even though fundamental aspects of the other culture may contradict one's own taken-for-granted assumptions/deeply-held beliefs. (p. 12)

Therefore, in addition to acting and engaging effectively within a variety of different cultures, 3C subsumes the abilities to quickly acquire new cultural knowledge and skills and to extend or transfer knowledge and skills acquired in one cultural environment to another. The inclusion of requirements for effective learning and transfer is what fundamentally distinguishes 3C from regional competence or, culture-specific competence. However, effective characterization of the cognitive and metacognitive learning processes that these cross-cultural skills entail has yet to be fully developed. Such characterization is fundamental to developing and validating education that promotes development of these skills, as well as strategies for assessing the effectiveness of such efforts.

Based on our past work, in this chapter we will outline a process-focused metacognitive framework for characterizing knowledge and skills that enable effective learning and transfer.

Self-Regulated Learning Processes

The immense scope of the learning space combined with the requirement to acquire knowledge and adapt on the fly entails that the majority of cultural learning takes place outside of formal learning environments, i.e. classrooms. To be effective, inside and outside the classroom, learners must be self-regulated. That is, they must be self-directed and self-motivated to develop and improve their skills and

knowledge. Self-regulation refers to self-generated thoughts, feelings, and behaviors that are aimed at attaining goals (Zimmerman, 2000). Self-regulated learners are proactive in their efforts to learn because they are guided by personally set goals and task strategies, and because they are aware of their strengths and limitations.

Self-regulation requires metacognitive awareness of or knowledge about ones' own thinking and learning (Flavell, 1979). These include awareness of how one learns and learning preferences; setting specific learning goals for oneself; selecting effective strategies for attaining these goals, which includes knowledge of how to use available information to achieve a goal; monitoring one's performance for signs of progress, which requires awareness of when one does and does not understand; restructuring one's physical and social context to make it compatible with one's goals; managing one's time use efficiently; and self-evaluating one's strategies.

From a theoretical perspective, self-regulation is not a mental ability or a skill; rather it is the self-directive process by which learners transform their mental abilities into skills. Self-regulated learning therefore is an activity that students do for themselves in a proactive way rather than as a covert event that happens to them in reaction to teaching. In recent years, there have been exciting discoveries regarding the nature, origins, and development of how students regulate their own learning processes (Zimmerman & Schunk, 2001). Although these studies have identified ways in which self-regulatory processes lead to academic success, few existing instructional programs prepare students to learn on their own. Further, only few studies address metacognitive learning and reasoning strategies specifically related to cultural competence (Sieck, Smith, and Rasmussen, 2008).

CROSS-CULTURAL LEARNING

In the following we will provide an overview of our past applied research efforts aimed at understanding the cognitive processes involved in practicing and developing 3C within military contexts. Next we will discuss the general results of these studies as they speak to the metacognitive elements of 3C that enable self-regulated, self-motivated cultural learning.

Cross-Cultural Expertise Studies

The majority of our research involves field studies focusing on ground operators who have repeated and extensive interaction with foreign populations, however at least one study examined elements of 3C in the context of intelligence analysis as well. Although these specific scientific objectives and methodologies vary slightly across these studies, in one way or another all studies addressed the cognitive aspects of cross-cultural expertise. Altogether 140 members of the military participated in these studies, representing the full spectrum of rank (from junior enlisted to 4-star general) and cultural exposure (ranging from none at all to

spending decades overseas). Aside from the experienced intelligence analysts all participants were non-specialists.[1]

All studies involved in-depth, incident-based interviews. About half of the interviews were semi-structured, following a Critical Decision, incident-based method that relies on recollection of tough cases and challenging events (Crandall, et al., 2006). The starting point for such interviews were critical incidents in which the interviewee personally experienced (inter)cultural challenges—focusing on their most recent experience abroad. In the interviews, the interviewee's own examples of recent challenging interactions were used as a point of departure for eliciting detailed information about ways in which competencies were used within specific intercultural situations. The other half of the interviews used a think-aloud procedure with pre-specified scenarios that involved intercultural interactions. All such scenarios were developed based on past CTA interviews and as such represented authentic intercultural situations. For a large portion of these studies qualitative analyses were conducted in which teams of analysts noted emerging themes, distinct categories, and commonalities across the data set. For other studies, quantitative approaches were used in which analysts annotated excerpts with replicable codes that described knowledge and skill-based strategies employed to understand, decide, and engage within intercultural situations. Frequency of code use was employed as a standard, quantitative measure of strategy employment.

Across these studies our objectives have been to characterize the types of situations and interactions that make demands on a person's interpersonal and intercultural competencies; characterize in detail the strategies experts use to manage and learn from these kinds of situations; and, finally, characterize differences between novice and expert strategies.

Metacognitive Cultural Learning Processes

In general, our results indicate that cross-cultural experts have developed certain metacognitive strategies that support their continual acquisition of declarative, conceptual and procedural knowledge and skills, as well as provide the affective and motivational foundation needed to attain high levels of expertise.

We will organize the overview around four high level domains of metacognitive processing. (For a discussion of the ways in which these strategies relate to military practice, see Rasmussen & Sieck, 2012). Mainly, we have found that self-regulated learning in the culture domain occurs most effectively on the backdrop of 1) self-awareness which includes an acknowledged cultural conceptualization of the self; 2) self-motivation which involves conceptualization of the self in relation to the learning domain; 3) a meta-understanding of general kinds of cultural knowledge that are most useful; and finally 4) generative behavioral

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[1] Non-specialists are individuals in career paths that for which specialized language and culture training is not provided. Examples of specialist careers include civil affairs-, foreign area-, liaison-officers and some types of intelligence analysis/collections.

skills which support the acquisition and integration of new knowledge into the individual's existing conceptual system.

Self-awareness

The cross-cultural experts in our studies were aware that they see the world in a particular way because of their own background, personal history, and culture. They appeared to intuitively anticipate that in an interaction with someone who has a different background, each person brings a unique perspective to the situation. Interestingly, we have found that both novices and experts are able to consider other people's perspectives on events and behaviors. However, novices are less likely to integrate alternative viewpoints into their decision making and strategies for managing interactions; and they are less likely to compare and contrast their own and others' perspectives (Rasmussen & Sieck, forthcoming).

Recognizing potential mismatches in perspectives appear to drive cross-cultural experts to continually explore commonalities and differences between themselves and the people around them. Further, extensive experience living in multiple locations led experts to develop their own theories about ways in which Americans differ from other people in the world. Cultural researchers often attempt to frame cultural differences objectively (Boas, 1948). However, the cross-cultural experts interviewed in our studies generally appreciated that they were likely to encounter differences in most overseas assignments, and had learned to frame these differences in terms of the uniqueness of their own perspective. This self-awareness and way of conceptualizing cultural difference, in turn, appears to support an innate motivation for learning.

Self-motivation

We have found consistent support for three main metacognitive processes that support self-motivated learning: 1) continually framing intercultural experiences as opportunities to learn, 2) developing justification for the value of cultural understanding, 3) setting personal and manageable expectations about what and how much to learn about a culture. In the following we will discuss each in detail.

In order to effectively use experiences as opportunities for practice; people must explicitly frame the experience as an opportunity to learn (Ericsson et al., 1993). The cross-cultural experts we interviewed deliberately sought out experiences and relationships that they could learn from. Conceptually, these experts all had the expectation that they would continue to learn new things about a culture the whole time they were in it. Further, they would explicitly think about the knowledge and skills that they acquired in training simply as a springboard for continuing learning.

The cross-cultural experts interviewed for our studies used their own personal interests as the starting point for learning about new cultures. When learners formulate their own questions—they are defining their own learning objectives. These self-defined learning objectives reflect areas that they are personally interested in—and which they are intrinsically motivated to learn about. In our

studies, such self-defined learning objectives were often developed either from long-term interests or from immediate needs to improve or adapt action. Common across the experts in the sample was the practice of defining manageable expectations with regard to how knowledgeable or proficient they wanted and needed to become in a culture and language.

Some of the experts had life-long curiosity about human social, cultural and psychological dynamics which motivated their learning. However, many instead had deep, intrinsic interests in history; some were interested in religion, others in sports, yet others again in weapons. All used these personal interest areas as a basis for formulating questions about new regions or cultures. They would seek thee answers through research prior to deployment, or through conversation with locals once on the ground. For example, one cross-cultural expert had a personal interest in knives, and would take every opportunity to discuss knife-making practices with Afghans. In this way he used his personal interest to both learn and to establish a personal connection to a new culture.

Meta-knowledge

We found that relative to novices, experts appear to possess a meta-conceptualization that is critical to stimulating self-motivation; namely, justification for the value of cultural knowledge. In other words, the experts tended to have internalized explicit reasons that allowed them to justify the importance of cultural learning to themselves (and others). These justifications served to motivate learning each time they entered a new culture.

For example, almost without exception, every cross-cultural expert we interviewed described using cultural knowledge as a foundation for building relationships with natives by using it to demonstrate interest. Some experts also illustrated ways in which cultural knowledge was invaluable for assessing risk in the operational environment. For example, one Colonel noted that to him learning some things about a culture helps to increase confidence and therefore motivation to engage members of the culture. Importantly, the experts themselves identified the information they wanted and needed to have, including words and phrases they wanted to learn, in order to achieve self-identified goals—indicating that they have a meta-level understanding of what constitutes useful cultural knowledge. Plainly put, cross-cultural experts know what they need to know and why.

Generative behavioral skills

In this section we will describe a class of behavioral skills which we have found that explicitly serve to enhance cultural knowledge and skills. These include strategies for information seeking such as identifying, interacting with, making sense of and evaluating information and information sources.

Cross-cultural experts know who to ask and where to look for information about other cultures. We noted several variations on the practice of deliberately establishing relationships with "cultural insiders" (i.e. natives) or other cultural

experts to support learning. For example, several interviewees described to us how they use their interpreters as cultural mentors. They would engage in ongoing discussions with trusted interpreters to assess and improve their knowledge of a region's history, culture, and language. At times, they even sought feedback on how they performed in specific interactions, after the fact. Many were very creative in both the sources they identified and the strategies they used for obtaining information they felt would be useful for them.

By using their own questions as the starting point for learning about culture, and by developing and using their own strategies for getting information, the interviewees were making the information and their learning relevant to themselves. Although enacted in different ways, the primary objective, though, was shared among many interviewees: Making culture learning meaningful to oneself.

The literature on metacognition has identified "inquiry-based learning" as an especially effective learning strategy, especially in open-ended learning environments and situations that afford experiential learning. Few studies have examined inquiry learning specifically in in the cultural domain. However, in our studies of expertise in cultural sensemaking we have found that, in the context of surprising, or unexpected intercultural behaviors, expert cultural sensemakers use inquiry strategies that are akin to those used by effective scientists who encounter experimental evidence inconsistent with their original hypothesis (Sieck et al., 2008; Osland & Bird, 2000). That is, they changed their goal to one of determining the cause of the unexpected behavior. This pattern of results closely mirrors studies of scientific reasoning strategies (Dunbar, 1993). Dunbar found that individuals who maintained a goal of finding support for existing (incorrect) hypotheses failed to discover the actual mechanisms underlying a complex biological process (gene regulation). Those who instead set a new goal of attempting to explain the cause of the inconsistent findings tended to generate the correct hypothesis. This study provides evidence for generalized inquiry strategies as a key metacognitive component of 3C.

Culture is in many ways subjective and any one individual or source's account is therefore likely to be biased. Many of the experts we have interviewed were aware of this, and would critically evaluate information provided to them either by native mentors or by other sources, such as the web. They might look for a second opinion, or at times go online after a discussion to check facts they had been provided. This served both as a check on the validity of the information itself but allowed them to assess the general reliability of their source.

DEVELOPING SELF-REGULATED CULTURE LEARNERS

In this chapter, we have described a number of metacognitive processes and strategies that support effective, self-regulated culture learning. As such, these provide a template for how to think about culture in a manner that promotes longer term learning. Although there is significant research and development underway across DoD that is focused on enhancing the effectiveness of language and culture

training, preponderance of the pre-deployment culture training that is currently available and accessible to warfighters focuses on teaching what-to-think within specific cultures, by providing facts and do's & don'ts rule-sets (Salmoni, Hart, McPherson & Winn, 2010). While this form of training may meet requirements for efficiency in the short term—it fails to do so over the long term because the learning content does not transfer and it neglects to develop a foundation for further knowledge and skill acquisition. We propose that providing formal educational and organizational support for the development of metacognitive learning strategies is a way to efficiently and effectively cultivate 3C.

Teaching Cultural Learning Skills

Research has demonstrated that metacognitive skills *can* be improved through training in both children and adults (see Palincsar, 1986; Salas & Cannon-Bowers, 2001; Cohen, Freeman & Wolf, 1996). So, what are ways that metacognitive skills can be improved in warfighters? In the following we will provide suggestions for instructional as well as organizational approaches for doing so.

Culture-focused thinking and learning skills training offers the promise of meeting requirements for both efficiency and transferability. Skills training that provides students with metacognitive, cross-cultural learning strategies early on offers the promise of not only providing strategies for how-to-think, but at the same time accelerating expertise development. Further, this kind of training could potentially allow warfighters to take maximum advantage of the richest learning opportunities presented to them outside formal learning institutions and environments: namely, their experiences. Instructional objectives that aim to enhance metacognitive learning skills can be integrated into existing culture curriculums—even those with a culture-specific focus, existing curriculums focusing on strategic thinking, or even combat competencies (as learning skills are important in all domains) or they can be achieved as stand-alone modules. A combination of domain-specific (i.e. culture) and domain-independent instruction likely provides the most fertile foundation for the development of these skills.

Cultivating Cultural Learning Communities

Several lines of cognitive theory and research point toward the idea that "people develop habits and skills of interpretation and meaning construction though a process more usefully conceived of as socialization than instruction" (Lave, 1993). In the present context, the suggestion is that it may not be useful to only conceive of cross-cultural education in the traditional sense of formally teaching specific, well-defined skills or items of knowledge. Instead, within a socialization conception, people develop skills and long-term patterns of interaction from their participation in a social environment that supports and encourages the development of these skills and patterns. The question then is: from an organizational perspective, how can military leadership provide support and encouragement for the development and practice of cross-cultural competence?

There are a number of kinds of tactics that leaders can employ to create safe, productive learning environments in the field (Schein, 1996). By listening for and responding to elements of naturally occurring discussions or interactions that relate to culture, leaders can demonstrate that they value consideration of cultural factors, and learning about same. Leaders at all levels are influencers. A leader's ideas, beliefs, and values set the standard for subordinates. If a leader deliberately engages subordinates in dialogue around culture and cultural issues, they are demonstrating that they value cultural skills and knowledge, and in doing so they are laying the foundation for establishing a community of practice (Lave, 1993). Enabling ongoing dialogue within a unit about intercultural experiences, perhaps in the context of After Action Reviews (AARs) or through systematic interaction with interpreters, can allow sensemaking to occur as a social activity. Social sensemaking is a particularly valuable learning activity seeing that an increased number of alternative perspectives are introduced and considered that may challenge the individual's a-priori understanding.

Providing safe practice fields entails that leaders, in the context of such ongoing dialogue, treat mistakes and misunderstandings as learning opportunities instead of merely as occasions to evaluate performance. Further, by setting a positive vision; i.e. through descriptions of what the outcomes can be if subordinates engage thoughtfully, leaders can provide encouragement towards continuing the dialogue, and continuing to improve skills, knowledge, and ultimately performance.

CONCLUSION

In the 3C literature, metacognitive skills are often talked about as the outcome of a long learning process—i.e. they require additional training and education (MacDonald, et al., 2008). Training and educational programs do not, and cannot, we argue, produce cross-cultural experts. Training and education can support the development of expertise by providing the foundational skills required to maximize learning on the job, or learning from experience. To do that, they must support the development of generative, metacognitive learning processes.

We suggest a generative approach to supporting the development of cross-cultural expertise. Namely, we suggest that providing students with metacognitive, cross-cultural learning strategies early on in their careers can, not only allow them to develop strategies for how-to-think within challenging intercultural situations, but at the same time accelerate their expertise development.

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