Context and Perspective: Implications for Assessment in Education

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Background/Context: *This article is a piece of analytic and descriptive commentary based on the work of the Gordon Commission on the Future of Assessment of Education.*

Purpose: *The purpose of this essay is to advocate for greater attention given to the correlates of human performance in educational measurement. The authors argue the importance of attribution, context, and perspective as factors influencing human performance.*

Research Design: *The essay is primarily analytic and historical with respect to the conceptualizations that should guide the contextualization of assessment in education.*

Conclusions: *(a) Greater respect for and sensitivity to the fact that adaptive behavior is a function of the integration of affective, cognitive, and situative processes operating in conscious organisms functioning in context. (b) Importance of systems of assessment that produce multiple forms of data that should be combined in different constellations for specific purposes. (c) Explicit recognition that decontextualized and situated probes are in fact distortions and the data from such probes cannot legitimately be used for definitive judgment. (d) Emerging electronic digital technologies may provide opportunities for effective assessments of contexts, as well as assessments of adaptive behaviors in context. (e) The documentation of personal attributions and personal perceptions are problematic, though such data are important and must be subjected to systematicity in programs of assessment in education. (f) Formative assessment, portfolio development, and relational analysis.*

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INTRODUCTION

The embrace of empirical methodologies by interpreters and producers of knowledge proved to be a major development in the history of science. The recognition and incorporation into the scientific method of the capacity of human beings to use observation and human perception to confirm or disconfirm notions about the world freed human scholarship from the limitations of superstition and dogma in science. With the emergence of empiricism came the need for systematicity, comparability across situations and subjects, objectivity of observation and measurement, and decontextualization. Empirical science required precision, reliability, and replicability. Empirical methods became the standard in the search for general principles and truth. It was empiricism that enabled the development of the remarkable achievements of modern science and technology. It was this positivist thinking that informed the development of measurement science. In the practice of measurement, concern for objectivity, accurate quantification, and reliability were embraced. Decontextualization and control for subjectivity became the norm. Yet, despite a long history of the use of decontextualization in the interest of control and precision in measurement science and science in general, the relationship of context and perspective to human performance has emerged as a significant concern as we think about the future of assessment.

In this paper we proceed from the assumption that the understanding of human behavior and performance cannot be divorced from the context in which they are developed and observed. Much of behavior and its interpretation are influenced by the perspective by which it is informed as well as that by which it is interpreted. Behavior and performance are more than linear. They are both epigenetic and organic phenomena. As such, they must be thought of, observed, assessed, and understood as dialectical, dynamic, fluid, living phenomena existing in specific contexts and perceived and understood from specific perspectives. This paper, then, does not present a veridical position, but advances the notion that assessment, measurement, and the production of knowledge in general will increasingly need to accommodate the inferred interactions between diverse and multiple contexts and perspectives, and the phenomena or subjects being assessed. Our position should be understood as an alternative that can be added to the positivistic tradition in assessment. It must be acknowledged that the positivist tradition has its utilities, but also its limitations and it is in recognizing the limitations that this effort at reimagining approaches to assessment in education proceeds.

This essay is guided by the conviction that context and perspective are vitally influential in matters of human performance and human behavior.

The various contexts for human performance may be categorized as including economic, existential, physical, political, psychological, and social. Idiosyncratic, as well as consensus perceptions of such contexts are thought to influence all human performances. The assessment and documentation of human performance are also thought to be context dependent. As such, a deeper understanding of the interactive relationship between context, performance, and their assessment is of imminent importance.

As epistemologies concerning and technologies for identifying contexts become more sensitive to the presence of and variations in contexts and their meanings, the relationships between contexts and human performance will become more critical for measurement in science and assessment technologies. The Gordon Commission has commissioned this review and synthesis paper in order to address possible relationships between features of contexts such as attribution, cultural identity, environment, perspective, and situation on one hand, and the measurement of human performance on the other. The commission is interested in more than the assessment and documentation of contexts and environments. Rather, we want to privilege the fact of interaction between the various components of contexts, as well as the interactions between performers and the contexts in which they are called upon to perform and be assessed.

It is important to give attention to indicators of conditional adaptability as functions of specifiable contexts and the perspectives born of the cultural identities of the assessed persons. The exclusionary function of testing, as we know it, draws us to critically approach the current hegemonic view that favors positivistic approaches to the capturing of human intelligence and talent. It is a source of great contradiction that the same tests that opened doors to persons with nonhegemonic characteristics in the age of blatant racial segregation are now the same gatekeepers that keep so many of such youth out of good opportunity situations.

This exploration and reimagining of testing and the capturing of human potential and performance to include the contexts and perspectives that enable and shape them will draw upon a number of theoretical perspectives from the behavioral sciences and various philosophical traditions. The implications for psychometrics and a deepened understanding of the capturing of human performance and potential more generally shall then be discussed.

THEORETICAL CONTRIBUTIONS

There are several lines of thought in the behavioral sciences that support the notion of privileging context in our understanding of human performance and behavior. In this section we will discuss the theoretical contributions of field theory, contextualism, perspectivism, and their

subsequent bearing on our understanding of sociocultural–historic contexts and epistemologies. We will then address the privileging of context through the lens of human ecology and ecological psychology. Human behavior is understood as a function of the interactions between persons and their environment.

Lewin's application of field theory to the understanding of the activity of human beings, behavior is both a function of the person and the environment. This idea is illustrated by the heuristic equation: B = *f*(P, E), meaning behavior is a function of the person and her/his environment. The objective of field theory in application to human behavior is to understand the relationship of human behavior and experience to the context of specific situations. Thus, any behavior at time *t* is in part a function of the situation at time *t* only; expressed in the equation $B^t = F(S^t)$ (Lewin, 1943). Lewin's colleague Murray later expanded this application of field theory to include differential perceptions of and attributions assigned to specific environments. Murray employed the idea of Alpha and Beta Presses to emphasize the bifocal nature of environment, taking into account both the objective (reality) and attributed subjective meaning of the stimulus situation. Gordon has explained this so called reality as the consensus environment because the "reality" or "real" environment so often consists of those aspects upon which most people can agree, in contrast to the existential environments of specific members or groups of members (Gordon, 1997). Taking these contributions into account, our understanding of behavior must be nuanced with an understanding of the contexts in which behaviors occur, as well as with the existential states and attributions that persons bring to them.

Human animals, more than any other, are distinguishable by the capacity to adapt themselves and their environments to more optimally meet the demands of comfort and survival. Thus, the capacity and tendency to use the term *adaptation* privileges the context to which the adaptation is being made as a crucial component of the behavior itself. The process of adaptation forces human performance to become symbiotic with the contexts to which the performance is a response. This relationship is not fixed, in that specific aspects of performance can form connections with more than a single aspect or condition of context. Just as a specific context remains available as a nexus with many aspects of performance, the connection between the two appears to be promiscuous, opportunistic, and dynamic.

William J. McGuire presented his contextualist epistemology in "A Contextualist Theory of Knowledge: Its Implication for Innovation and Reform in Psychological Research" (1983). In it, he contends that "knowing" is inhibited by the cognitive necessity to simplify and thus distort reality. Humans are limited in their ability to mentally process reality, thus in

order to study a phenomenon we must first reduce it to manageable portions. To do so means to isolate, to decontextualize, to distinguish from the other, to abbreviate, and often to focus on less than the whole. Thus an experience or a theory about it and its measurement must also be understood as inherently distorted because of the need to simplify in the service of rendering it capable of being mentally processed.

Existing logical empiricism and positivism are challenged by contextualism in two ways. First, the binary concept of valid/invalid or the absoluteness of validity is paradoxical to contextualism as well as perspectivism. Values traditionally associated with empiricism and positivism must be disregarded if we embrace the assertion that all theories are possibly valid within some specific context or from a particular perspective. The pragmatic implication of this position is the needed clarification of circumstances that renders a theory valid or invalid. The second challenge arises in the logical shift required for redefining previous notions of empirical confrontation from a test of validity to a search for the discovery of the variations and their source. This entails a critical analysis of the underlying contextual assumptions of a theory and the subsequent acceptance or rejection of such assumptions and potential distortions. We accept all theory as inherently simplified and thus distorted while simultaneously asserting that all theories hold equal plausibility of correctness when contextualized. A contextualist approach furthers epistemological understanding but also leads us to question traditional notions of assessment and evaluation in education.

Perspectivism (McGuire, 1999) holds that assumptions, attitudes toward, ideologies, mind sets, and prior knowledge are powerful influences on intentional activity and behavior in general. Critical theorists call for attention to the knowledge interests of the actor. Nietzsche asserted that all conceptualization flows from some system of thought or view of things. McGuire holds that the ways we see things determine both what we see and the meanings that we assign to things. As such, the perspectives that we bring to our experience of the world influence our understanding of the phenomena of the world. Thus the admonition, "a way of seeing is a way of not seeing." Nietzsche's original conceptualization has undergone much iteration, including those of Heidegger and Krieglstein, but the impact of perspective on human behavior continues to hold a highly respected place in epistemology. This notion prevails despite the long history of empiricism and positivist science to objectify its methods and its findings.

In McGuire's view, perspective is so determinative that he argues hypotheses should be examined from multiple perspectives (McGuire, 1983). However, perspectives do not appear to be autonomous. Perspective is always a qualifier of something. We have perspectives on some context,

experience, or object such that context and perspective may have to be conjoined when we think of human performance. We must also regard perspective as ever changing and evolving and as such it cannot be reduced to a fixed definition. This is accounted for by Lewin's time in field theory and Gordon's contribution to sociocultural–historical constructs.

Sociocultural–historical constructs are strongly emphasized in the contextualist perspective. Gordon has elaborated on this, explaining that contextualist epistemology accounts for human behavior as dynamic and dialectical because of its development within constantly changing sociocultural–historical contexts (Gordon, 1975). Viewing the relationship between the individual and culture as organic suggests that intentions and environments both shape and are shaped by the individuals that experience them. The nature of communication from a contextualist perspective emphasizes the intention behind the behavior or communicative message and response. Thus, seeing intention as culturally molded, behavior can have many explanations revealed through context. Again, the contextualist implication for theory, which is a mere representation of knowledge, is not universal but must always be considered in context (Appiah, 1990; Rosnow & Marianth, 1986).

The sociohistorical and cultural bias of knowledge production and its subsequent creation of evaluative measurement tools for the purpose of systematizing assessment further embed "consensus view" constructs of understanding and often reinforce cultural hegemony. This has deleterious effects on all peripheral perspectives and approaches by imposing culturally hegemonous rubrics. The debate often plays out around subject knowledge in education. The indoctrination of students towards "consensus view" paradigms without being put into a contextualist framework presents a problematic to the concept of pluralism and often can undermine the cultivation of more complex critical thinking skills. However, it is widely assumed that one must first master consensus frames before one is in a position to challenge them.

THE ECOLOGY OF HUMAN DEVELOPMENT

What are the consequences of the organic relationships between human behavior and behavioral settings for our understanding of human development? We have hardly completed the task of achieving colloquial appreciation of the fact of environmental/existential/human performance interaction. We are confronted with the challenge of understanding it and ultimately using that understanding to assess the manifestations of the existence of such interaction and its consequences for the quality of human performance. In the following section we account for the ecological perspective, situativity, ecological psychology, and the problematic of attribution theory.

Early work in psychological ecology, later work in the ecology of human development, and recent work in cultural psychology can be drawn upon to support an argument for the critical role of environment in understanding adaptive human behavior, if not all human behavior. From this perspective the decontextualized activity of an organism loses meaning independent of its setting, intent, and conditions of stimulation. Brofenbrenner's ecological perspective works on the dynamic relationship between context and family's ability to cultivate the healthy development of their children. The ecological perspective engages the influence of factors such as parents work status, economic class, parents' education, culture, and regional and community influences, among others. He privileges a level of social and psychological integration as productive forces in human development, whose impacts have yet to be fully understood by science (Bronfenbrenner 1977, 1986, 1996).

Greeno's work on situativity accounts for the interaction of different agents and environmental subsystems in cognitive functions (Greeno, 1998; Greeno & Moore, 1993). Greeno draws from philosophical situation theory, ecological psychology, and studies of social interaction to posit that knowledge, thinking, and learning are located in experience. He argues that a situative approach should draw from both individual cognition and socially organized interaction, two subdisciplines that have traditionally developed independent of one another, though should be understood as complementary. One seeks to understand the way both individuals and groups create and understand symbolic representations of information as well as how they contribute to the functioning of systems. The meaning given to symbolic representation through speech or otherwise is also considered.

Barker's contributions to ecological psychology, through his extended study of American and English children and young adults, brought culture to the fore in the understanding of human development (Barker, 1968, 1978). He was careful to assert that observed differences among people were a product of the social environments of subjects, such as community leadership and participation structures and habits, job precariousness, or security, rather than their personalities. Further, in regards to the methodological approach his colleague Wright reminds us that one must always take into account not only the social facts of the psychological habitat of a given individual but prioritize the perspective of the individual and his/her perception, priorities and emotions attached to such (Barker, 1978). Wright's perspective is also to be noticed in the writings of McGuire, the existentialists, and attribution theory. The study of individuals in their natural environments brings us closer to understanding these complex and ever changing relationships.

THE PROBLEM OF ATTRIBUTIONAL AND EXISTENTIAL STATES

What is the meaning of the behavior to the behaving person? Attribution theory (Forsyth, 1986; Weiner, 1985) speaks to the meanings assigned to things. Causation is implied in the sense that specific intentions are attributed to the action. The adaptive behaviors of human beings are intentional, purposeful, and responsive to prior conditions of stimulation. These conditions, however, are seldom if ever neutral and without meaning. Meanings are products of the attributions assigned by the social environment and/or embraced by the experiencing person. Thus, the existential state of the adapting person, the meaning assigned or embraced by the respondent is thought to be the determining force behind the expressed behavior. The emergence of attribution theory, contextualist and perspectivist thought, and the awareness of existential states confront the assessment project with problems. These systems of thought suggest the stimulus fields that influence human behavior and performance include hegemonic "realities," i.e., the consensus perceptions of the culture and the idiosyncratic meanings that individuals or groups of people assign to those realities.

The central problem concerns our awareness and documentation of the perceptions and meanings of the adapting, behaving, performing person. Certainly, to understand adaptive behavior, these existential realities must be considered. For the assessment of such behavior the development of a calculus by which such phenomena can be documented and understood is a challenge (Gergen 1985, 1994, 2009; O'Sullivan 1984; Peterson & Barger, 1984).

THE INFLUENCE OF IDENTITY AND MEANING ON PERFORMANCE

In this section we engage literature from the sociology of emotions, behavioral and cognitive psychology, and the sociology of education to mine their specific contributions to our understanding of the relationship between context and human performance. Looking to the literature in the sociology of emotions, collective effervescence, which can be roughly understood as a heightened emotional experience in group contexts, works to address this problem. Randall Collins promotes the idea that emotional energy is a motivational force that can be bolstered or undermined by a chain of failures or successes in interactive rituals. A key assumption of this concept is that people may behave differently because of a perceived group emotion. It has been employed to help explain group behavior in religion, social movements, and sporting events (Collins, 2004). The common notion of a home field advantage in sports is a good example of collective effervescence's effect on human performance.

Collective sentiments of expectation, worth, and ability when defined in terms of the social constructs of race, class, and gender can be reinforced or challenged in educational settings. These were both explored in Steele's "stereotype threat" and Robert K. Merton's "self-fulfilling prophesy." This may help to explain group success or failure for entire classrooms, schools, and school districts, i.e., collective shame surrounding high steaks punishments for failure.

Katz calls attention to possible effects on motivation to perform as a result of complementary and conflictual relationships between the cultural identification of a subject and the political social context of the assessment situation. In doing so he links ones perception of the social environment directly to educational achievement and test performance (Katz, 1967). Claude Steele's stereotype threat is put forth under the assumption that consistently successful outcomes for students are dependent upon their positive identification with the school and subsequent subdomains. Steele acknowledges the negative effects stereotyping can have, especially on women in the sciences and mathematics and African Americans in a larger range of disciplines, for school and examination performance. In areas where students feel that they have been or may be stereotyped or prejudged as incapable, performance is often depressed and otherwise talented students withdraw (Steele 1997; Steele & Aronson 1995). Thus, performance is seen not as a marker of innate potential but rather as something that can be activated or depressed through perceived or blatant stereotyping or positive or negative group association.

Michael Cole and colleagues introduced concern for the interactions between cultural factors and mental performance in the early 1970s (Cole, Gay, Glick, & Sharp, 1971; Cole & Scribner, 1974; Gordon, 1975). First, Cole and colleagues put for the notion that culture, which is a form of context, influences intelligence (Cole et al., 1971). Thus, people tend to develop intellective functions that are adaptive to their environments and the cultures to which they have been exposed. This implies that all cultures work to shape the mental function of the persons exposed to them. Intelligence, then, should be primarily understood by and appreciated for its adaptive function to a given culture or environment. This challenges culturally hierarchical assumptions that place Western style adaptation as superior to others.

Cole's study of a tribal group in West Africa examined the links between cognitive development and culture, specifically in regards to concept formation and classification. Comparing children who attended school and those who did not and stayed in their home communities, Cole and Scribner found that both were equally intellectually competent in their adaptation to that which they were exposed, though displayed slight

variation in cognitive functions (Cole & Scribner 1974). Recently, Cole's work reminds us that no education system should be considered neutral, and that they are directly linked to the society in which they function and its division of labor. The conflict between school values and the multiplicity of values encompassed in a multicultural society is one that has yet to be reconciled (Cole, 2005).

Eckert, through her ethnographic study of the adolescent social structure of a white, suburban Michigan high school, examines the binary identities of "Jocks and Burnouts" (Eckert, 1989). In it, she argues that the social distinctions between the two groups were based on a general rejection or acceptance of hegemonic school norms. Furthermore, she found the division to be an expression of adversarial identities between working and middle class students. The self or group identification with one group or the other was found to either inhibit or promote academic success and shaped much of the student interactions with school staff.

These contributions have proven relevant in recent studies such as that done by Mendoza- Denton, which demonstrates that feelings of ambiguity on the part of women test takers in regards to potential prejudice biases held by their male test givers to be more deleterious than explicit chauvinistic or egalitarianism attitudes (Mendoza-Denton, Shaw-Taylor, Chen, & Chang, 2009). Moving to a cultural frame, the work of Jennifer Lee on the stereotype promise of Asian American students advances the importance of culture, or how people live, over ascribed class and ethnic identities (Lee, 2011).

COMPLEXITY AND CHAOS AS ANALYTIC AND EXPLANATORY THEORIES

Human behavior is obviously the product and expression of both mechanical and organic systems. Contemporary psychology tends to give declining attention to the mechanical in our study of human performance. Our concern with context and perspective contributes to the rejection of unifocal attention to the mechanical. This forces the examination of the organic—dialectical and dynamic; epigenetic rather than genetic; fluid and changing rather than concrete and fixed. Efforts targeted at the analysis and explanation of human performance, in its chaotic and dialectical complexity has led to the employment of complexity theory and chaos theory. The notion privileges the concurrent existence and operation of multiple and paradoxical forces or factors such as to problematize precision and prediction. Cause and effect, linear relationships do not make sense according to these theories. The scientific task is to document these phenomena, chart their operation, and to predict movement or stimulate it. Like organic matter, these phenomena are in constant flux and constantly subject to change.

Both complexity theory and chaos theory provide ways of conceptualizing organic phenomena in constant states of flux. Geyer concludes that efforts at the analysis or measurement of complex and organic systems are always doomed to incompleteness or failure (Geyer, 2003; Simon, 1969). This is an admonition that must guide our efforts at the assessment or even the documentation of human performance in context.

EMPIRICAL MUSINGS

Recognizing that the perspective that informs this essay is a critique of empiricism, in a sense we are engaging a tautology, in that there is the need to validate our claims through empirical evidence. Yet the social sciences have not seriously engaged the generation of such evidence in support of our claim that context and perspective are critical factors in the understanding of all phenomena. Contextualism and perspectivism are rightly considered the Achilles heel of empiricism. If the central arguments of empiricism require that we constrain observation out of the need for precise control of variables and those observations are dependent upon fallible human perceptions, the inherent distortion of such variables renders empiricism inadequate. The social sciences have essentially ignored the paradox, articulated in William James' "Radical Empiricism". How do we do empirical investigations without distorting the phenomena we investigate? William James has argues that distortion and empiricism are irreducibly intertwined (James, 1912).

Empirical methods marked an advance in the history of the human effort of knowledge production, but empiricism has its limitations, even contradictions. The embrace of contradiction is one of the tasks of the intellectual. Contradiction appears to be omnipresent and should be assumed to be present in all systems of thought. Donald Hebb contends that paradigms or theories must always be tentatively held and that it is the nature of theories to be disproven (Hebb, 1974). Theories are ways of thinking about a phenomenon at a given point in time. We use the theory until it is disconfirmed or displace by a better-informed and supported notion.

TOWARD THE ASSESSMENT OF THE CONTEXTS OF ADAPTIVE BEHAVIOR AND ASSESSMENT OF ADAPTIVE BEHAVIOR IN CONTEXT

Our concern with the contexts of human performance confronts us with a bifocal problem. One dimension calls us to give attention to the documentation and assessment of the contexts in which adaptive behavior occurs. The second dimension of concern forces us to examine the behavior or performance "in context," i.e., documenting and assessing the behavior itself within the contexts and environments that it occurs. Consideration

of these factors confronts the assessment project with very different problems. Further, the idiosyncratic meaning that a probe has for a given person influences performance and suggests a problem for measurement. Barker's studies in the psychology of environments purpose one way to approach the first situation. Jackson's anthropological concern with capturing the meaning of the lived experience of others is relevant for the second dimension (Jackson, 1989). Other investigators have explored work place as contexts for human performance, community, and family as context for human development, perspective on life as determinants of behavior.

IMPLICATIONS FOR ASSESSMENT

Assessment can occur in contrived settings, in virtual settings, and in-vivo settings. The tradition in measurement science has privileged on demand performance in contrived settings. Traditional practice appears to require that the stimulus and the subjects' response be decontextualized. One of the primary arguments of this section holds that efforts towards decontextualization may in fact distort both the stimulus situation and the response from its original context towards its new, artificial, decontextualized one. We agree with Maguire that the isolation of or removing from the context in which it operates—and by which it has developed—constrains the response and distorts the stimulus itself (McGuire, 1983, 1999). The relationship between decontextualization and standardization, in testing, is implicated as dubious in light of this perspective.

We conclude the assessment must take into account various settings and their influences on human performance. It is not alone sufficient that attention be given to settings; in addition it is important in the measurement of the performance of human beings that we recognize that they are living, conscious organisms behaving in dialectically interacting contexts. This necessitates that attention be given to behaviors as they emerge and change in these dynamic settings, to the characteristics of the settings, and possibly most the difficult, to the constantly changing interactions between performing subjects and stimulating context. It is not surprising that the field of assessment has not perfected strategies for such assessment given the diverse purposes to which assessment can and should be addressed. The capability to address these set of problems is the demand with which the assessment enterprise will increasingly be faced.

Such settings include all of the places where people learn: classrooms, athletic fields, political meetings. One of the characteristics of such settings in which assessment probes naturally occur is that they can be introduced for the purposes of both measurement and instruction. Some of the functional characteristics for these settings for learning include:

> where discourse is the model activity; where assessment probes have become a part of the teaching and learning transaction including those natural, implicit, and some specifically used for measurement purposes; teaching and learning situations where explanatory, mediated, and interpretive recitation is emphasized; assessments in which the data are the analytic and descriptive observations of experts; and the wide variety of digital electronic (especially epistemic) games. No matter what the setting, it is the importance of the interaction between the setting, the task, and the characteristics of the performing person for which we are advocating. In all of these settings the distillation of assessment data could become the tasks of a new class of psychometricians who would need multifocal lenses to capture performance in context, contexts being perceived and utilized, and the interactions between these two categories of phenomena create relevant settings. Multifocal lenses are capturing the behavior of the subject, the stimulus material, assigned attributions, and personal characteristics.

Some approaches to assessments that are sensitive to context include:

BEHAVIOR INVENTORIES

Inventories of extant abilities and naturally occurring behavior are designed to capture (identify, count, describe action and context, and otherwise document) the expressed activity of subjects and settings in which human activity occurs (Eyberg, 1992). Available instrumentation gives more attention to the behavior observed than to context and behavior/context interaction but extant practice reveals important interactions between setting or situation and performance. This is an approach by which knowledge is ready to be developed into procedures and techniques for documentation and assessment.

HYPO-TEXTS AND CONCEPT GENERATION

The use of hypo-text, incomplete text, or textual clues is another means to stimulate and focus thought. In reference to assessment in context, the practice is used to force the subjects' attention to the context in which the phenomenon is being experienced. It may be criticized for the capacity of the practice to deliberately influence the expressed behavior by thus highlighting features of context or the fact of contextual relevance, the absence of which may be characteristic of the behavior being observed.

QUALITATIVE ANALYSIS AND CONTINGENCY MANAGEMENT

The behaviorist (Skinner et al.) gave rise to the model of assessment that was characterized by careful descriptive analysis of behavior with a view to better understanding the contingencies that could be used to reinforce adaptive responses. It came to be associated most with behavior modification interventions. It should be highlighted that as Skinner's notions concerning teaching and lessoning declined in influence and accepted practice, it is unfortunate that interest in qualitative analysis of behavior also declined. The assessment model is directed at uncovering as much as is possible concerning the nature of the activity, its context, and its meaning to the subject. In education the data of such assessment could be used to define educative input in addition to its use to reinforce responses. The methodology is especially appropriate to the study of contexts and interactions between contexts and human performance.

SITUATIONAL JUDGMENT TESTS

The use of situational judgment tests as complementary to more standard cognitive and subject knowledge tests continues to grow, especially in student selection for professional training. Situational judgment tests engage problem solving abilities in subjects as they respond to issues or problems that are likely to occur in their advanced professional or academic training as well as in their future profession. It has been widely documented that these tests are successful in personnel selection (McDaniel, Whetzel, Schmidt, & Maurer, 1994; Schmidt & Hunter 1998).Flemish researchers Lievens and Coetsier found the use of such tests to be more accurate in predicting student success than standard cognitive ones (2002). Further, they found that when situational judgment tests were combined with cognitive, there was no mean difference in outcomes between genders. This is very exciting, as such diversification of assessment tools help to transcend specific contexts where stigma, threat, or inhibiting factors may play a role, enabling subjects to be captured outside of such stigmatized environments.

PORTFOLIO DEVELOPMENT AND ANALYSIS

Portfolio development is the collection of work used for assessment, learning, development, and appraisal; it also contains a strong reflective component, which can be on the part of both educators and students (Klenowski, 2006). Portfolio development is heralded for allowing a more complete picture of the education process as well as engaging learners in their own development. The use of portfolios to evaluate teachers has been institutionalized

as a requirement for National Board teacher certification, underpinning its valued place in the educational repertoire (Zeichner & Wray, 2001).

FORMATIVE ASSESSMENT AND RELATIONAL ANALYSIS OF DATA

Formative in contrast to summative categorizations in educational measurements have tended to refer to the intent for which the assessment is being conducted or the purpose for which the assessment data are used. When used to inform intervention we call it formative. When used to make post-hoc decisions we call it summative. Increasingly, the formative designation also influences the assessment process in which measures of achieved status are combined with information concerning teaching and learning processes so as to produce more explanatory process data in addition to data concerning status. Formative assessments tend to be linked to teaching and learning transactions with real-time feedback to teachers and learners. Combined with relevant relational analyses of both assessment, intervention, and contextual data, formative assessments show potential for informing and improving teaching and learning processes and outcomes.

PROJECTIVE TECHNIQUES

Projective techniques present an ambiguous task or stimulus to a subject, which can be interpreted, responded to, or solved in a multiplicity of ways. In traditional psychological assessment, the implicit value of such exercises is that the subject is thought to reveal themselves in some way through their spontaneous response (Thurstone, 1948). The Rorschach exam or inkblot test is a very popular projective technique, which has been used by psychologists for almost a century (Thurstone, 1948). Its virtues are that it enables the person to explain the meaning of a stimulus, in this case the image, in their own terms. It is most often use for psycho-emotional evaluations. Other projective techniques include Thematic Apperception Test, human figure drawings, and word association.

Projective techniques continue to be controversial as Lilienfeld, Wood, and Garbhave noted (2000). Concerns over validity, because of the subjective bias that may produce different interpretations by psychologists regarding the same subject, are a sustained concern. It has been suggested that to offset this possibility, responses always be aggregated. It is also interesting to note that projective techniques are considered situation susceptible. Though this has not been reconciled, it does reinforce our argument in favor of further innovating and prioritizing of the measurement contextual interaction in assessment. Furthermore, outside the realm of psychological evaluations, projective techniques have the potential to stimulate and capture creativity in problem solving and interpretation. These may be best used alongside other evaluative measures.

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