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Title: **A Constructivist Approach to Assessing Intercultural Communication Competence**

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Abstract:

Referencing the original definition of intercultural communication by E.T. Hall in *The Silent Language,* culture is the process of communication whereby groups of people coordinate meaning and action, and intercultural communication is the process whereby members of different groups coordinate meaning and action across cultural boundaries. It follows that *intercultural communication competence* (ICC)is the ability to do just that – to engage in a kind of meta-coordination that yields increased intercultural comprehension and collaboration.

Any assessment of ICC uses assumptions about precursor conditions for the exercise of that competence. The most common assumption is that certain individual traits or characteristics are correlated with or are predictive of the exercise and/or the outcomes of ICC. Assessment methodology tends toward psychometric testing, either theory-driven or criteria-referenced. The tests generally attempt to meet the standards of parametric statistical testing so that claims of causality can be made. This methodology can be criticized for measuring the wrong thing. ICC is not located in individuals, but rather between individuals; it exists only as an interactional phenomenon of meaning making. Thus, a more appropriate assumption for assessment would relate to the conditions that facilitate the construction of meaning, particularly in interactional contexts.

There is a rich history and literature of constructivist communication theory and research that addresses precisely the topic of interactional meaning making. While the term “constructivism” was coined by Jean Piaget to refer to how children develop perceptual abilities, it came to be used more generally in reference to the process of creating meaning, both individually (e.g. George Kelly’s *Theory of Personal Constructs*) and interactionally (e.g. Jesse Delia’s notion of cognitive complexity in communication). An application of constructivism specifically to intercultural communication is found in Milton Bennett’s *Developmental Model of Intercultural Sensitivity*. In all cases, the constructivist assumption is that meaning is not inherent in words or events, but that it is constructed via perceptual processes. In the case of constructivist communication theory, the assumption is that meaning is created in the mutual interaction of people attempting to coordinate themselves towards some goal. This is, of course, exactly the situation of intercultural communication.

A constructivist assessment of ICC uses the assumption that people can exercise different amounts of skill in meaning-making, and that the precursor condition of that level of skill is the amount of cognitive and/or perceptual complexity they bring to the interactional event. The methodology for determining such levels of complexity is different than for identifying personal traits or characteristics, and so psychometric tests as they are usually designed would be inappropriate tools. Alternative methods more appropriate to constructivist inquiry include schema analysis, systematic observation, and sophisticated content analysis. The goal is to define approaches to the assessment of intercultural communication competence and appropriate research tools that are consistent with the dynamic definition of “culture as communication” and with the meta-interactional nature of the intercultural events.

This article has the charge of considering the assessment of intercultural communication competence in a particular paradigmatic context – constructivism. So it will begin with a short exposition on the epistemological context of intercultural communication and then continue with the implications of that paradigm for assessment. Here the term “paradigm” will follow its usage by Kuhn (1967), and the naming of the major scientific paradigms – Newtonian, Einsteinian, Quantum – will follow the usage of Briggs and Peat (1984) as representative of many popular science writers.

The author (M. Bennett, 2013) takes responsibility for the specific claim that Newtonian physics has entered social science as “positivism” as the term is used by Comte (1966), but of course most social scientists agree implicitly or explicitly that they are attempting to apply the principles of physical science to the measurement and prediction of human phenomena. They are usually less clear about what exact scientific paradigm they are using in that effort. The author is also responsible for the claim that cultural relativism is a translation of the Einsteinian paradigm into social science, as explained below. However, many authors are exploring the application of Quantum paradigm to human social phenomena (e.g. Wheatley, 2006; Penrose et al., 2017), and the identification of “constructivism” as one such application is not unusual.

## Scientific Knowledge Paradigms and Implications for Assessment

The foundational paradigm of Western enlightenment and the scientific revolution is Newtonian. Established now for several centuries, the Newtonian paradigm continues to hold sway over popular thought about physical science. Simply stated, the paradigm organizes research with the assumption that there is a single discoverable reality, and that the ability to measure and predict events allow events to be understood and potentially controlled. Further, observers of reality are not restrained by perspective – anyone looking in the same direction will see the same thing. If they don’t, they simply lack sufficient information or perhaps are blinded by prejudice. The Newtonian paradigm has been translated into social science as *positivism* – the idea that events, including human behavior, are objects that can be measured and described in terms of logical principles.

While positivism continues to hold sway in various endeavors of social science – especially assessment – the underlying Newtonian paradigm has ceased to inform new research in physical science. It was supplanted during the first part of the 20th century by different assumptions about space, time, gravity and other phenomena reframed by Einstein’s theory of relativity. Particularly notable for this topic was the reframing of an omniscient observer of an absolute reality to that of a positioned observer of a selectively perceived reality. The positioning or contexting of observation formed the basis of cultural relativity (discussed at greater length below) and systems theory, among other applications in social science, and generally constitutes the epistemology of *relativism.*

It is popular knowledge that as of the end of the 20th century yet another paradigm is solidly established in physics – quantum mechanics. Similar to the reframing of Newtonian explanations in terms of Einsteinian relativity, the new quantum paradigm has not supplanted the Einsteinian one so much as demanded a reframing that integrates the two views. For the purpose of this article, an important reframe is the way observation is treated in the new paradigm. In a classic Newtonian view, the observer is potentially objective. In the Einsteinian view, the observer is necessarily positioned, and thus in many respects subjective. In quantum mechanics (Copenhagen School interpretation), the observer is always in a co-ontological relationship with the object of observations; in other words, the existence of objects cannot be separated from their definition by an observer. While this interpretation is being argued in physical science, it constitutes an important part of the translation of quantum mechanics into social science as *constructivism*.

An early statement of constructivism in social science is found in George Kelly’s *Personal Construct Theory,* first published in 1955:

(People) can be witnesses to a tremendous parade of episodes and yet, if they fail to keep making something out of them, or if they wait until the events have all occurred before they attempt to reconstrue them, they gain little in the way of experience from having been around when the events happened (Kelly, 1963:73 – edited for pronouns).

In other words, experience does not just happen, as might be inferred in a Newtonian paradigm, nor is experience just a matter of selecting which events to attend to, as might be inferred in an Einsteinian paradigm. Rather, experience is always in the process of being constructed in the interface of events and observation. This idea is lent neurological support by various constructivist biologists (e.g. Von Foerster, 1980; Maturana & Varela, 1992) who point out that all perceptual processes operate by constructing images at end organs such as the retina before the transmission of any impulses to the brain occur. In other words, we necessary construct our perception, and thus we also construct our experience, from the first concrete sensory impression to the last abstract categorization.

These three knowledge paradigms generate very different assumptions about assessment. In a positivist paradigm, the purpose of assessment is frequently to discover or confirm unilateral causal relationships through quantitative methods. In a relativist paradigm where causality is mutual, the purpose of assessment is more likely to explore complex interplays of systemic variables, either quantitatively or qualitatively. In a constructivist paradigm where the observer is part of the co-construction of events, research tends to be more qualitative and confirmatory rather than exploratory. These methods can be combined (mixed method research), but with a danger of *paradigmatic confusion*. Such confusion occurs when the epistemological assumptions of the assessment method do not match the paradigmatic context of the phenomenon being assessed. For instance, it is paradigmatically confused to assess a complex behavioral constellation of mutual causality with a relatively simple measurement of unilateral causality. In most cases, confusion occurs because of reification: observations and/or explanations are treated as if they are *things* rather than processes.

A well-known example of this kind of reification and paradigmatic confusion is the measurement of *IQ*. Stephen J. Gould (2012) documents the genesis of this measurement from an observation of complex behavior to the reification of an explanatory principle. According to Gould, in the early 20th century French educators were trying to select children for different kinds of educational programs. They observed that some children were more inclined than others to engage schoolwork or solve certain kinds of problems. No single behavior or measurement was predictive of that ability, but there was some correlation with a constellation of scales from existing measurement instruments. They named the constellation of scales that were most correlated with the schoolwork abilities the “general intelligence factor” (*g* factor). Initially, *g* was just an indicator of the abilities, but in its subsequent application by Terman as the Stanford-Binet Intelligence Scale, the measurement category was reified: it acquired the positivist assumption that intelligence was a *thing* that people had more or less of. Despite Howard Gardner’s (1983) relativistic plea for multiple intelligences and many criticisms of the culture-bound nature of scale items, the reification persists. When this kind of reification is made about intercultural competence – that it is a measurable internal quality that manifests in more competent cross-cultural behavior – a paradigmatic confusion is created between positivist measurement methodology and the constructivist assumptions underlying intercultural communication.

Another example of reification found in the IQ application of the Stanford-Binet and countless other measurements is the assumption of *normal distribution.* This positivist assumption of the long-term distribution of probability is crucial for making statistical inferences such as t-testing of pre/post group differences, universal rank-ordering in terms of percentile, and positioning on anchored continua. However, normal distribution begs the question of whether or not the observed phenomenon is actually normally distributed in the population. If it is not, then a measurement of the phenomenon that assumes normal distribution will necessarily over or under estimate its actual occurrence, even if there are compensations for skewing. This has significant implications for the measurement of a phenomenon like intercultural communication competence that is defined in a non-positivist way, and thus cannot be treated as a trait or characteristic.

**The Emergence of Cultural Relativity**

At the turn of the 20th century, the dying Newtonian paradigm fed some extreme claims for traditional science. One such claim was that the superiority of certain civilizations (those of the claimants, of course) was due to their greater evolutionary fitness – so-called “Social Darwinism.” Darwin himself did not take this position, since he defined “fitness” as the ability of an organism simply to adapt appropriately to changing environments (Weiner, 1995). But proponents of hierarchical social orders such as colonialism and slavery were pleased to claim scientific support for their view that some civilizations were justified in dominating others by virtue of their superior fitness. In an intentional effort to challenge that positivist claim with a relativist alternative, Franz Boas (1911) defined the notion of *cultural relativity*. Boas argued that civilizations should not be thought of as evolving into “higher” forms; rather, he held that civilizations were different adaptations to various social environments, each successful in its own right.

The cultural relativist position was embraced by many anthropologists, notably Margaret Meade (1938) and by social theorists of the Frankfurt School (e.g. Adorno et al., 1950), post-modern critical social theory (e.g. Foucault, 1984), and critical pedagogy (e.g. Freire, 2007). Both anthropologists and social theorists were motivated by a desire to counteract the oppressiveness (and actual oppression) of positivist scientific approaches to human phenomena. In the case of anthropology, cultural relativism opened up the entire idea of subjective worldview, expanding fieldwork from artifacts and kinship systems into the exploration of unique values and beliefs. For social theorists, cultural relativism offered a platform for ideological clashes in the service of greater equity.

The down side of cultural relativity was its failure to define any mechanism for communication across cultural divides. Essentially, people socialized in culture A could not understand people of culture B, since B’s worldview was unique and unavailable to A short of resocialization (and maybe not even then). This idea persists, for instance in gender relations, where critical feminists may hold that men are incapable of understanding women because they lack a women’s worldview and experience (and sometimes vice versa). Since understanding and thus empathy is impossible in this view, the only relational mechanism is *power.* And indeed, most critical theory focuses on the use and abuse of power in intergroup relations.

Perhaps as a manifestation of impending paradigm change, extreme applications of relativism are occurring, particularly in critical social theory. These applications are popularly referred to as “political correctness,” including ideas such as “cultural appropriation,” which can proscribe wearing the clothes or even singing the songs of a culture not of one’s own primary socialization, or “preferred pronouns,” which prescribes referring to others with third-person pronouns of their choice. Meanwhile, groups not known for their concern with equity (such as neo-Nazi fascists) are claiming that they have a unique worldview deserving of respect in the relativistic pantheon of diversity. Ironically, the paradigm that defines cultural relativity is not supporting the existence of cultural diversity very well.

**Constructivist Intercultural Communication**

For some anthropologists, linguists, and others concerned with communication across cultural boundaries, the lack of a communicative mechanism in traditional cultural relativity was a real problem. For instance, diplomats, business people, and development workers all needed to understand different cultures well enough to coordinate meaning and action towards their goals. Particularly after World War II, these people knew that it was insufficient to just be cosmopolitan – to have visited a place and be knowledgeable about the institutions and customs. They needed skills in understanding the more subjective worldview of the other culture sufficiently to generate appropriate and effective behavior. This need could not be satisfied in the relativism paradigm, and most anthropologists and linguists were loath to return to a positivist set of universal values that could be applied cross-culturally. So they turned to the new constructivist paradigm for answers.

One of the first efforts use constructivism in understanding other cultures was formulated by Ruth Benedict in *The Chrysanthemum and the Sword* (1946)*.* Recognizing the need for making comparisons among cultures, but not wanting to return to the universalistic criteria of social Darwinism, she constructed several categories whose only purpose was to compare cultural contexts. For instance, she employed the category “shame/guilt” to label Japanese culture as more of a “shame culture” compared to the United States as more of a “guilt culture.” A decade later, Edward T. Hall defined the category high-context/low-context to describe a cultural difference in how much detail people find appropriate in messages (*The Silent Language, 1959).* Like Benedict, Hall had the practical task of helping people understand and deal effectively with a culture different than one’s own. In the case of Benedict, it was the US Army needing to understand post-war Japan; for Hall, it was international business and foreign service workers. For them and most others who have followed their lead, the goal of cultural description was to construct useful comparators that could guide short-term adaptation, not to generate thick cultural descriptions demanding anthropological expertise.

Categories that are constructed for the purpose of describing relevant cultural differences can be termed “etic observational categories.” Such categories are not intended as emic cultural descriptions; for instance, there really is no “high-context” culture or “shame” culture. These terms have meaning only as comparators, and then only as comparators relevant to some particular goal. For instance, Hall was interested in preparing people to communicate effectively in different cultures, and thus the comparative categories he constructed were meant to illuminate differences in communicative behavior; trainees could learn to recognize a systematic difference in how detail was being incorporated into messages and then adjust their interpretive and intentional behavior accordingly. For her clients, Benedict more concerned with understanding motivation and the potential response to occupation; the observational category she created were therefore more related to how certain behavior might be valued or disvalued. The constructivist principle at work is that a cultural description only has meaning in terms of an observer who is attempting to compare cultures, and then only if the category yields a useful comparison for the purposes of the observer. A failure to appreciate this principle leads to the reification of observation, where trainees (and researchers) assume that cultures really are more shame-based or guilt-based, high-context or low-context. Actually, the descriptors are not of culture – they are of the observation of culture for some purpose.

The implication of etic observation and comparison is that intercultural communication was, from the beginning, constructivist. It was solidly based in cultural relativity, but the lack of any mechanism for cross-context communication in that paradigm demanded a reframing of relativity into the newer paradigm of constructivism. Constructivism allows intercultural communication to address at least three dimensions in unique ways:

1. *Cultural identity*. From a constructivist perspective, identity is not a thing but a process of identifying. In other words, people do not *have* a culture; they *do* a culture through the process of socialization and role enactment (Berger & Luckmann, 1967). Further, cultural identity is not just a process of subjective affiliation; it also must take into account objective ascription by others (Meade, 1934). Intercultural constructivism takes these classic ideas into the realm of multicultural and liminal identities that form at the intersection of cultures, coupling agency with identity.
2. I*nteraction analysis*. Etic observational categories allow people to identify relevant cultural differences and to predict likely misunderstanding in those areas. The purpose of the categories is not to describe culture *per se,* but rather to describe a difference that makes a difference to coordinating meaning and action across cultural boundaries.
3. *Intercultural adaptation*. The deeper purpose of observing cultural difference is to enter into the experience of an alternative worldview – to engage intercultural empathy. So the etic categories are not so much descriptors as doorways through which people can move into alternative experience and thus be able to authentically enact appropriate behavior in the alternative cultural context.

The ability to engage in the three activities above – bringing agency to identity, identifying relevant cultural difference, and generating alternative appropriate behavior – can generally be considered *intercultural communication competence (ICC).* With this constructivist definition, attempts to assess ICC would therefore be expected to focus on issues like identity formation, perceptual competence, and empathy. However, that direction of research is impeded by the fact that there are relatively few research tools that focus on those constructivist phenomena, and many more that focus on personal traits and characteristics.

**The Lamppost Effect and Other Mismeasurements of Intercultural Communication Competence**

The most common approach to assessing intercultural competence is to treat it more or less like intelligence. That means making the assumption that there are some internal conditions – personal characteristics, personality variables, or a constellation of beliefs and attitudes – that manifest as or cause the competent behavior, and that those qualities can be measured or at least inferred from measurement. This is, of course, the positivist assumption that underlies most assessment. There are two criticisms of this approach that are relevant to introducing a more constructivist approach.

The first criticism is more of a personal observation. I have been struck by the general lack of epistemological reflection regarding measurement methodology in social science. It is as if the original positivist assumptions that accompanied the translation of Newtonian physics into social science are unquestionable, and that methodology based on those assumptions can be elaborated and modified but not seriously challenged without losing credibility. This probably reflects a general tendency towards traditionalism in academe, but it is problematic when the demand for a credible assessment collides with the differing paradigmatic context of the target phenomenon. It is like the inebriated guy looking for his keys under the lamppost: a passerby asks, “What are you doing,” and he replies muzzily “Looking for my keys,” and then she continues, “Where did you lose them?” and, after a pause, he points and says “Over there,” and she asks, “So why are you looking for them here?” and he exclaims, “Because the light is better!” I suspect that we also look for answers to our assessment questions where the light is better; that is, where the established and accepted methodology leads us to look. But the phenomenon we’re seeking to assess is not there; it’s in a different paradigm.

The second criticism of positivist methodology goes back to the assumption of normal distribution. There is absolutely no reason to think that intercultural communication competence is normally distributed in any population, even in a highly skewed form. There is much more reason to think that ICC is a rare exception to the default condition of ethnocentrism and xenophobia. That doesn’t mean that ICC can’t be defined and assessed, but it does mean that methods based on normal distribution are located in the wrong paradigm. We should be approaching assessment in this case more as if we were assessing highly talented and gifted people who are operating on the extraordinary edge of consciousness. They are likely to fall outside most normal distributions, but they represent a human potential nevertheless. A more mundane example might be riding a bicycle. Bicycle riding is clearly a human capability that can be acquired rather easily, but there is no reason to think that we can predict its acquisition with any test of beliefs, values, attitudes, or other constellations of reified traits. Bicycle riding is a simple behavioral adaptation to context (need for transportation, availability of bicycle). We are likely to find the complex adaptive behavior of intercultural communication competence somewhere between the rarity of gifted artists and the commonality of bicycle riding.

In addition to locating the assessment of ICC paradigmatically, it is useful to place it at an appropriate level of analysis. As the term is generally used in sociology,
“level of analysis” refers to degrees of abstraction from more discrete and concrete to more aggregate and abstract. The base level of analysis is usually called *individual*, a mid-range level is called *group*, and the most abstract level is called *institutional.* Imagining the three paradigms intersecting with these three basic levels of analysis yields nine possible analytical positions for assessing intercultural competence. For instance, the intersection of positivism and individual level supports the identification of personal characteristics as unilateral causes of intercultural competence, while relativism at the individual level supports looking at more multilateral (e.g. symbolic interactionist) approaches to cultural identity. Relativism at the group level is, of course, the basis of cultural relativity, while positivism at either the group or institutional level supports the objectification or essentializing of cultures and institutions. Constructivist assumptions at the individual level support the relationship of individual self-reflexive consciousness with intercultural competence; at the group level contextual awareness is the key variable, and at the institutional level the focus would be on assessing subjective/objective cultural dialectics.

When intercultural communication includes a concern with power, it may be useful to consider cross-level analyses. For instance, power relations can be defined by considering the intersection of individual and organizational levels of analysis – how are individuals privileged or disempowered by their organizational contexts. A positivist paradigm combined with this intersection supports the idea that oppression is caused by the prejudices of people higher in organizational hierarchies who have the power to impose their views on subordinates. A more relativist framing of the individual/organizational intersection supports the view that both privilege and oppression are functions of the hegemony of particular cultural contexts in the organization. Constructivist approaches to power look at an organization’s ability to maintain a critical mass of respect for diversity. Any assessment of ICC (including the use or abuse of power) should include careful attention to locating the target phenomenon. For instance, if the desired outcome of a program is “prejudice reduction,” it may be that a positivist individual/organizational location is appropriate. However, if the desired outcome is “creating a climate of respect for diversity,” the location would more usefully be considered at the intersection of group level and constructivist paradigm. In the former case, methods would focus on individual attitudes and role behavior. In the latter case, methods would focus on group norm-building and organizational support for ICC.

Another system of levels capable of focusing assessment efforts has been suggested by Bateson (1972, 1979). He uses the first level (“action”) to refer to unilateral causal analysis – similar to the intersection mentioned above of positivism and individual level. The second level is “contextual,” where phenomena and their interaction need to be considered in context, similar to the intersection of relativism and group or institutional levels. Most importantly, he defines a third level as “metacontextual,” where the assessment of phenomena needs to take into consideration the perceptual framing of the phenomena. This third level is clearly constructivist in the terms of this article, referring not so much to individuals or cultures themselves but rather to the e*xperiencing* of one’s own and other cultures. Insofar as we define intercultural communication competence as the ability to consciously experience different cultures (and thus to be able to intentionally generate appropriate alternative behavior), we would need to assess that competence at Bateson’s third metacontextual level. And, insofar as we locate intercultural communication in constructivism, we would additionally need to use constructivist assumptions in assessing individual, group, and/or institutional competence in the area.

**Constructivist Methods of Assessment**

Taking *metacontextual* *experience* as the key aspect of intercultural communication competence, an assessment would need to both model the development of that experience and measure the capability to generate it. The unit of analysis would need to match the appropriate level of analysis. So, if the goal were to assess an individual’s competence, the measurement would need to focus on metacontextual phenomena at an individual level of analysis; that is, it would need to measure some form of self-reflexive consciousness. In other constructivist terms, an individual measurement would need to focus on how an individual was organizing perceptual categories so as to generate a particular kind of intercultural experience. Alternatively, if the goal were to assess a group’s ability to support intercultural communication competence, the unit of analysis would need to be the group, not just an aggregate of individuals. Constructivist phenomena at the group level include the influence of expectation and other synergistic effects of critical numbers of individuals operating within defined group boundaries. These group phenomena need to be measured differently than individual phenomena.

Adding the metaphor of the “tail wagging the dog” to the “lamppost effect,” the initial consideration for assessment should not be the measurement; it should be the model that is guiding the measurement. There are two kinds of models commonly associated with constructivist ICC: taxonomic models of perception largely derived from Kelly’s (1963) theory of personal constructs, where cognitive schema can be described in various states of cognitive complexity (e.g. Nishida, 1999; Delia et al., 1982), and developmental models such as the well-known work of Piaget (1954) and its legacy in other models based on perceptual development (e.g. Vtogotsky, 1978; M. Bennett, 1986; King & Magolda, 2005). The taxonomic models are located at the individual level of analysis, while constructivist developmental models are also applied at the group and institutional levels.

The primary measurement tools for taxonomic models are derivatives of Kelly’s repertory grid (1991), a technique for mapping the constructs used by individuals in creating meaning. The technique elicits perceptual categories from individuals by having them dichotomize concepts and then organize phenomena in triads of two things that resemble one pole of the dichotomy compared to one thing at the other pole. A constellation of these triads constitutes a “grid” representing the perceptual organization of a particular context. Data from the grid can be examined with qualitative content analysis techniques and/or a variety of nonparametric statistical procedures such as principle component or multivariate analyses. While the rep grid began as a clinical tool, its use has expanded to other areas such as marketing and social relations. There is a plethora of websites providing data collection and analysis software for repertory grid research. Other methods of this type include semantic networks, Q-sorting, and the Role Category Questionaire (Delia et al., 1982). Research with the RCQ, a measurement of *cognitive complexity*, has indicated a correlation between being able to articulate a greater number of categorical distinctions about people and certain forms of interpersonal communication competence (Griffin, 2011).

The use of repertory grid or related techniques for assessment of intercultural communication competence is based on the classic Sapir/Whorf idea that finer discriminations of perceptual categories within some context are related to more sophisticated experience in that context. For instance, wine connoisseurs have more elaborated perceptual categories for wine – nose, tannin, finish, etc – and also a deeper experience of wine than the casual drinker. This is obviously also true for audiophiles, sports enthusiasts, chefs, and anyone else who particularly appreciates or produces some activity at a sophisticated level. In the case of ICC, finer perceptual discrimination of one’s own and other subjective cultures would correlate with the capacity for a more sophisticated experience of cultural difference. Of course, other factors such as motivation and opportunity would influence whether the capacity for ICC was realized in any particular situation.

To maintain a constructivist focus in research, certain positivist criteria for methodology need to be reframed. In her excellent treatment of constructivist social work research, Mary O’Connor (2011: 96-97) suggests that *validity* and *reliability* be redefined in non-positivist terms of *trustworthiness,* which includes the ideas of *credibility, dependability, confirmability, and transferability*.

* *Credibility* parallels internal validity in positivist research, but in the constructivist paradigm it represents conceptual coherence in process and relevance in product. For instance, a paradigmatic mismatch of methods and outcomes in a study of ICC would generate incoherence of process and thus damage the credibility of the study. Also, in terms of credibility, researchers would need to ask whether the study addresses factors that are likely to be associated with ICC. So, while personality variables can certainly be correlated to some degree with cross-cultural behavior, research claiming constructivist credibility would need to show that personality is theoretically relevant to ICC, not just that measures of personality can be correlated with other measures of ICC.
* *Dependability* parallels reliability in positivist research. In addition to traditional measures of inter rater reliability such as coefficient alpha, dependability refers to the consistency of decision-making by researchers. In constructivist terms, dependability involves researchers taking responsibility for their observational categories and for the consistency with which they apply them to analyzing data. For instance, studies of ICC that depend on content analysis would need to both justify the theoretical relevance of the categories being applied to data and also demonstrate that independent raters with knowledge of the categories be able to replicate analyses.
* *Confirmability* parallels objectivity in positivist research, although in constructivist terms it does not refer to the truthfulness of a finding in terms of some objective standard. Rather, the confirmability of a study is determined by its adherence to a discernable logic of connection among methods, data, analysis, and outcome. In other words, an outside auditor could conceivably replicate the logical process of the research, although the auditor might disagree with the analysis and/or generate a different outcome based on his or her own conceptual schema. In the case of ICC studies, confirmability means that the use of commercial instruments with hidden algorithms would not be acceptable, since an independent auditor could not replicate the logic of the analysis.
* *Transferability* is more or less parallel to external validity in positivist terms, although it does not include “generalizability” as that term is used in traditional research. The relevance of a finding in one context to a similar context is not determined by meeting some standard of generalizability; it is determined by an observer in terms of usefulness. The hypothesis of a study relevant to one context might be relevant to another context, or not. For instance, studies of ICC in an international context could be relevant to domestic multicultural situations, and vice versa, not because they are generalizable to the other population but because the hypothesis of one study could be based on a model that could also be relevant in the other context.

**DMIS as an Exemplar of Constructivist Research**

Adding *development* to representation taxonomies such as the Repertory Grid yields models of how perception (and by implication, experience) becomes more sophisticated and thus more adaptable to changing circumstances. The basic template for these dynamic models is the perceptual development of children, whose increased ability to discriminate phenomena complexly is associated with their greater viability and adaptability in dynamic circumstances (Piaget, 1954; Vygotsky, 1978). The Developmental Model of Intercultural Sensitivity (DMIS) is an attempt to model the acquisition of capability in intercultural communication competence in terms of this kind of perceptual development (M. Bennett, 1986, 2013). The term “sensitivity” in DMIS refers the increasing ability to make appropriate perceptual discriminations, as in the phrase “she is sensitive to the needs of her employees” or “he is sensitive to the nuances of color coordination.” In an intercultural context, appropriate perceptual discriminations would include being able to observe one’s own and other cultures in terms of relevant etic categories as well as being able to generate useful metacontextual constructions of cross-cultural events. The model suggests that people can move from a condition wherein they have very few perceptual discriminations available regarding culture and cultural difference to one where many more perceptual discriminations are available to them. The greater availability of discrimination is potentially manifested in more competent intercultural communication behavior.

The DMIS can be seen to follow constructivist principles both in its genesis and in its application to research. As grounded theory, the model began with focused observations of behavior. In constructivism, there is no such thing as unfocused (unbiased) observation – the observer is making some decision to pay attention to one thing or another, the only question being whether the observer is acknowledging and taking responsibility for the focus and its potential usefulness. In this case, the focus was on how people get better at being effective in cross-cultural situations. With a defensible number of such observations from a variety of cross-cultural contexts (e.g. study abroad, international business, multicultural workshops), the observer then “makes meaning” of the observations by applying a coherent explanatory framework. In the case of DMIS, the framework is perceptual constructivism.

Movement from less to more developed along a continuum is defined in terms of the relative fineness of category distinctions. “Stages” are arbitrary boundaries differentiating various degrees of perceptual capability. In constructivist models, stages refer to the organization of the model, not to assumedly objective distinctions in reality. In the DMIS, the stages are 1) *denial*, where few perceptual discriminations are available beyond “foreigner,” or “immigrant,” or “minority” and consequently only a vague experience of otherness is possible; 2) *defense*, where a few more discriminations allow others to be evaluated as good or bad in stereotypical ways, leading to a predominant experience of threat, superiority, or inferiority; 3) *minimization*, where a greater number potential differences are subsumed into existing familiar categories, leading to the experience of shared humanity and the sanctioning of assimilation; 4) *acceptance*, where cultural differences in addition to human similarity are acknowledged as existing and valuable, associated the beginning of consciously contextualized experience; 5) *adaptation*, where perception begins to operate metacontexually, allowing perspective-taking and the expansion of one’s repertoire of appropriate behavior; and 6) *integration,* where perception routinely operates metacontextually and intercultural consciousness is part of everyday experience.

DMIS has been used extensively as a model to guide research into intercultural communication competence – both in constructivist and, unfortunately, in positivist ways. An example of the latter is the degeneration of the Intercultural Development Inventory (Hammer et al., 2003) into positivism. The IDI is a kind of reverse content analysis instrument consisting of statements that were derived from directed interviews, categorized according to DMIS stages, and then subjected to various factor analyses to yield scales corresponding with the stages. The idea was that people’s agreement to some degree with the items would be similar to their having generated the statement themselves in an interview. While that assumption is arguable, it really didn’t matter, since the results of the inventory were meant to be used as the starting point for a diagnostic coaching session, and the trustworthiness of the outcome would be determined jointly by the IDI administrator and the subject. So far, the IDI was a good example of the four criteria for constructivist research: 1) credibility established by coherent use of a relevant model; 2) dependability established by a logical application of the model to the data; 3) confirmability established jointly by the subject and administrator; and 4) transferability to other relevant contexts determined by the subject.

Unfortunately, the initial constructivist condition of the IDI was cut short by commercial interests that reified the instrument and drove the methodology into positivism. First came an added assumption of normal distribution that allowed parametric pre/post t-testing of groups of IDI subjects. While this was (and is) an effective technique for assessing program effectiveness, the concomitant attribution of internal qualities also allowed rank ordering of respondents in terms of an IQ-like curve. The IDI interpretations now clearly imply that people possess greater or lesser amounts of “intercultural sensitivity.” That reification of perceptual behavior led to a severe weakening of dependability and confirmability; the reified methodology was no longer dependably consistent with the paradigmatic assumptions of the model, and confirmability was taken out of the hands of the administrator/subject interaction and placed firmly into the assumedly superior judgment of the instrument. Finally, credibility was fatally compromised by claiming that a “new” model underlay the same set of items that had been constructed and tested in terms of the “old” model. The rationale for the continued effectiveness of the instrument is now firmly rooted in positivist methodology, and the IDI can no longer be considered an adequate tool for constructivist methodology.

Aside from the IDI, the DMIS remains a robust model that can guide constructivist research in various ways. The content analysis methodology that was used to create the IDI is still an effective strategy for representing and analyzing the perceptual behavior of people vis a vis culture, cultural difference, and intercultural communication. In the last couple decades since the IDI work was done, content analysis methodology has improved dramatically due to improved computing and algorithm capabilities. It is now possible to set up a kind of dynamic rep grid that can create both a snapshot and a moving picture of perceptual development. While it is not the only game in town, the DMIS still serves as a good example of how paradigm, model, and methodology can be coordinated to generate a constructivist view of intercultural communication competence.

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