



The El Paso
Collaborative
For Academic
Excellence

EL PASO URBAN SYSTEMIC PROGRAM

Standards-based Classrooms Theories and Best Practices

The El Paso Urban Systemic Program, funded by the National Science Foundation, is committed to assisting teachers create academically rigorous standards-based classrooms where all students meet high academic standards. In order for this to occur, teachers must make numerous decisions regarding a variety of interrelated educational issues that influence student learning: national, state and local standards; linkage of the curriculum being implemented and assessed to the standards; the classroom environment; the pedagogy selected to teach the curriculum; the routines and procedures used within the classroom; and even the depth of their own content knowledge.

This document is aimed at providing research-based theories and best practices that can guide teachers in establishing content-rich standards-based classrooms that foster student thinking and problem solving, provide meaningful learning experiences, encourage intellectual

development and ultimately promote higher academic success for all their students.



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Standards-based Classrooms Theories and Best Practices

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A. Standards-based Curriculum

In a standards-based classroom, the curriculum taught meets high-quality national, state and local content standards. The standards establish the base-line for what students should know and be able to do within each curriculum content area. The standards form the basis for the curriculum framework by linking knowledge, thinking and application to the learning. The curriculum framework includes objectives that allow teachers to expand learning opportunities beyond standards and engage students in activities that call for higher cognitive demands than specified in standards. In this manner, standards do not limit learning, but instead, provide opportunities to enhance learning. Thus, the curriculum supports rich interaction among standards, learner strengths and needs, effective instruction, integration of technology, materials that support concepts within the curriculum and multi-dimensional assessment.

The curriculum is organized around major concepts that all students are expected to know deeply. It requires that teachers engage students in inquiry/constructivist activities and conversations around these concepts. The curriculum is aligned so that concepts, skills, and processes increase in rigor as students move to the next grade level or course. These grade-level content standards are communicated to students, parents and the entire school community.

Teachers inform parents that they are constantly reviewing the curriculum being taught to ensure that it meets ever-changing, high-quality standards and that it addresses equity issues. According to Katy Haycock (2002), “All children will learn at high levels when they are taught at high levels” . With this in mind, teachers design and revise lessons and activities to provide all students the opportunities to meet grade-level standards so that ultimately all students can achieve at high levels and compete locally, nationally and even globally.

Observable evidence:



- Teacher uses a standards-based curriculum program and/or modifies the existing curriculum program to teach the standards.
- Teacher and students use materials that are directly linked to standards-based curriculum.
- Teacher plans appropriate activities that allow students the opportunity to master the standards at high levels of cognitive demand.
- Teacher adjusts lesson timelines, strategies and activities based on individual student strengths and needs.

A. Standards-based Curriculum (Con' t.)

- Students spend a significant amount of time during the class period collaborating with their peers to discuss, process and conceptualize information delineated in the standards-based curriculum.
- Teacher facilitates learning the curriculum by implementing hands-on, active-learning strategies.
- Teacher uses student-centered strategies to implement the curriculum.
- Students engage in cooperative learning strategies and utilize Accountable Talk[®] as a communication tool to process information (refer to pages 9, 10, 11 and 16 for additional information on Accountable Talk[®]).
- Students demonstrate understanding of the curriculum by verbalizing and writing about how they solved a problem, developed a product or completed an assignment.
- Student work is displayed strategically to foster student academic growth and to indicate progress towards meeting a standard.
- Students are actively involved in creating rubrics and are able to assess and articulate the quality of their own work in regards to given curriculum standards.
- Students are given opportunities to filter and assess new experiences via prior experiences in an effort to form new understandings.
- Teacher uses authentic content, based on real life applications, to allow students to answer meaningful questions.



- Teacher and students select and integrate technology into lessons and activities in order to conduct research, gather data, analyze and synthesize information and/or confirm hypotheses or solutions.
- Teacher uses technology as a tool to aide in concept development.
- Teacher provides additional opportunities for students to practice or gain better understanding of a specific skill or concept being taught.
- Teacher informally and formally assesses student knowledge and skills to determine mastery of content standards.



B. Physical Surroundings of the Classroom Environment

In looking at classrooms that best facilitate learning, it is critical that the physical layout and appearance of the classroom function in ways that enhance the overall learning environment. As such, teachers in standards-based classrooms are purposeful in determining the design and set up of their classrooms. They realize the classroom needs to be “learner-friendly” , where materials and resources are easily accessible. The physical layout must support an intellectual environment, where both teacher and student thinking are valued and are the norm. In these classrooms, furniture and student work areas are strategically located to enhance opportunities for students to engage in appropriate activities that lead to deeper understanding of concepts being developed within the curriculum. Displays of student work and curriculum materials reflect high standards.

Observable evidence:

Refer to the Student- Centered Classroom chart on the following page.



B. Physical Surroundings of the Classroom Environment (Con' t.)

Classroom Design	Student Learning Display
<ul style="list-style-type: none"> • Seating arrangement is flexible and allows individual, cooperative learning, and lab activities. The seating arrangement allows students to engage in discussions, experiment with various approaches to solving problems, construct arguments and respond to other students. • Furniture is age and grade-level appropriate and is used to maximize student learning. • Positioning of furniture allows student access to learning materials in an organized and efficient manner. Students return materials to clearly identified, convenient locations when tasks are completed. • Classroom space is utilized so that students move in and out of student-centered activities, without interfering with the learning process of others. • Students practice the safety rules of the classrooms. 	<ul style="list-style-type: none"> • Teacher and student rubrics are displayed. • Visuals of goals and objectives are displayed. • Student work and products are displayed, showing growth and learning. There are few commercially produced items displayed. • Evidence of ongoing projects are displayed
<p style="text-align: center;">Student Learning Materials</p>	<p style="text-align: center;">Aides to Enhance Student Learning</p>
<ul style="list-style-type: none"> • Materials support goals and objectives. • Materials are grade-level appropriate and promote student learning. • Materials are accessible to students. 	<ul style="list-style-type: none"> • Standards are displayed. • Memory displays and charts are used to record student thinking, outline group processes, facilitate group' s sense of accomplishment, and develop shared ownership of group projects.

Student-Centered Classroom



- Materials, equipment, facilities and time schedules are appropriate to classroom functions.

- Computers and technology are used as curriculum enhancement tools. The Internet is used as a resource by teachers and students.
- Chalkboards, overheads, multi-media presentations and/or displays are used to support visual learners.

C. Classroom Rituals and Routines

Early on in the school year, the teacher establishes classroom procedures and a set of clear instructions for the various routines. These rituals and routines are designed and managed by the teacher in order to maximize time on task and increase time for student learning. They also allow students the security of knowing what to do during various class activities. Many times it looks as if the students are proceeding to work without being specifically instructed. The teacher may use a key word, phrase or signal to elicit the appropriate student behavior as the rituals and routines become common practice in the classroom. The teachers and students adapt the rituals and routines as needed.

Observable evidence:

- Teacher utilizes clear, concise procedures for daily routines such as entering the classroom, working on the problem of the day, sharpening pencils, etc. Students automatically follow the routines as they enter the classroom and begin to work.
- Teacher initially gives students clear, concise procedures for the management of materials. Students gather and return materials without the teacher having to repeat the procedures on a regular basis.
- Teacher initially gives students clear, concise procedures for the movement within the classroom. These routine procedures allow students the opportunity to move to other standards-based tasks when the task they are working on is completed.
- Teacher uses specific individual and group thinking strategies, such as Think-Pair-Share, to maximize the time students have to discuss and process information.



- Teacher establishes guidelines for using Accountable Talk□. The use of Accountable Talk□ becomes routine for both the teacher and students (refer to pages 9, 10, 11 and 16 for more information on Accountable Talk□).
- Teacher and students use a “quiet signal” or other specific signal in order to stop discussion or to focus attention. These signals effectively manage student interactions and behaviors.
- Teacher uses specific routine procedures to call on students so that all students have an equal opportunity to respond and participate.



D. Teacher Content Knowledge

In standards-based classrooms, teachers recognize the need for sustained professional growth to gain more in-depth understanding of the content they teach. It is important for teachers to possess strong, broad, overall knowledge and deep understanding of key concepts within their curriculum and the content standards. How can teachers be expected to have good insight into what they need to teach their students, recognize student misconceptions, or even accurately assess student achievement of a given standard, without a strong knowledge base? According to Wiggins and McTighe (1998), possessing content knowledge means more than knowing facts, definitions, and discrete pieces of knowledge; providing literal meanings and predictable results; or listing prescribed techniques and algorithms. Possessing deep content knowledge means real understanding of concepts and principles; making systemic connections; and recognizing the subtle, symbolic and abstract. This also includes being able to recognize an anomaly within content information.

The ultimate challenge for teachers is to design academically rigorous lessons that provide students the opportunity to develop deep content knowledge. Academic rigor requires recognition of prior knowledge needed, active use of content knowledge, synthesis of several sources of content information and selection of strategies and assessment procedures that further concept development and lead to deeper content knowledge.

Observable evidence:

- Teacher uses inquiry-learning strategies so that students can have the opportunities to develop conceptual understandings. Teacher communicates directly to students what concepts were addressed within the lesson.
- Teacher displays extensive content knowledge while presenting lessons by recognizing and assisting students with misconceptions.



- Teacher integrates concepts from various areas within the discipline and, when appropriate, from other disciplines.
- Teacher utilizes new strategies, obtained from research on “best practices” or staff development endeavors, to improve instruction and student learning.
- Teacher selects appropriate technology and instructional materials to support skill and concept development.
- Teacher creates rigorous lessons that provide students opportunities to meet high academic standards.

E. Pedagogy

Pedagogy is defined as the art or profession of teaching by *The American Heritage College Dictionary (1997)*. It is the essence of what makes up the “craft” of teaching. In a standards-based classroom, teachers perfect their craft by selecting and implementing research-based “best practices” to enhance student learning. Some examples delineated in this document are as follows: Inquiry/Constructivist Learning, Concept Development, Accountable Talk□, Cooperative Learning and Multiple Intelligence Theory.

E.1. Inquiry/Constructivist Learning

In *The Case of Constructivist Classrooms (1993)*, Brooks and Brooks conclude that constructivist pedagogy is based on the premise that we construct our own understandings of the world in which we live. With that in mind, teachers in standards-based classrooms are cognizant that students make sense of subject matter by synthesizing new experiences and knowledge with what they already know and have experienced. This type of thinking changes the teacher’ s role from being a disseminator of knowledge to one who structures a learning environment that is student-centered. Teachers facilitate learning and students engage in authentic, purposeful learning activities that consider how students learn and acquire higher-



order thinking skills. Student-initiated questions and student-to-student interactions are common. Teachers rely on a variety of instructional resources and hands-on materials so that students can explore, research, synthesize and analyze information.

Inquiry-based activities focus on an active search for knowledge or understanding to satisfy a curiosity or respond to unanswered questions. Problem-solving scenarios encourage multiple solutions. Student explanations of the solutions provide teachers feedback not only on the skill level of the students but also on their understanding of fundamental concepts. Teacher and student reflections and assessments are continuous. Lessons and activities are modified, if necessary, to ensure students learn the required knowledge and skills outlined in the standards.

Observable evidence:

- Students collect and use raw data and research information from primary sources, along with information gained from manipulative, interactive, and physical materials to develop conceptual understandings.

E. Pedagogy (Con' t.)

- When framing tasks, the teacher uses cognitive demand terminology such as “classify,” “analyze,” and “create” .
- Teacher allows student responses to drive lessons and shift instructional strategies.
- Teacher inquires about students’ understandings of concepts before sharing his/her own understandings of those concepts.
- Teacher models Accountable Talk□ (refer to pages 9, 10, 11 and 16 for additional information on Accountable Talk□) by engaging students in dialogue during class discussions.
- Teacher encourages student inquiry by asking thoughtful, open-ended questions and encouraging students to ask questions of each other.
- Teacher presses for elaboration of student responses.



- Teacher engages students in experiences that might produce contradictions to their initial hypothesis and then encourages discussion.
- Teacher allows appropriate wait time after posing questions.
- Teacher provides time for students to construct relationships, create metaphors and scaffold ideas.

E.2. Concept Development

A concept can be defined as the knowledge and understanding needed for mastering an idea or set of ideas in a discipline. It requires being able to understand specific knowledge, skills, operations, attributes, and relationships in a discipline in order to use, apply and connect an idea to other ideas.

In standards-based classrooms, teachers first identify the critical concepts to be developed. Then they design lessons that lead to concept development by using inquiry and constructivist approaches so students have opportunities to discuss research questions, explore, practice, apply, connect and synthesize ideas and information. In mathematics and science, being able to perform the above tasks requires deep understanding of a concept.

Observable evidence:

- Teacher begins a lesson with an activity that causes “disequilibrium”.

E. Pedagogy (Con’ t.)

- Students verbalize or visually demonstrate understanding of a concept.
- Students relate the concept to new learning.
- The teacher and students utilize the higher levels of Bloom’s Taxonomy by:



- using the vocabulary related to the concept appropriately;
- collecting and utilizing data associated with the concept;
- interpreting and constructing representations of the concept;
- demonstrating appropriate skills to solve problems;
- explaining the concept by using its connection to other concepts, analogies and illustrated examples; and
- using the concept to solve the problem, describe how they solved the problem and justify the selection of the process used.

E.3. Accountable Talk□

According to Lauren R. Resnick (2002) at the Institute for Learning, University of Pittsburgh, research on highly intelligent people reveals that they learn and process information by talking about ideas or information with others and even to themselves. This communication process can be replicated in standard-based classrooms when conversations hold everyone accountable for discussing the meaning of ideas by making connections, expressing opinions, and validating both with evidence. This allows the teacher and students opportunities to make sense of information and process that information at higher levels of cognition.

Resnick states that when teachers and students use Accountable Talk□ they:

- press for clarification;
- require justifications of proposals and challenges;
- recognize and challenge misconceptions;
- demand evidence for claims and arguments; and,
- interpret and use each other's statements.

E. Pedagogy (Con' t.)



Research shows that Accountable Talk□ does not just happen naturally in classrooms. Teachers need to structure classroom discussions and activities to support productive talk on the part of students. Teachers model Accountable Talk□ (refer to page 16 for additional information on Accountable Talk□) during instruction and establish norms and guidelines so that every student participates and is accountable to the entire classroom community.

Observable evidence:

- Teacher models Accountable Talk□ during class discussions to probe for understanding and promote deeper discussions of the content.
- Teacher uses a systematic process to teach students how to engage each other in Accountable Talk□.
- Teacher and students use phrases or questions that promote and extend thinking about a given idea/topic, problem, hypothesis, concept, etc. Some examples are as follows:
 - How did you come up with that answer?
 - Can you prove that?
 - Tell me more about...
 - Did anyone come up with an example that worked?
 - Did anyone come up with an example that didn' t work?
 - Why do you think that?
 - Say more about why you think that?
 - What do other people think?
 - Is that always true?
 - When is it not true?
 - Would you like to show a way to prove that it' s always true?
 - Would you tell us about your example?
 - Would you tell us about your work?
 - Does anyone want to comment on the example that ...gave?
 - Would one group be willing to tell us way they came up with...?



E. Pedagogy (Con' t.)

- I tried to ...
- I agreed with what they said because...
- First I used the definition of...
- This made me think about...
- Can you clarify what you meant when you said...?

E.4. Cooperative Learning

In order to establish a community of learners in a standards-based classroom, teachers use cooperative learning groups. According to David Johnson and Roger Johnson (1991), teachers need to establish common group goals and specify how students are individually accountable in order for cooperative learning to be an effective strategy that improves student learning. In the Johnsons' model, there are eighteen elements to consider in structuring cooperative learning situations. Some of these are: specifying instructional goals, deciding on the size of the group, arranging the room, selecting materials and resources that promote interdependence, assigning roles and monitoring student behavior.

Building on the work of Johnson and Johnson, Spencer Kagan (1995) noted that there are certain essential components in cooperative learning, which distinguish it from "simple" group work. Based on these components, he identified four basic principles, which are fundamental to the success of any cooperative learning activity.

1. Simultaneous Interaction (group of four) – Students are in teams of four. One person on each team is talking simultaneously; twenty-five percent of the class is overtly involved in discussing an idea. The rest of the team is actively listening as each person considers how he/she will contribute to the discussion.



Simultaneous Interaction (group of two) – A pair discussion allows for even greater simultaneous interaction. When two students are discussing an idea together, one person in each pair is overtly involved.

2. Positive Interdependence – Students feel they need each other in order to accomplish the assigned task. They feel a gain for one is a gain for all and that the task can only be completed if everyone participates.
3. Individual Accountability – Activities are structured in a way that requires everyone to contribute to the discussion or task. Grades are assigned to a team product, taking into consideration the effort of each team member and the material studied or reviewed. Each person is tested individually on the content.

E. Pedagogy (Con' t.)

4. Equal Participation – Students participate equally in each discussion or task. Each person has some part in developing the final product and each person makes an equal contribution to that product.

Kagan developed specific teaching strategies to support implementation of cooperative learning. In standards-based classrooms, teachers use many of those strategies or structures such as Numbered Heads Together, Timed Pair Share, Pairs Compare, Kinesthetic Symbols, etc.

Observable evidence:

- Teacher structures group activities so that each student contributes equally to complete a group project.
- Teacher forms teams so that each group includes students with a range of diverse abilities, backgrounds, learning styles and different personal interests.
- Students are assigned roles, such as, reporter, recorder, materials “getter,” timekeeper, etc.
- Teacher moves around the room to monitor student behavior.
- Students report group findings and selected problem-solving strategy.
- Teacher discusses the social or interpersonal skills students practiced during the cooperative learning group activity.



- Students are tested individually to assess their knowledge and level of skill in the standard addressed in the cooperative group activity.

E.5. Multiple Intelligence Theory

For centuries, educational institutions and testing organizations have emphasized the importance of two basic intelligences: verbal/linguistic and logical/mathematical. However, during the past several decades, researchers and educators have concluded that humans possess more than just two types of intelligences.

According to Howard Gardner (1983, 1993), Multiple Intelligence Theory considers a wide range of human intelligences. Gardner also noted that there is a biological and cultural basis for these multiple intelligences.

E. Pedagogy (Con' t.)

Based on this belief, Gardner initially identified the following seven intelligences: verbal/linguistic, musical/rhythmic, logical/mathematical, visual/spatial, bodily/kinetics, interpersonal and intrapersonal. Later, Gardner added an eighth intelligence, the naturalistic intelligence.

In standards-based classrooms, Multiple Intelligence Theory has dramatic implications for teaching, learning, and assessment. Based on this theory, teachers create opportunities for students to explore, construct meaning, and demonstrate understanding of concepts using their individual multiple intelligences.

Observable evidence:

- Students are permitted to develop and strengthen all of their intelligences by emphasizing the process as much as the product of learning.
- Teacher plans classroom activities that make the development of student intelligences possible by providing engaging activities that allow student to use specific intelligences.



- Teacher establishes learning centers for students to explore, discover, think about and make decisions regarding the content being studied.
- Students create projects that give them the opportunity to explore a content-related subject in depth.
- Students use manipulatives or other concrete objects to create patterns and explore relationships.
- Teacher creates opportunities for students to work as a team to complete tasks or projects.
- Students participate in journal writing activities.

F. Principles of Learning

Lauren Resnick (2002) and her colleagues at The Institute for Learning, University of Pittsburgh, developed the Principles of Learning to serve as a core set of principles to guide classrooms, schools and school systems in their effort to improve student achievement. Many of the Principles of Learning are based on researched “best practices” in education and integrate theory from the classroom-level to the district-level.

In fact, several of the principles have already been listed in this document as “best practices” that specifically promote standards-based classrooms. As such, observable evidence for those topics can be found in the corresponding sections of this document. The following synopses of the Principles of Learning are quoted directly from The Institute for Learning website, <http://www.instituteforlearning.org>. The Principles of Learning can be located by clicking on the products and tools button.

Organizing for Effort



An effort-based school replaces the assumption that aptitude determines what and how much students learn with the assumption that sustained and directed effort can yield high achievement for all students. Everything is organized to evoke and support this effort, to send the message that effort is expected and that tough problems yield to sustained work. High minimum standards are set and assessments are geared to the standards. All students are taught a rigorous curriculum, matched to the standards, along with as much time and expert instruction as they need to meet or exceed expectations (refer to Standards-based Curriculum, pages 1 and 2 for observable evidence).

Clear Expectations

If we expect all students to achieve at high levels, then we need to define explicitly what we expect students to learn. These expectations need to be communicated clearly in ways that get them “into the heads” of school professionals, parents, the community and above all, students themselves.

Descriptive criteria and models of work that meet standards should be publicly displayed, and students should refer to these displays to help them analyze and discuss their work. With visible accomplishment targets to aim toward at each stage of learning, students can participate in evaluating their own work and setting goals for their own effort (refer to Assessment, pages 18 and 19 for observable evidence).

F. Principles of Learning (Con’ t.)

Recognition of Accomplishment

If we expect students to put forth and sustain high levels of effort, we need to motivate them by regularly recognizing their accomplishments. Clear recognition of authentic accomplishments is a hallmark of an effort-based school. This recognition can take the form of celebrations of work that meets standards or intermediate progress benchmarks en route to the standards. Progress points should be articulated so that, regardless of entering performance level, every student can meet real accomplishment criteria often enough to be recognized frequently. Recognition of accomplishment can be tied



to opportunity to participate in events that matter to students and their families. Student accomplishment is also recognized when student performance on standards-based assessments is related to opportunities at work and in higher education.

Fair and Credible Evaluations

If we expect students to put forth sustained effort over time, we need to use assessments that students find fair; and that parents, community, and employers find credible. Fair evaluations are ones that students can prepare for; therefore, tests, exams and classroom assessments--as well as the curriculum--must be aligned to the standards. Fair assessment also means grading absolute standards rather than on a curve, so students can clearly see the results of their learning efforts. Assessments that meet these criteria provide parents, colleges and employers with credible evaluations of what individual students know and can do. (refer to Assessment, pages 18 and 19, for observable evidence.)

Academic Rigor in a Thinking Curriculum

Thinking and problem solving will be the “new basics” of the 21st century. But the common idea that we can teach thinking without a solid foundation of knowledge must be abandoned. So must the idea that we can teach knowledge without engaging students in thinking. Knowledge and thinking are intimately joined. This implies a curriculum organized around major concepts that students are expected to know deeply. Teaching must engage students in active reasoning about these concepts. In every subject, at every grade level, instruction and learning must include commitment to a knowledge core, high thinking demand, and active use of knowledge (refer to Standards-based Curriculum, pages 1 and 2 for observable evidence).

F. Principles of Learning (Con’ t.)

Accountable Talk□



Talking with others about ideas and work is fundamental to learning. But not all talk sustains learning. For classroom talk to promote learning it must be accountable--to the learning community, to accurate and appropriate knowledge and to rigorous thinking. Accountable Talk[®] seriously responds to and further develops what others in the group have said. It puts forth and demands knowledge that is accurate and relevant to the issue under discussion. Accountable Talk[®] uses evidence appropriate to the discipline (e.g. proofs in mathematics, data from investigations in science, textual details in literature, documentary sources in history) and follows established norms of good reasoning. Teachers should intentionally create the norms and skills of Accountable Talk[®] in their classrooms (refer to Accountable Talk[®], pages 9, 10 and 11 for observable evidence).

Socializing Intelligence

Intelligence is much more than an innate ability to think quickly and stock pile bits of knowledge. Intelligence is a set of problem solving and reasoning capabilities along with the habits of mind that lead one to use those capabilities regularly. Intelligence is equally a set of beliefs about one's right and obligation to understand and make sense of the world, and one's capacity to figure things out over time. Intelligent habits of mind are learned through the daily expectations placed on the learner. By calling on students to use the skill of intelligent thinking--and by holding them responsible for doing so--educators can "teach" intelligence. This is what teachers normally do with students they expect much from; it should be standard practice with all students (refer to Accountable Talk[®] and Multiple Intelligence, pages 9, 10, 11, 13, and 16 for observable evidence).

Learning as Apprenticeship

For many centuries most people learned by working alongside an expert who modeled skilled practice and guided novices as they created authentic products or performances for interested and critical audiences. This kind of apprenticeship



allows learners to acquire complex interdisciplinary knowledge, practical abilities, and other appropriate forms of social behavior.

F. Principles of Learning (Con' t.)

Much of the power of apprenticeship learning can be brought into schooling by organizing learning environments so that complex thinking is modeled and analyzed, and by providing mentoring and coaching as students undertake extended projects and develop presentations of finished work, both in and beyond the classroom.

Self-Management of Learning

If students are going to be responsible for the quality of their thinking and learning, they need to develop--and regularly use--an array of self-monitoring and self-management strategies. These *metacognitive* skills include noticing when one doesn' t understand something and taking steps to remedy to the situation, as well as formulating questions and inquiries that let one explore deep levels of meaning. Students also manage their own learning by evaluating the feedback they get from others; bringing their background knowledge to bear on new learning; anticipating learning difficulties and apportioning their time according and judging their progress toward a learning goal. These are strategies that good learners use spontaneously and all students can learn through appropriate instruction and socialization. The learning environment should be designed to model and encourage the regular use of self-management strategies.



G. Assessment

Standards-based classrooms are results-driven. Teachers begin lesson planning with the end in mind: the standards and objectives in the curriculum framework. The assessments consider

- a. the curriculum-based standard(s) taught,
- b. the various ways students learn, and
- c. the cognitive demand level(s) required for students to demonstrate mastery, such as: memorization, performance of procedures, concept understanding, connections, and /or hypothesis/generalization.

Assessment, throughout the lesson cycle, provides useful feedback on student learning. Since this feedback is constant, it can be used to revise teaching strategies and content and maximize student learning at any given point during instruction.

Formal and informal multiple assessments, linked to the curriculum standards and embedded in instruction, are the tools used by both the teacher and the students to monitor and evaluate learning. Formative and summative assessments assist teachers in guiding instruction and designing appropriate lesson studies. Based on results, teachers revise the lesson, change the classroom environment, reassign students to different learning groups, select different or additional materials, or adjust the learning pace.

The results of fair and credible assessment are shared with other professionals, students and parents. Communicating the results recognizes that students, teachers, and parents are stakeholders in the learning process and share in the accountability.

Observable evidence:

- Teacher uses informal assessments, such as:
 - observations and visual monitoring;
 - journals;
 - anecdotal notes;



- teacher/student interactions such as probing and questioning, dialogue, discussions and interviews;
- performance checklists to monitor skill development;
- portfolios to note growth towards a given standard;
- peer conferencing; and,
- graphic organizer to chart or plot individual student progress.

G. Assessment (Con' t.)

- Students have a choice to select type of product or mode of presentation to demonstrate concept attainment.
- Students self-assess and revise their work. Students have the opportunity to analyze their work so that it meets the standards before submitting a final assignment or product.
- Teacher uses formal assessment, such as:
 - rubrics;
 - open-ended problems;
 - tests and quizzes;
 - standardized tests such as TAAS, NAEP, and SAT;
 - end-of-course exams;
 - portfolios to assess quality of a final product; etc.



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