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Comprehension and Discipline Literacy: The Key to High School Achievement

by [Yvette Jackson, Ed.D.](#)

"Why are so many students failing so miserably while we are trying so hard?" Do you feel this way or have you heard this disquieting refrain? Many teachers I have spoken with express anguish, anxiety, and even hopelessness they are experiencing with the challenge of getting their students to meet the standards and achieve mastery on the Washington Assessment of Student Learning (WASL). The questions they want answered are, "How do you translate the standards (EALR's) and the goals of the high stake tests (WASL as well as other tests) into instruction that will reverse the underachievement of so many? What's the problem?"

The reality is that we do know what one of the most critical and impacting problems is, but we are having a hard time grappling with this in secondary schools. The problem is that the students for whom mastering standards seems only attainable through a miracle, are the students who are poor readers. We know there is a high correlation between poor performance in any subject and reading. Alarming numbers of teachers say that 50-60% of their students cannot read at the level of the textbooks they are using and yet they feel so trapped by the need to cover content that they feel they must plow along, assigning independent reading to get through the course material even when they know that so many cannot read the texts. The result is that the poor readers cannot do these independent assignments, so many don't even try. And they fail. The travesty is that most of these students care a great deal about succeeding, but know

they don't know how. What's equally sad is that most of us deeply want these students to succeed but we just don't know how to make this happen for these students.

Learning and Literacy

One of the most staggering pieces of data I have encountered working with high school teachers in urban areas through the National Urban Alliance is that 65% of the students fail one or more subjects each term. When teachers are asked what they attribute this alarming data to, two problems dominate as responses:

- (1) Negligence: "Students do not do their assignments."
- (2) Lack of skills: "Students are poor in comprehension."

These problems have been addressed as two unrelated issues, and yet in standard high school instruction, learning and reading are codependent processes. Failing students due to negligence is one issue, but imposing a failing grade when a student does not comprehend is unfair. This type of behavior indicates the need to identify specific reasons for the problem so attention can be focused on strategies to reverse the problem, gearing our instruction to improving student understanding and learning.

Discipline Literacy and Mediated Learning

One of the critical realities for most underachieving students is that very often they are not able to identify the key focus of the learning, or discipline concepts, to be studied in a unit of study or other text used. This lack of understanding inhibits their comprehension, resulting in little or no motivation, which is exacerbated by their feeling a lack of confidence in their competence to achieve. Confidence is the result of knowing what to do and believing you have the skills and abilities to meet those expectations. If we want to reverse this cycle of underachievement and the accompanying feeling of incompetence, we have to provide mediation strategies for students to feel confident that they understand what we are teaching and have the skills to communicate their understanding. (Jackson, 2001)

Comprehension is the ability to construct meaning. Reading comprehension is the ability to construct meaning using text

(Cooper, 1999). There is no getting around the fact that 90% of what we use to teach students is done with text. Given this reality, we may not be reading teachers, but if we expect students to learn from text, then we must be teachers of text comprehension. The texts we use in our disciplines require a "literacy" of the discipline in order for students to comprehend them. Literacy is the ability to construct, communicate, and create meaning in many forms of representation (e.g., writing, math symbols, musical notation, visual art) (Eisner, 1994). In discipline literacy students must have the frame of reference to know the technical terms that enable them to understand how the professionals in the discipline think and what they do: e.g., What do good writers do? What do mathematicians do? Literacy of the discipline requires fluency in its vocabulary and being able to construct and communicate meaning using the organizational structures of the discipline.

Mediating Discipline Literacy: A Process for Enhancing Learning

Our mission as secondary teachers is to equip students with the skills that strengthen their motivation and competence to learn. Making this mission a reality with underachievers requires what Reuven Feuerstein calls mediated learning experiences. The goal of mediated learning is to elicit from students a personal motivation for learning and to provide the strategies needed to achieve in a discipline of study. Designing mediated learning experiences involves:

- identifying what's expected for achievement (what students should know and understand)
- identifying what's needed to meet those expectations;
- understanding what blocks the necessary learning, (particularly for discipline learning: comprehension of text);
- and
- providing instructional strategies that address these learning blocks

What's Expected for Achievement: The Targets of the Standards and Assessment

The standards were created to give us markers for guiding the integration of the understandings and skills required to achieve within specific areas of learning. The performance assessment was designed to alert us to the progress students are making in grasping those understandings and applying those skills. We've

analyzed both the standards and the assessment and found that they can be narrowed, or compacted down to three learning expectations for high school students and targets for instruction. These are:

- fluency in the language of the specific disciplines or areas of learning;
- the ability to construct meaning from text from the disciplines or areas of learning; and
- the ability to communicate the meaning constructed from the text.

The performance assessment (WASL) assesses a student's level of literacy (fluency, constructing meaning, and communicating meaning) within the context of a discipline or area of learning. There is no coincidence that these expectations or targets being assessed are the same proficiencies needed to develop literacy in the various disciplines (fluency, constructing meaning, and communicating meaning) as well as for strengthening reading comprehension (construct meaning using text).

Fluency is the ability to effortlessly identify and use words in meaningful ways. Every discipline has its own esoteric vocabulary or language that will only be learned if it is used in conversation and applied to writing. Constructing meaning is the natural process the brain utilizes when it perceives relationships (Caine & Caine, 1994). These relevant or meaningful connections motivate the brain to focus and activate prior knowledge. Constructing meaning involves the cognitive skills of:

- focusing;
- predicting;
- inferring connections;
- organizing information;
- generalizing;
- analyzing;
- sorting relevant and irrelevant information;
- evaluating; and
- labeling.

These are the cognitive skills that the standards and assessment focus on. In reading, they are also the basis for comprehending text, detecting language patterns and focusing on generalizations. Communicating meaning relies on the student's ability to: identify the conceptual focus, organize information in

many forms (sequential, categorically, comparison and contrasting, cause and effect), and use technical and syntactical structures. Refocusing our instruction around these three functions not only prepares students to perform well on the assessment, these functions are also the targets for nurturing strong readers and learners in the disciplines.

Learning Blockers: Addressing the Learning Inhibitors

Learning problems are the result of factors that block the natural learning process. Try to remember those subjects that were so difficult for you to learn. You'll probably arrive at factors that can be categorized into three groups: cognitive blockers, language blockers, and textual blockers.

Cognitive Blockers- Cognition is inhibited when students are not guided to identify the understanding, or concept that should be the focus of the learning. Without this focus, students cannot differentiate between relevant and irrelevant information so critical details are not identified, analyzed, hypothesized, evaluated, or compared to personal experiences. The inability to apply these cognitive functions causes what Pogrow calls a "cognitive wall" in the comprehension of the students, limiting the depth of understanding needed to expand and articulate ideas and make personal links to infer meaning. (Jackson, 2001)

Language Blockers- There are two keys language issues that inhibit the comprehension of high school students. First of all, many underachieving students use different linguistic forms. This not only refers to ESL students, but also poor students who have their own cultural linguistic form (language or dialect). What compounds this problem is the way subjects are taught; very little discussion takes place using the vocabulary of the discipline or text in connection with the concepts being studied, so two language blockers result:

1. Language necessary for comprehending the text of the discipline is actually restricted due to lack of applied use (Jackson, 2001)
2. There is a lack of understanding of the context, codes, or patterns that would help students figure out words. Most high school students have a poor understanding of how our language works (knowledge of phonology and semantics). This is most obvious in respect to poor decoding skills (phonics, syllabication, and morphology). But they also lack an

understanding of the other levels of language that block their ability to comprehend text and use language effectively. These are described by Mel Levine as: syntax (sentences), discourse (larger volumes of language), and metalinguistics (reflecting on language and understanding parts of speech/ grammatical rules). (Levine, 1998).

Textual Blockers - There are two types of textual blockers: semantic and structural. Semantic blockers are often called "reading hiccups". (Ivens, 1998). These are words that are often not identified by teachers as problematic, and don't necessarily require a deep understanding of language codes or patterns, and yet they can severely inhibit comprehension of text. These include:

- unfamiliar words
- familiar words used in unfamiliar ways
- pronouns
- idioms
- punctuation

Structural Blockers - Each discipline uses a different structural format for the design of the units of study within its expository textbooks. These expository structures reflect the 'presentation approach' of the discipline (e.g., history is usually presented sequentially with cause and effect presented for various historical events). Examples of other structures include descriptive; cause and effect; problem/solution; compare/contrast; and enumerative (main idea with supporting details). Each structure requires a different set of cognitive skills to analyze and construct meaning from the text. Some texts have several formats presented simultaneously. These structures coupled with the technical/esoteric vocabulary of the discipline impact the readability levels of the text. In fact, some textbooks vary as much as three grade levels within different units of the same text.

If we recall how we struggled through some courses, we can appreciate how inattention to these learning inhibitors resulted in us being subjected to inadequate instructional choices on the part of our teachers, leading to our poor performance in certain classes. Knowledge of the learning process requires a major shift in instructional practices from those we ourselves have experienced as ineffective to those that have proven to be effective. (Jackson, 1998 IPS)

Mediating Achievement in Discipline Literacy

Underachievement can be reversed when we approach our discipline through mediated learning experiences that strengthen comprehension of the text. The mediated learning experiences guide students through cognitive exercises or strategies that address their specific learning needs in ways that engage students and activate those cognitive skills involved in the process of constructing meaning needed to strengthen discipline literacy.

Teachers use mediation to stimulate the learning process through discussions that guide students in identifying and analyzing the understandings, skills, and the text structures or patterns needed to construct meaning from a reading or unit of study in the discipline. Teachers build the confidence of students by providing opportunities to develop the skills that help them construct meaning from text and by guiding them to apply these skills and understandings from the text to go beyond the text to make relevant connections from the text to both discipline related applications as well as to their personal experiences. Through this deep discussion, the teacher and the students collaboratively build the context through which the discipline itself and discipline related text could be studied. The deep discussion for jointly building the context for studying the discipline allows the teacher to assess if there are impediments in how the students are constructing meaning so he or she can make better choices of instructional strategies that assure comprehension and learning (Jackson, et al, 1998)

Literacy Goals and Critical Experiences

There are six literacy goals that guide the design of mediated learning experiences to strengthen students' ability to construct and communicate meaning in the various disciplines. These goals focus attention where it is most needed: on what students need to do in order to become proficient in reading comprehension and the technical language of the discipline. These goals are:

- Developing and increasing students' discipline sight vocabulary;

- Helping students acquire a repertoire of skills for figuring out unfamiliar words;

- Guiding students to focus on discipline related vocabulary,

definitions, and concepts;

Developing and refining students' comprehension abilities;

Providing a balanced variety of related texts and purposes for reading; and

Helping students acquire the habit of reading in general, and more specifically reading texts that deepen understanding of the discipline and what "experts" in the field do.

These literacy goals are developed through five critical experiences that students should be regularly engaged in. These include:

Responding to a variety of text;

Composing: oral and written;

Studying and mastering language patterns of technical/ discipline related terms and texts;

Sustained reading of a variety of self-selected books; and

Learning how to learn. (Nessel, 1998)

Understanding What It Takes for Mastery

Ernest Boyer once said that reading is unlocking frozen thought. To be able to unlock the thoughts of authors of texts used in the various disciplines so meaning can be constructed; students have to be guided to shift their teenage perspective (developed from their experiences) to the perspective of the author. This is an extremely difficult process for it involves so many factors: understanding the technical language the author is using; being comfortable with the organizational structure that is used for presentation of the discipline (e.g., science texts are structured different than history texts or literature); and finding personal experiences that match the frame of reference of the author. Is it any wonder that poor readers have such a difficult time constructing meaning from these texts written by experts in the discipline? As teachers of a discipline we are comfortable reading the texts we are using because years of experience with the presentation style of the discipline texts have molded our patterns of thinking, our discipline "lingo", and our frames of reference. To many students, so much of the language and context of the texts are alien and therefore meaningless. What also has to be recognized is that as teachers of a discipline, most of us have only one discipline to focus on. But our students have several disciplines they are trying to construct meaning about. To be competent learners in several disciplines requires real mental dexterity. Shifting from one discipline to another is like

using a kaleidoscope. The student has to refocus for each discipline, and to get a clear picture; a different set of tools must fall into place.

Luckily the brain is like a muscle. When given the right exercises (mediated learning experiences) to develop the needed tools and a nutritional diet of opportunities to make conceptual connections that build the relevant context to comprehend the text, struggling readers become independent readers. Independent readers have the competence and confidence needed to morph from failing students to motivated high achievers.

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Dr. Jackson is internationally recognized for her work in assessing the learning potential of disenfranchised urban students. She has applied her research in literacy, gifted education and the cognitive mediation theory of Dr. Reuven Feuerstein to develop instructional processes that translate assessment information into practices that enable students to reach and extend their potential.

While serving as the New York City Board of Education's Executive Director of Instruction and Professional Development Comprehensive Educational Plan which optimizes the coordinated delivery of all core curriculum and support services. As Director of the Gifted and Talented Unit she created New York City's Gifted Programs Framework.

Dr. Jackson currently serves as the Executive Director of the National Urban Alliance, founded at The College Board and Teachers College, Columbia University. She works with school district administrators and teachers across the country to customize and deliver systemic approaches to literacy development through instructional practices that integrate culture, language and cognition.

Dr. Jackson received a BA from Queens College of the City University of New York with a double major in Education and French. At Columbia University's Teachers College she was awarded an MA in Curriculum, an Ed.M. in Educational Administration, and a Doctorate in Educational Administration. She has been called upon to testify before the United States Congress and is on the Board of Dr. Feuerstein's International Center for the Enhancement of Learning Potential in Jerusalem.

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