GATESOL In Action

ISSN #2331-6845

Rethinking Metaphors of Classroom Assessment

By Dennis Odo
International Language Institute of Hanyang University
Seoul, South Korea
dmurphyodo@yahoo.ca

The lenses and metaphors we use to describe the world around us affect the way we view and interact with the world. Bearing this truism in mind, this essay urges educators to revisit the popular assessment as puzzle metaphor. I contend that while this metaphor has served scholars and practitioners well in the past our current understandings of the assessment process point to a need to upgrade this image. While the puzzle metaphor allowed an expanded conception of assessment it also obscured the static view of assessment that it promoted. The organism within an ecosystem metaphor proposed here may help policymakers understand that the larger purpose of assessment is not solely about collecting and evaluating artifacts but it is rather about making well informed decisions that support the learning needs of students. This perspective shift may help us better appreciate the complexity of effective assessment as well as the need for ongoing professional development that supports teachers' assessment literacy growth.

Keywords: assessment, assessment literacy

A number of factors over the past several decades have contributed to a proliferation of assessments in schools. These factors include public and policymaker demands for school accountability and school administrator convenience leading to increasing use of high-stakes standardized tests

(Stiggins, 2004). Additional audiences for assessment results have also necessitated the creation of newer assessments. These audiences include the public, administrators, parents, teachers and students who often want access to different kinds of assessment information (Farr, 1992; Valencia, 2002) and whose wants and needs are frequently in conflict (Farr, 1992). Proliferating assessment purposes also fuel this trend with various reasons including evaluating learning objectives, reporting student progress, counselling, motivating and recognizing students, selecting students for special programs and holding schools accountable (Coil & Merritt, 2011). Consequently, students are being assessed much more than being assessed historically (Pandya, 2011) with a much more varied and disparate collection of assessment tools and procedures.

As assessments have continued to multiply and we have continued to refine our understanding of them, one metaphor has gained popularity in helping scholars and practitioners to frame their expanded conception of the assessment process. This metaphor imagines assessment as being the assembling of pieces of a puzzle (Farr, 1992; Valencia 2002; Edwards, Turner & Mokhtari 2008). Each type of assessment or component of the process is often likened to a piece in the puzzle. This metaphor has been valuable in

many ways because it has allowed educators to re-imagine the assessment process as a somewhat more eclectic collection of evidence to provide a more complete model of learners' abilities and limitations than a single one-off high stakes test. It is a popular metaphor that has been drawn on by a number of scholars and commentators over time and it has been particularly prevalent among those who talk about the value of alternative and formative assessments.

While acknowledging its usefulness over the past few years, given our continually expanding understanding of the assessment process, it may be time to rethink and update this puzzle metaphor. Considerable benefit derives from updating our metaphors. For example, the metaphor of the mind as a serial processing computer has given us valuable insights into a print-based approach to perceiving and comprehending written words on a page (Gough, 1972). However, a parallel processing metaphor adapted from developments in computer technology allowed scholars to better understand how both perception of print and drawing on background knowledge contribute to the reading comprehension process (Rummelhardt, 1985). This example demonstrates that we have to be thoughtful about the metaphors that we use to explain the phenomena in our world because they shape our perception of

those phenomena and may cause us to be blind to important aspects of those phenomena (Lakoff & Johnson, 2008). Bearing this in mind, I contend that it is time to revisit and update our metaphor of assessment as a puzzle because it may be causing us to overlook some crucial aspects of the assessment process. I also propose that likening assessment to the feedback processes that take place within an organism can help draw our attention to some important features of that process that assessment stakeholders can benefit from understanding better.

Revisiting the Puzzle Metaphor

Educators collect a variety of assessment information that includes both traditional "standardized" forms of assessment and other "alternative" forms ranging from anecdotal notes through to checklists and portfolios. Student self-assessment can also be considered to be a component of the broader category of alternative assessments (Coil & Merritt, 2011). Each assessment type has unique strengths and weaknesses. For instance, standardized assessments can provide a general sense of a student's overall ability but their broad sampling of content tends to make them less informative for classroom instruction. In contrast, while alternative assessments offer rich information on ongoing progress in authentic classroom tasks they also come with the

drawback of being rather labor intensive and increasing the risk of teacher bias affecting their evaluation. Likewise, the benefit of student self-assessment is that it gives them a sense of responsibility and ownership (Reif, 1990) but it needs to be carefully managed to ensure students' thoughtful reflection and analysis (Valencia, 2002). If we understand what each type of assessment can and cannot contribute to our understanding of student learning, we can do a better job of teaching as well as assessing students (Hiebert & Calfee, 1989; Pearson & Valencia, 1987).

This process of assembling assessment information from a variety of sources has gained increasing scholarly attention in recent years. A number of contemporary scholars and commentators on assessment have compared the process to piecing a puzzle together (Farr, 1991, Coil & Merritt, 2011). However, several varied – and sometimes conflicting – conceptions of the assessment as puzzle have emerged. It appears that some of the disagreement relates to what the pieces of the puzzle actually are. For instance, Farr (1992) describes the puzzle pieces as being general orientations toward assessment noting "[the] pieces of the [assessment] puzzle represent many types of assessments, critical attitudes toward assessment, and attempts to challenge or improve them" (p. 26). This conception contrasts with another view of the pieces as being broad categories of assessments such as "standard

assessment, classroom based assessment, and student self-assessment" (Valencia 2002, p. 2). To this, Coil and Merritt (2011) add instruction, as well as documenting and reporting progress. Valencia (2002) also contends that "[the] glue that holds these assessment pieces together is content standards—statements about what students should know and be able to do" (p. 2). A third conception of the puzzle sees the pieces as the actual types of assessment. For example, Hill, Campbell and Ruptic (1994) focus on specific and practical aspects of assessment and evaluation such as collecting and recording information from multiple sources (i.e., portfolios and student observations) on an ongoing basis. Applying this same perspective to second language reading assessment, Geva (2006) supports using a lot of the same assessment tools used with L1 learners if they have a basic command of the L2. To these, she adds several L2 specific assessments including L1 performance data (e. g., home country report cards), previous assessments, family cultural and linguistic background, and so forth. Ultimately, all of these various interpretations of the "puzzle" demonstrate that there are really no commonly agreed upon definition.

In essence, the puzzle metaphor likens the assessment process to assembling a puzzle that represents the overall ability of the student. Each

piece of the puzzle is some type of assessment of the student's abilities. Thus, pieces of the puzzle might include test scores, anecdotal classroom observations and a collection of portfolio materials. This puzzle metaphor has been a helpful tool for scholars and educators to use when thinking about formative assessment. It has also provided us with a number of important insights. For instance, it has allowed educators to bear in mind the reality that assessment is not a singular unified process and there are many pieces of information to be assembled to put forth a fair and accurate description of a learner's strengths and limitations (Farr, 1992). Secondly, the assessment puzzle has allowed us to see the value of collecting an eclectic variety of types of assessment information such as scores on standardized tests through to anecdotal classroom records (Coil & Merritt, 2011). Lastly, the notion of "assessment as puzzle" has helped us to remember that there needs to be some balance among the various information sources such that assessment decisions are not made primarily based upon information from only one source (Valencia, 2002).

The valuable insights this metaphor has provided for understanding the importance of assembling a balanced variety of evidence for learner ability must be acknowledged. Nevertheless, this way of seeing the assessment

process has also created some potentially hazardous distortions in many educators' views of assessment. When stretched beyond its capacity the metaphor threatens to cause educators to generate a number of unproductive if not harmful misconceptions about what effective classroom assessment is. These specious conceptions of assessment may in turn cause inaccurate perceptions about a student's, or group of students', relative strengths and areas of need. Three particularly dangerous misapprehensions generated by the puzzle metaphor provide evidence that it is time to rethink and update the assessment as puzzle metaphor to better incorporate recent research discoveries and developing understandings. These problematic assumptions include a static image of assessment, the notion that assessment can ever be complete and a somewhat traditional and constrained view of what constitutes assessment.

The puzzle metaphor creates a fairly static image of assessment in the sense that it represents assessments as a fixed and predetermined number of interlocking pieces that does not necessarily leave room for the less tangible aspects of assessment. While the puzzle metaphor allows scholars to take a much broader and more holistic view of assessment, it is still problematic because it threatens to limit our imagination in terms of what we might accept

as being valid forms of student assessment. For example, while scholars who use the puzzle metaphor accept many alternative forms of classroom assessment (e. g., anecdotal records and portfolios) they ultimately still tend to view assessment itself as a rather static collection of artifacts in the sense that teachers collect data through anecdotal records or other means of documentation, assemble the data and present a conclusive representation of the student. In that sense, although this broader conception of assessment looks quite dynamic at first glance, it is actually still rather static. Other scholars (e.g., Popham, 2010; Stiggins, 2004; Pollock, 2011) would argue that assessment is actually still a more fluid and dynamic process than that conception allows. These scholars contend that classroom formative assessment is the deeply intertwined with the moment-by-moment decision making processes of the classroom teacher and, in fact, these in-the-moment decisions are at the heart of the classroom assessment process. The danger is that the puzzle metaphor may be an impediment to seeing the assessment process in this somewhat ethereal and dynamic way because it encourages us to look at assessment as an assemblage of artifacts rather than as an ongoing in-the-moment evaluative process. Thus, while the puzzle appears to accept all forms of assessment, it may actually blind teachers to the importance of developing their assessment intuition. This is because the moment by moment

decisions based on their intuition may not necessarily find their way into the various assessment artifacts or documents favoured by this paradigm.

A second and related issue with the puzzle metaphor is that it gives the problematic impression that there is a natural end point in the assessment process. That is, teachers or administrators just have to fit all of the pieces together to complete the picture of the student (e. g., Coil & Merritt, 2011). In this view, there is a predetermined outcome with a pre-set number of pieces and once all of the pieces are in place the puzzle is finished. Those who see assessment as a puzzle are in danger of making this questionable assumption. The reality is that there is no real end point in assessment and to believe otherwise risks the faulty assumption that assessment can be a "paint by numbers" game. That is, teachers may come to think that rather than assessment being a single score on one test it is simply a collection of scores on a number of different kinds of assessments. The problem with this viewpoint is that is can cause teachers to tacitly see themselves as technicians whose task it is to assemble and record the results of assessments that have been designed by others. They may come to implicitly believe that though they use assessments from a wider variety of sources assessment is still ultimately about filling in blanks, just different kinds of blanks than in the past. The result

of this approach is that teacher creativity and professional judgement is left to atrophy. This enervation of teacher ability must be avoided because professional competence is a key element necessary for educators to refine the true art of teaching which is thought to be the source of joy and inspiration in teaching (Eisner, 1983). Thus, an assessment as puzzle of artifacts approach does not provide teachers with the opportunity to flourish as professionals.

A third shortcoming of the assessment as puzzle of artifacts metaphor is its falsely mechanistic nature. In this construct, assessments are conceived of as being discrete puzzle pieces that all add up to a final overall picture of the student's ability when in reality the various assessments often blend together in numerous shifting configurations within the overall assessment scheme. For instance, the "assessment picture" of a particular student might be comprised of data about her decoding, fluency, and comprehension that has been collected through miscue analysis, timed reading, and a story retell. Taken at face value, it appears that these data are in fact discrete pieces of a puzzle that add up to a final result. In this way, the metaphor helps us appreciate all of the various data sources that can contribute to an evaluation of a student's ability. However, it also blinds us to the fact that all of these data points are submerged in a largely invisible ocean of decision making that has gone into

the choice of which assessments to administer, when to administer them, what to do with the results and so forth. This continuous decision making process must be clearly understood because the value of the whole assessment process hinges upon informed and competent teacher decision making in light of the fact that ". . . teachers, themselves, are the most important assessment tool" (Valencia, 2002, p. 3).

Reconsidering the Assessment Puzzle Metaphor

As noted above, the assessment as puzzle of artifacts metaphor has its limitations in terms of being somewhat static, presenting the false impression of an assessment end point, and being excessively mechanistic. While this metaphor presents student evaluation as being a mechanistic process of assembling predetermined assessment artifacts together, the reality appears to be a much more organic process. Instead of mechanical data collection and evaluation, the student and teacher exchange information through both a variety of assessment artifacts and, equally as important, the ongoing interaction of student behaviour and teacher observation that occurs during their time together. In this way, a great deal of assessment happens "off the books". However, the assessment as puzzle metaphor focuses on the artifacts in the form of puzzle pieces while ignoring the fact that those artifacts are

suspended in an ocean of classroom interaction and teacher decision making. Therefore, a more suitable metaphor might be that the teacher acts like the brain of an organism (the class) by gathering information from the other organs (students) and deciding what needs to be done to ensure the optimal functioning of the individual organs and the organism as a whole. Of course, as with any organism, it does not function in a vacuum but rather in an ecosystem of other stakeholders who have their own explicit and implicit guidelines and expectations that provide another layer of feedback to and constraint upon the organism. In this analogy, assessment is comparable to the nervous system of the organism serving as a conduit of information from the "organs" to the "brain."

This organic metaphor helps to foreground the holistic nature of assessment in a number of ways. First of all, it reminds us that, at its most fundamental level, assessment is about a relationship mediated by teacher and student prior conceptions, artifacts, observations and other actors in the immediate and wider environment. In many ways it is a communicative act but the puzzle metaphor obscures the relational dynamics between the teacher and student that are nested within an arrangement of other relationships among educational stakeholders. Secondly, the organism

metaphor also characterizes assessment as being less neat and tidy and more accurately portrays the complex and messy process as it occurs in real classroom environments. Lastly, this conception has the potential to create space for a crucial humanistic and affective component missing in many contemporary discussions of assessment (McKenna & Stahl, 2012). The organic metaphor accomplishes this by expanding our conception of what assessment entails which helps us to realize that assessment has many more aspects that we need to explicitly consider than we had previously thought. Re-imagining classroom assessment as organism rather than puzzle helps us to foreground the fact that assessment is not a static "paint by numbers" process with a pre-determined outcome. It requires problem-solving, engineering solutions, and creativity.

This organic metaphor calls for those who assess to be much more knowledgeable about how to assemble and create assessment tools that collect and record rich data from multiple sources on an ongoing basis (Hill, Campbell & Ruptic, 1994). They must also be able to accurately interpret that data and explain their interpretations to a variety of audiences. This ability demands an extensive educator professional knowledge base. The fact is that regardless of what metaphor we decide to use, be it puzzle or organism,

teachers need to be assessment literate. Otherwise we risk deprofessionalizing teachers by failing to provide them with sufficient education to make them knowledgeable about effective classroom assessment practice. Despite her reliance on the assessment puzzle metaphor, Valencia (2002) balances her discussion of the need for standardized tests with an emphasis on the value of classroom assessment based on teacher observation. She likewise acknowledges the importance of training teachers to collect rich assessment data and then trusting them as experts in classroom assessment. Farr (1992) agrees noting that authentic assessment is helpful (e. g., observations) if teachers are properly trained in procedures for how to do it. That is, teachers need additional training on using various informal assessments.

Teacher Assessment Literacy

Coil and Merritt (2011) point out that "as educators, we also assess without measuring." This kind of assessment is usually based more on teacher observations and interactions and "With these assessments, we often rely on anecdotal records or verbal descriptions as alternatives to specific numeric measurements" (p. 7). We also need to realize that, in actuality, we assess without measuring a lot more than we assess with measuring. This continuous observational assessment requires solid understanding of correct performance of a variety of academic tasks as well as how and when to give clear feedback that the student can use to improve future performance. A significant component of the switch from a puzzle to organism metaphor is an increased reliance of teacher assessment literacy. That is, teachers would be expected to be much more competent at collecting and keeping systematic and informative formal and informal data on their students and well as interpreting that data for various audiences and using results to improve future student performance. As Valencia (2002) notes, "teachers must be able to develop assessment strategies, gather evidence, analyze what they see, and ultimately, make instructional adjustments to respond to student needs. This is precisely why classroom assessment is so powerful" (p. 4). A clear and

useful conception of the assessment process coupled with strong assessment literacy will enable them to give the immediate and detailed feedback necessary to ensure improved student performance. In order to do this, they need knowledge of a wide variety of types of assessments as well as how to use them.

In addition to administering assessments, assessment literacy is also crucial to enable teachers to defend their students from improper use of assessments. For instance, in the case of English language teachers, a variety of problematic assessment practices have arisen such as use of inappropriate accommodations (Menken, 2008), frequent testing that impedes sufficient coverage of curriculum (Pandya, 2010) and even serious questions about the validity of the assessments themselves for English language learners (Almeida, 2007). Therefore, the teachers who work with these populations of learners have to be sufficiently knowledgeable about these issues in order to protect their learners from inappropriate and potentially abusive testing practices.

Lastly, taking a somewhat wider perspective on the issue, another key reason for the need to promote assessment literacy is that all teachers need it. As Valencia (2002) points out,

> . . . as educators, we need to counter the illusion of a simple score and the almost exclusive confidence those outside education ascribe to standard assessments. On the other hand, we must learn to deal with multiple indicators (i.e. indicators from standard, classroom-based, and student self-assessment as well as multiple indicators within each type of assessment). Sometimes information from multiple sources will converge, providing a consistent evaluation of student performance; other times the information may be discrepant because of differences in assessment formats, the skills and strategies tested, or simply inconsistencies in student learning. But, it is important to value all the information and to remember that the more samples of student learning we collect, the more trustworthy and informative our results (p. 8).

In other words, assessment is a very complex process and teachers need to be well prepared in order to be able to do it effectively. Consequently, a significant component of teacher preparation and professional development should be devoted to the development of teacher assessment literacy. This assessment literacy allows teachers to guide their instruction or defend their students speak from a position of strength when they join other stakeholders in assessment discussions in their own respective systems (Farr, 1992).

Conclusion

This essay presented the argument that scholars and practitioners need to update the metaphor of assessment as a puzzle and instead begin to think of it as analogous to the feedback processes that take place within an organism. Granted, the puzzle metaphor offered several benefits such as an

expanded conception of the assessment process which allows us to see the value in accumulating a variety of artifacts that serve as valid indicators of student ability. However, it has also maintained somewhat of a static view in the sense that assessment generally continues to be seen as a collection or artifacts that overlooks the importance of the immense amount of ongoing "off the books" evaluation and decision making around these artifacts. The adoption of an organism within an ecosystem metaphor was proposed that sees the students as the body, the teacher as the brain and the assessment process as the nervous system. This metaphor helps educators to keep in mind the embedded, rich and continual nature of assessment.

Additionally, a switch to this "organic" lens may help policymakers understand that the larger purpose of assessment is not solely about collecting and evaluating artifacts but it is rather about making well informed and conscientious decisions that support the learning needs of students on a continual basis. This shift in perspective may also help them to more fully appreciate the complexity of effective assessment "for" and "of" learning and thus the need for ongoing professional development that supports teachers' assessment literacy growth. Secondly, the organic metaphor of assessment has the potential to open up teachers' imagination to tap into other previously

overlooked ways of assessment. For example, thinking of assessment as feedback within an organism nested in an ecosystem may enable teachers to more fully appreciate the richness and complexity of the assessment process and consequently the level of knowledge and assessment literacy they will need to have to ensure they can gather and interpret all of the rich formal and informal data necessary for fair and valid assessment of their students. Lastly, this lens may help teachers and administrators to more clearly convey the inevitable richness and complexity of valid and fair assessment to other stakeholders (e. g., parents and the public). This awareness will help stakeholders realize the insufficiency of a single standardized test score for evaluating a child's ability as well the centrality of ongoing assessment and feedback to the activity of teaching and learning as well as maintaining an appropriate balance of use of the various assessment tools available to serve all of the relevant assessment purposes for the various audiences (Coil & Merritt, 2011).

As educators, we must remember that the metaphors we choose to think about the world shape the way we act in the world and the impact of our actions on others (Lakoff & Johnson, 2008). This is why it is important to give careful consideration to the images that we use to conceptualize the

assessment process. If we fail to periodically update our schema of the assessment process we may overlook or misunderstand new insights we have gained from research and practice that may stand to benefit our students greatly.

Summary of Implications for Practice

There are a number of clear implications of an organic view of assessment for teachers and teacher educators. Several of these are predicated on the idea that teachers need to engage in ongoing professional development to increase their assessment literacy.

- Assuming an "organic" perspective helps us realize that assessment is not administering a set of artifacts but is rather cultivating an ability to observe and assimilate rich information about their learners that will help them to better differentiate instruction to meet all of their learners' needs.
- We can then move away from thinking of assessment as the simple collection and evaluation of an assortment of artifacts like cloze tests or portfolio materials and begin to think of it as a constant interactive process of observing learners and communicating with them about their performance. This perspective sees assessment as a frame of mind that

eschews following others' recipes and encourages the exercise of greater professional autonomy.

- Recognizing the importance of ongoing assessment and feedback is for learning, teachers must find ways to develop their powers of observation and keeping anecdotal records that help them to collect the rich qualitative data needed to provide the specific feedback required to ensure effective instruction.
- Remember that as teachers and teacher educators we have to pay more careful attention to the metaphors that guide our thinking because these metaphors affect our actions and thus have real consequences for our learners.

References

Blair, J., & Archer, J. (2001). NEA members denounce high-stakes testing. *Education Week*, *20*(42), 1-3.

Coil, C., & Merritt, D. (2011). *Solving the assessment puzzle piece by piece. Pieces of Learning*. Saline, Michigan: McNaughton & Gun Inc.

Edwards, P. A., Turner, J. D., & Mokhtari, K. (2008). Balancing the assessment of learning and for learning in support of student literacy achievement. *The Reading Teacher*, *61*(8), 682-684.

Eisner, E. W. (1983). The art and craft of teaching. *Educational Leadership, 40* (4), 4-13.

Farr, R. (1992). Putting it all together: Solving the reading assessment puzzle (Distinguished Educator Series). *Reading Teacher*, *46*(1), 26-37.

Geva, E. (2006). Learning to read in a second language: Research, implications, and recommendations for services. *Encyclopedia on Early Childhood Development, online resource. Montreal Quebec: Centre of Excellence for Early Childhood Development. Retreived from* http://www.child-encyclopedia.com/documents/GevaANGxp.pdf

Gough, P.B. (1972). One second of reading. In J.F. Kavanagh & I.G. Mattingly (Eds.), *Language by ear and by eye* (pp. 331–358). Cambridge: MIT Press.

Hill, B. C., & Ruptic, C. (1994). *Practical aspects of authentic assessment: Putting the pieces together*. Norwood, MA: Christopher-Gordon Publishers, Inc.

Lakoff, G., & Johnson, M. (2008). *Metaphors we live by*. Chicago: University of Chicago Press.

Pandya, J. Z. (2011). *Overtested: How high-stakes accountability fails English language learners*. New York: Teachers College Press.

Polimeni, J. M., & Iorgulescu, R. I. (2011). Whose standards? Reaching the assessment puzzle. *American Journal of Business Education (AJBE)*, *2*(7), 43-54.

Pollock, J. E. (2011). *Feedback: The hinge factor that joins teaching and learning.* Thousand Oaks, CA: Corwin Press.

Popham, W. W. J. (2010). *Everything school leaders need to know about assessment*. Thousand Oaks, CA: Corwin Press.

Rief, L. (1990). Finding the value in evaluation: self-assessment in a middle school classroom. *Educational Leadership*, *47*(6), 24-29.

Rummelhart, D. (1985). Toward an interactive model of reading. In H. Singer & R.B. Ruddell (Eds.), *Theoretical models and processes of reading* (pp. 722-751). Newark. DE: International Reading Association.

Stiggins, R. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan*, 83(10), 758–765.

Stiggins, R. (2004). New assessment beliefs for a new school mission. *Phi Delta Kappan*, *86*(1), 22-27.

Valencia, S. W. (2002). *Understanding assessment: Putting together the puzzle.* Current Research in Reading/ Language Arts. Accessed June 30, 2014 at http://www.eduplace.com/state/author/valencia.pdf