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ABSTRACT

This guide provides conceptual as well as practical information for meeting the needs of all learners in heterogeneous classrooms. The first six sections discuss the growing heterogeneity in today's classrooms, the rationale for differentiated teaching and learning, the changing roles of teachers and students, the importance of creating classroom communities that nurture diversity, helpful ideas for organizing a classroom in which differentiated teaching and learning is practiced, and a step-by-step process for differentiation. The seventh section provides many examples of how to differentiate teaching and learning in four areas: (1) what students learn; (2) how students learn; (3) how students integrate and demonstrate what they have learned; and (4) how students and teachers utilize assessment throughout the learning process. Sections 8 and 9 include an in-depth look at actual classrooms through case studies. The first case study describes how two multi-age elementary classrooms utilize an integrated service delivery model between general and special education to differentiate teaching and learning for math and language. The second case study describes how high school students in one urban high school learn to become effective self-advocates. Appendices include a humor unit, a "camping" math unit, and a list of resources. (Contains 35 references.) (CR)

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Differentiated Teaching & Learning in Heterogeneous Classrooms

Strategies for Meeting the Needs of All Students

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Introduction

Overview

This monograph seeks to provide conceptual as well as practical information for educators who desire to increase their repertoire of curricular and instructional strategies in order to more effectively meet the needs of all learners in heterogeneous classrooms. Differentiated teaching and learning is defined as the proactive use of a wide repertoire of curricular and instructional approaches which are consistently used with students with diverse abilities, needs, interests, and background experiences to support their learning.

The monograph is organized in nine sections. The first section provides an overview of the growing heterogeneity in today's classrooms and briefly reviews the current literature respective to heterogeneity. The second section provides a rationale for differentiated teaching and learning. The third explains the changing roles of teachers and students in differentiated classrooms. The fourth describes the importance of creating classroom communities that nurture diversity, and the fifth articulates helpful ideas for organizing a classroom in which differentiated teaching and learning is practiced. Section 6 describes a step-by-step process for differentiation. The seventh provides many examples of how to differentiate teaching and learning. These examples address four areas: 1) what students learn, 2) how students learn, 3) how students integrate and demonstrate what they have learned, and 4) how students and teachers utilize assessment throughout the learning process. Lastly, the eighth and ninth sections include an in-depth look at actual classrooms. The first in-depth look describes how two multi-age elementary classrooms utilize an integrated service delivery model between general and special education to differentiate teaching and learning for math and language. The second in-depth look describes how high school students in one urban high school learn to become effective self-advocates to better meet their unique learning needs.

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Throughout this monograph many ideas are shared and strategies are described. It is through the dedicated efforts of countless educators that such examples have been observed and can now be passed on to other educators who read this monograph. Our deepest gratitude to all of you who have shared so freely of your thoughts, ideas, strategies, and materials. Your teaching legacies will continue to flourish as others put your ideas to good use on behalf of students everywhere.

1 The Growing Heterogeneity of Today's Classrooms

Today's classrooms are becoming increasingly heterogeneous and teachers frequently work amidst complex and sometimes unpredictable situations. Heterogeneity is represented by students with diverse cultural, racial, religious, and linguistic backgrounds; family structures; socioeconomic status; and ability levels. The current reality of our public schools is that the vast majority of teachers are or soon will be expected to teach students with markedly diverse backgrounds and abilities. It has been estimated that the range of instructional levels among students (those students not receiving any special services) in many general education classrooms is an average of 5.4 grade equivalents (Jenkins, Jewell, Leicester, O'Connor, Jenkins, & Troutner, 1990).

Other demographic trends validate the increase in linguistic as well as racial diversity. Between 1979 and 1989, students who enrolled in school speaking a primary language other than English increased by 41% (Rendon & Hope, 1996). Frequently cited estimates note that by the year 2000, 40% of schoolchildren in the United States will be children of color (Gomez, 1994). Changing educational initiatives, such as inclusion, have also added to the heterogeneity by increasing the numbers of students with disabilities who receive instruction in general education classrooms.

Students with diverse backgrounds and abilities pose new and different challenges as teachers seek to meaningfully include and effectively educate all students. For many school personnel, changing demographics have necessitated fundamental changes in how teaching and learning is carried out. Most teachers concur that increasing diversity among students accentuates the need to utilize a broader range of curricular and instructional approaches. Most certainly, as diversity among students increases so must the differentiation of teaching and learning.

What Are We Learning From the Literature?

Literature that holistically examines heterogeneity in classroom contexts is emergent. Although the majority of the literature has focused on specific types of student diversity (e.g., students from non-dominant cultures, students who speak a primary language other than English), the information yielded from the literature portrays clear commonalties across three broad categories. These categories are present irrespective of the type of student diversity that is examined—

- Congruence among pedagogy, instructional practices, and student needs.
- Teacher held beliefs and expectations.
- Classroom climate and a sense of community.

To provide the reader with a perspective on how these categories have been addressed in the literature, each will be briefly reviewed in this section. As summarized by Gay (1988)—

> Effective educational program planning for diverse learners is informed by the fact that these students bring to school a great variety of interests, aptitudes, motivation, experiences and cultural conditioning. These determine how, not whether, students can or cannot learn. . .Educators must also assume that students can learn, hold them accountable for high quality performance and design and implement programs to facilitate this achievement (p. 328).

Congruence Among Pedagogy, Instructional Practices, and Student Needs

One theme common across much of the literature on specific types of student diversity concerns the importance of congruence among teacher pedagogy, instructional practices, and student needs. Articulated from a multicultural perspective, Ladson-Billings (1994) states—

> Finally, culturally relevant teachers are identified by their conceptions of knowledge. They believe that knowledge is continuously recreated, recycled and shared by both teachers and students. They view the content of the curriculum critically and are passionate about the content. Rather than expecting students to demonstrate prerequisite knowledge and skills, they help students develop those prerequisites by building bridges or scaffolding for learning (p. 137).

Similarly, from a perspective of working with students with linguistic differences, Au and Kawakami (1994) state—

> Successful teachers appear to be those who have respect for the language students bring from the home and community. They provide culturally congruent instruction by capitalizing upon students' existing language ability to meet school goals" (p.17).

Relative to the literature focusing on a broader framework of collective student needs in a heterogeneous classroom, Kline (1995) synthesized over 900 research studies that examined curricular and instructional practices for students with a variety of diverse needs. The following 13 instructional strategies were cited across studies as being effective in teaching students with a variety of diverse needs, (Kline, 1995)*—

- Provision of opportunities for students to work together in well-structured collaborative or cooperative activities.
- Implementation of reality-based learning approaches that provide students with real purposes and real audiences for reading, writing, calculating, speaking, analyzing, and problem solving.
- Incorporation of interdisciplinary thematic teaching that crosses subjects, integrates knowledge and skills, and involves a team effort among staff.
- Facilitation of active involvement of students in their own learning involving constructing their own understandings, generating their own approaches, and creating their own solutions.
- Acquisition of knowledge about each student's reading and learning styles in order to design and implement instruction that accommodates to the ways in which each student learns best.
- Creation of opportunities for students to see staff model desirable cognitive and affective behaviors.
- Incorporation of the fullest dimensions of thought for the purposes of encouraging students to engage in critical thinking and creative problem solving.
- Utilization of multicultural teaching approaches across all areas of the curriculum that support the mutual understanding and acceptance of human differences.
- Implementation of alternative assessments for purposes of obtaining useful information about student acquisition of skills and knowledge as well as for continuous improvement of instructional effectiveness.
- Promotion of home/school partnerships that encourage meaningful and authentic family involvement with the educational process.
- Incorporation of accelerated learning techniques in order to maximize learning for students at all levels of ability and achievement.
- Utilization of questioning strategies that stimulate student participation, encourage exploration and elaboration, and invite student-generated questioning.
- Implementation of brain-compatible instruction that recognizes the need for teaching to be multifaceted.

* From *Educating Everybody's Children.* Edited by Robert W. Cole. 1995, Alexandria, VA: Association for Supervision and Curriculum Development. (Chapter 3 "A Baker's Dozen: Effective Instructional Strategies" by Lloyd W. Kline pgs. 21-43). Copyright © 1995 ASCD. Reprinted by permission. All rights reserved.

Teacher Held Beliefs and Expectations

A second theme common across a variety of articles on specific types of student diversity involves the nature of teacher held beliefs about student learning and teacher held expectations of students. In a study designed to assess effective classroom practices for students with linguistic differences, findings indicated that successful teachers communicated high expectations for learning and had a sense of efficacy in their own ability to teach students with linguistic differences (Tikunoff, 1983). In a study of three culturally responsive educational initiatives Villegas (1992) found that in all three successful initiatives teachers had high expectations for student achievement and behavior and students were taught by teachers who viewed themselves as capable of making a difference in the lives of the children with whom they worked.

In studies focusing more broadly on diverse students in heterogeneous classrooms, similar indices relative to beliefs and expectations have been found. In an ethnographic study of four teachers described as being effective with students having racial, cultural, socioeconomic, and ability differences, Ladson-Billings (1995) describes a common feature shared by all four effective teachers: their strong beliefs in the capabilities of their students to achieve academic success.

Classroom Climate and a Sense of Community

Across a variety of articles describing effective practices with specific types of diverse learners, a third prevalent theme relates to the development of a positive classroom climate and a supportive classroom community. Most articles articulated the following components as being a necessary part of a classroom community: (1) shared values, (2) sense of membership, (3) supportive interpersonal relationships, (4) active participation, and (5) respect for self and others (Battistich, Solomon, Kim, Watson, Schaps, 1995).

In writing about effective practices with students with racial differences, Ladson-Billings notes that "Teachers must become facilitators and directors of the learning process, rather than information givers. Classrooms must become more group orientated and cooperative rather than individualized and competitive and more inviting than repressive" (p. 188). In a national study of promising school practices for students labeled as being at risk, findings suggested that the development of supportive classroom climates that focus on student strengths and abilities are an essential component of successful programs (Russell, Grandgenett, & Lickteig, 1994). The literature that examines inclusion of students with disabilities abounds with the importance of developing positive classroom communities that support and nurture students at a variety of ability levels (Downing & Eichenger, 1990; Heron & Jorgensen, 1995; Hunt, Staub, Alwell, & Goetz, 1994).

In order to examine how teachers developed supportive classroom environments in classrooms with students of different cultural, racial, and linguistic backgrounds as well as differing abilities, Cabello and Terrell (1995) observed 10 teachers, identified as being effective, for a period of 3 months. Additionally, the authors observed teachers in five classrooms for the same period of time who had not been identified as effective. Findings indicated that the effective teachers exhibited a distinct cluster of "supportive" behaviors. These behaviors included the use of cooperative learning, peer tutoring, and daily collaborative activities as well as encouraging student interdependence; teaching and using conflict resolution and negotiation strategies; modeling mutual assistance; and providing constructive feedback. The authors described four themes

that were common across the 10 exemplary classrooms: (1) students assisted one another, (2) problems were solved through discussion and negotiation, (3) students provided feedback and praise to one another, and (4) learning about diversity and self-esteem was relevant across all subject areas. Cohen and Lotan (1995) examined the process of student stratification in heterogeneous classrooms using the theory of expectation states. Status characteristics were defined as "socially evaluated attributes of individuals for which is generally believed that it is better to be in the high state than the low state" (p. 101). Both academic and social status were examined. Student heterogeneity was described as being racial, cultural, linguistic, socioeconomic and academic.

In their classroom level of analysis involving 13 classrooms in grades two through six, Cohen and Lotan found that status inequalities could be lessened by such teacher activities as talking about and modeling the benefits of multiple abilities and by assigning competence to students perceived by fellow classmates as having lower status. The authors concluded that "in context of a multiple ability curriculum it is possible to produce equal-status behaviors in heterogeneous classrooms as well as significant gains in achievement" (p.118)

In summary, the emergent literature that collectively examines heterogeneity in context of classrooms clearly illustrates that in order to be effective with students having diverse needs, abilities, interests, and backgrounds teachers must align their practices and beliefs with the needs of their students, hold high expectations for the ability of all students to learn, and create caring classroom communities that nurture diversity. These three essential components necessary to promote successful learning for all students will be woven throughout this monograph on differentiated teaching and learning.

2 Rationale for Differentiated Teaching and Learning

Many teachers have learned that instructional interactions between themselves and students have a widespread affect. These interactions can influence how students think about themselves as learners, how motivated students are to learn, and what kinds of learning outcomes students experience. Additionally, the nature of student-teacher instructional interactions can also influence such areas as how teachers assess their own effectiveness or how teachers alter instructional interactions to better meet the needs of their student. Teachers as well as educational researchers have learned about the importance of student involvement in the learning process. Kramer (1992) found that in classrooms in which students had numerous opportunities to be involved in participation and decision making, students exhibited increased achievement and had more positive attitudes about school. As described in the previous section, the growing heterogeneity of today's classrooms necessitates that school staff expand their curricular and instructional approaches so that all students with a range of abilities, interests, and needs can engage in relevant and respectful learning opportunities.

Many students express sincere desires to participate in classes where teachers recognize students' strengths, needs, and learning styles. Students also appreciate class activities that encourage them to become more active participants in their learning process. Several research studies have examined student preferences for instructional design and delivery. In a study involving 18 randomly selected third through fifth grade students attending a summer remedial program, the students were asked to describe how their least favorite subject was taught. The most frequent responses involved the use of worksheets, lectures, board work (particularly in math), and traditional reading groups. Responses describing how teachers taught the students' most preferred subjects included hands-on activities and small group activities (Hertzog and Diamond, 1994).

Educators have expended considerable efforts trying to increase their effectiveness at modifying curriculum and instruction for the students believed to be in need of such accommodations. Oftentimes, the students determined to be in need were those labeled as receiving Special Education, Title I, or English as a Second Language services. For many of these identified students, these individualized modifications often resulted in self-perceptions that included feeling inferior to the rest of the students due to the need to complete tasks or engage in learning processes that were "less than" those of classmates. This caused some students to feel stigmatized and isolated from their classmates.

In differentiated classrooms, all students work on a variety of learning tasks in a variety of ways. Students identified as needing such services as Special Education, English as a Second Language, Title 1, or 504 are no longer singled out to receive instruction that meets their individualized needs because *all* students are considered to have unique needs. The premise of differentiated teaching and learning asserts that students with varying abilities, interests, and needs can be successful in classrooms that are organized to offer multi-level and multi-faceted curricular and instructional approaches.

Information from the growing knowledge base on brain-compatible learning also supports the benefits of differentiated teaching and learning. Principles of brain-based learning strongly suggest the importance of moving away from teacher-dominated classrooms in which students are expected to engage in such learning tasks as memorizing facts, covering a large quantity of curriculum, and learning isolated skills often within inflexible time schedules (Caines & Caines, 1995). Instead, brain-compatible instruction demonstrates the importance of active learning in which students are encouraged to construct their own meanings, higher order thinking skills are incorporated, the content is prioritized to allow for depth rather than breadth of knowledge, and safe learning environments are developed that encourage students to take risks in their learning.

Differentiated teaching and learning assumes that learning in today's world is a complex task. This assumption results in the design and delivery of learning processes that engage students in issues and challenges in which there are few clear answers but, rather, where differing perspectives are the norm and answers and solutions are often full of complexity and ambiguity. The challenges of teaching a class of diverse learners are immense. Teachers committed to offering rich and meaningful educational opportunities to all students struggle in balancing the needs of individual students with the needs of the collective group. As one teacher explained—

> The benefits and challenges of a heterogeneous classroom are probably a number of the same things. It's taking kids where they're at, which is both a benefit and a challenge, because you are able to look at them as individuals and say, "These are what my expectations are for you." All of the challenges then are when some students say "It isn't fair that some students have to do this and I have to do this." The benefits are watching kids grow and develop.

As with any innovation, differentiated teaching and learning will take time and energy to implement. Many teachers are already differentiating some form of their curricular offerings or instructional design. Making progress in the implementation of differentiated teaching and learning consists of moving along the continuum of differentiation and expanding the types of student needs that each teacher feels comfortable in teaching, increasing the use of instructional strategies that each teacher feels competent in using, and creating rich and meaningful curricular content that each teacher feels confident is offering.

3 Changing Roles of Teachers and Students in Differentiated Classrooms

In classrooms where differentiated teaching and learning prevail, clear roles and responsibilities of both teachers and students exist. Intentionally delineated roles and responsibilities support clear expectations, mutual reciprocity, positive interdependence, and reduce the hierarchy between teachers and students. Students and teachers work together to co-create a relevant curriculum and make decisions about meaningful instructional tasks. Students' active engagement in learning is supported through a guiding framework that acknowledges that each student possesses diverse needs, abilities, and experiences and that each student can be a successful learner given the right learning conditions.

The Role of Teacher as a Facilitator of Learning

As teachers are increasingly supported to teach using curricular and instructional differentiation, they also become increasingly comfortable decreasing their need to be the holder as well as the dispenser of all knowledge and information. The shift away from the teacher-as-expert model is essential. Differentiated teaching and learning assumes that learners will be active participants in determining *what* content is taught and *how* content is taught. Given this premise, it becomes increasingly difficult for any one teacher to be an expert in all of the topical areas in which students might express interest. Therefore, it becomes necessary for a teacher to move from perceiving him/herself as the holder of knowledge to a self-perception as the facilitator of knowledge. This change from a teacher-focused class to a student-focused class creates greater potential for teachers and students to become collaborators in the teaching and learning process. It results in teachers doing *with* students instead of doing *to* students.

As the classroom shifts in focus from teacher-centered to student-centered, roles and responsibilities of both teachers and students also shift. Increasingly, the role of the teacher becomes one of holding the "big picture" of the curricular direction needed by students at a particular grade level (or in the case of multi-age classrooms, grade levels), structuring a variety of learning opportunities through which students can engage in meaningful learning, monitoring work conditions in the classroom, and assessing student performance relative to desired outcomes. In this role, the teacher functions more as a guide and a facilitator of learning while shedding the past role of "making" students learn by maintaining tight control over the curricular content and instructional design. What often feels uncomfortable to teachers as they anticipate moving toward differentiation is the image of losing control of their classroom. It is important to clarify that lessening the level of control in a classroom does not necessarily lessen the structure that is needed to insure a safe and productive learning environment.

In differentiated classrooms, instruction is designed to be both respectful of and responsive to learners' needs. With this foundation of respect and responsiveness, students are continually engaged in a learning process whereby they make sense of what they are learning in ways that are compatible with their abilities, needs, interests, and prior experiences. Through this student-centered construction of meaning, differing perspectives are encouraged, ambiguity is embraced, and asking questions is as valued as answering questions. In differentiated classrooms, students are encouraged to ask questions of teachers and classmates. Teachers ask questions designed to create critical inquiry on the part of students. The following types of questions, posed by

both teachers and students, are heard frequently in differentiated classrooms: *How do you know that? How did you come up with that response? What types of support would be helpful to you? How might a person with a different perspective respond? Tell me what you did differently on this assignment? How did this assignment use your strengths? Can you identify what was difficult about this task? What ideas do you have for how you would approach this type of task next time?*

Teacher as a Facilitator of Learning
What you might see...What you might hear

- ✔ Teachers informing students as to the content focus of a unit of study and asking for student input in particular areas of interest within the br focus.
- ✔ Teachers offering a menu of choices for how students might approach a particular assignment, then conferencing with students to further guide their choices.
- ✔ Teachers restructuring the learning environment to provide a conducive room arrangement for a hands-on learning lab.
- ✔ Teachers creating learning centers that capitalize on different learning styles.

The Role of Teacher as a Reflective Practitioner

Teachers who are skilled at implementing differentiated teaching and learning recognize the ongoing need to engage in reflective practice. Oftentimes, teachers focus their reflection on two key areas: reflecting upon the effectiveness of instruction and reflecting upon their relationships with their students. As students become increasingly diverse, it becomes even more important for teachers to reflect on the effectiveness of curricular content and instructional design. For many teachers, a daily review of what worked and what didn't work provides the information needed to re-evaluate the effectiveness of a given class activity and, if need be, make mid-course corrections and enhancements to a lesson or unit.

As reflective practitioners, teachers are highly attentive to the necessity for feedback to assist in their reflective practices. Given the fluid nature of differentiated classrooms, constant feedback between teacher and student is essential if teachers are to continually assess the interaction between the quality of student engagement and student learning, and the curricular and instructional focus of the classroom.

Assessment, most often formative assessment, provides the ongoing feedback that teachers need in order to effectively sustain a differentiated classroom. Rather than exclusively assessing what students have learned at the end of a unit of study, teachers practicing differentiated teaching and learning design assessment and feedback that focuses on how a student is doing throughout a unit of study. Having already addressed how a student best learns, formative assessment at the beginning of a unit can assist the teacher in understanding what the student already knows about the topic. This information can lead to increasing the likelihood that students will connect new curricular content with prior knowledge, designing more relevant instructional opportunities, and meeting each student where they are at instructionally. Ongoing feedback and assessment (both formative and summative) are essential for effective decision-making relative to curricular and instructional options.

Student Roles

Similar to the shift in roles and responsibilities described for teachers, students in differentiated classrooms also experience a shift from traditionally defined roles in which students are viewed as more passive in their learning tasks, to roles in which students become more active participants in their learning. An essential role shift in differentiated classrooms focuses on students sharing more responsibility for learning, for both themselves and others, as well as becoming more self-directed in their learning. In differentiated classrooms, students are likely to simultaneously be held responsible for completing learning tasks while also being asked to make choices regarding those learning tasks. Typically, students exhibit increased control over what and how they learn, are given more autonomy in their learning, and are encouraged to share accountability for the outcomes of their learning. As a result of these role changes, students often report that they are more motivated, more interested, and more involved in their learning, and feel better about themselves as learners.

Teacher as a Reflective Practitioner
What you might see...What you might hear

- ✔ Teachers requesting a thumbs up or a thumbs down signal from students to indicate their understanding of the task.
- ✔ Teachers asking each student to complete a best guess definition of a key concept in order to group the students for an activity to occur the following day.
- ✔ At the end of the school day, teachers reviewing with students how they liked the new strategy for assigning various tasks to small groups.
- ✔ Teachers stopping a lesson that is going poorly and asking students how the lesson could go better.

Students as Interdependent Learners

In classrooms where differentiated teaching and learning is practiced, students are as active and as accountable as their teachers are. Students seek out each other as resources and perceive their role to be one of assisting in not only their own learning, but the learning of classmates. Teachers work diligently to support this interdependency by instilling the belief that all members of a classroom (teachers as well as students) are both teachers and learners. This can be operationalized in a classroom by including routines such as the following—

Ask Three Before Me. Students learn to ask at least three classmates for assistance in answering their questions prior to asking their question of the teacher.

Rotating Experts. All students have opportunities to be identified as having expertise in certain areas and are available to provide assistance to classmates in those expertise areas.

Help Wanted Notices. Students write a particular need on a sticky note and affix it to a designated spot in the classroom (e.g., an illustrator to help with a project, an editor to review a draft of a report, a mathematician to explain how to make a bar graph).

Classroom Yellow Pages. Student complete a one-page description of something that they would be willing to teach classmates – the one-page descriptions are assembled into a book which students are free to access when they are desirous of learning a new skill or game.

In differentiated classrooms, students are expected to share responsibility for their learning. Students learn that sharing responsibility may also entail helping to create a rubric by which the class will develop quality indicators for their work, contributing to a plan designed to address how the class will have a productive learning day when a substitute is present, and learning helpful methods for offering constructive feedback to class members. As interdependent learners, students also assume responsibility for group management when they are working in small groups. They share responsibility by completing group tasks, eliciting contributions from all group members, encouraging participation, and sharing accountability for meeting group norms.

When students remain with the same teacher and classmates for more than one year (as with a multi-age class or with looping) students can often assume even greater shared responsibility for the well-being of class members. For students in looping situations, classroom routines have become familiar in their second year of the looping cycle and students can extend their learning about positive interdependency, refine classroom expectations, and increase their abilities to be teachers and learners for and with one another. Students in their second and/or third year of a multi-age class can assist incoming students to learn the routines of the classroom, can explain and model the expectations that guide class behavior, and can familiarize the new students with many of the logistics of classroom life (e.g., location of materials, class schedule, personal storage spaces). A teacher of a first/second grade multi-age class assigns all incoming first graders to a second grade "buddy". Several weeks before the start of school, the teacher calls the families of all of the new first graders and provides each child with the name of his/her second grade "buddy". The first graders (and their families) are invited to find the "buddy" on the first day of school. The soon-to-be second graders are coached at the end of their first grade year as to their role of serving as a "buddy" to the incoming first graders.

The students discuss how they can be helpful to new classmates. They role play how to explain the classroom functioning to students who haven't yet been a part of their classroom community. During the first week of school the second grade students guide their buddy through class routines by sitting by their classmate, explaining certain routines, eating lunch with the classmate, and walking their classmate to their bus at the end of the day. The teacher reports that families of incoming first graders like the buddy system. Families report that it reduces their son/daughter's anxiety about coming to first grade because they know they will have a classmate with whom to connect immediately upon arrival on the first day. The teacher also believes that the benefits to the second graders are important in building their ability to offer assistance as well as providing a source of pride in sharing their classroom.

Students as Interdependent Learners
What you might see...What you might hear

- ✔ Students using the learning center guidelines to decide how best classmates can work together at the Weather Center to complete the task.
- ✔ A small group of students problem-solving ideas for adaptations that will encourage greater involvement of a fellow group member who needs many instructional modifications in order to participate in the activity.
- ✔ One student providing feedback to a classmate about how the use of color would add visual interest to his science display.
- ✔ Classmates working together to resolve a conflict that is impeding their progress on a group assignment.

Students as Self-Directed Learners

Many teachers explain to students that being self-directed means engaging in such actions as coming to class prepared to learn, bringing necessary materials, asking questions, making responsible choices, offering feedback, and self-assessing work quality. In differentiated classrooms, students learn to be self-directed by being actively involved in helping to identify their learning styles and strengths, establish their own learning goals, and assess their progress relative to the identified learning goals. Students also conduct student-led conferences in which they establish goals for themselves and/or discuss their progress with members of their family and their teacher(s). As described in the South High School example in the last section of this monograph, being self-directed also implies assuming responsibility for learning about and advocating for supports in order to successfully meet individual learning needs.

Offering authentic opportunities to students for making choices is essential in the process of students becoming self-directed. Teachers must be willing to offer choices and must trust that students will be able to learn to make responsible choices. The process of becoming more self-directed involves students learning how to make choices that will enhance their learning rather than distract from their learning. In order to learn this, students must have repeated opportunities to make choices relative to activities and behaviors that affect their learning. Students must understand the different choices that are being offered (e.g. participation in a group that will demonstrate proficiency via a skit or participation in a group that will write a written report to demonstrate proficiency) and understand the ramifications that accompany each choice (e.g., if a student chooses to work with a partner on the activity it will most likely necessitate that the two students coordinate time to meet after school to complete their project). Students need repeated opportunities to make choices. For example, a student may make several attempts at

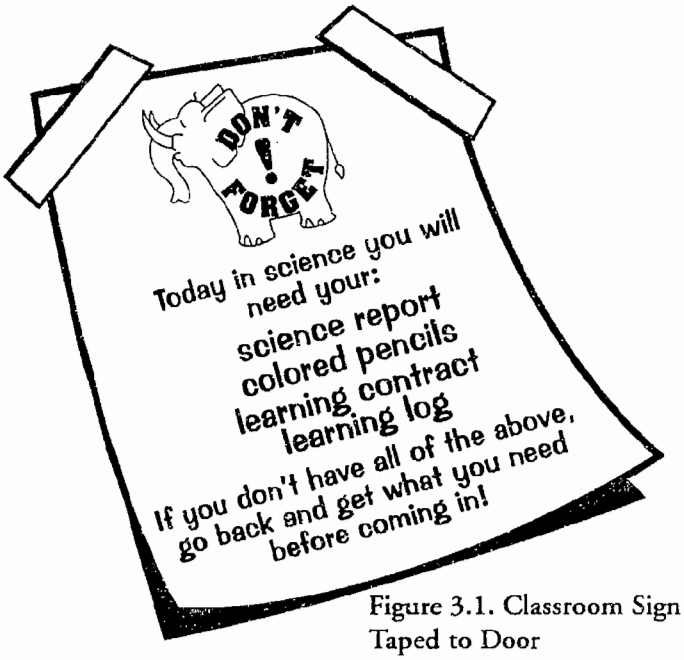

Figure 3.1. Classroom Sign Taped to Door

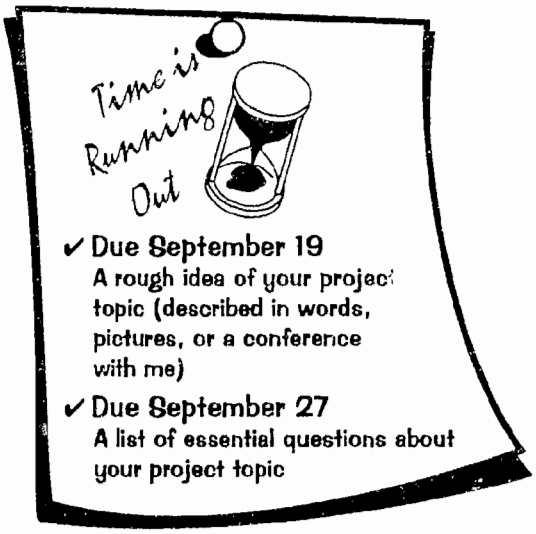

Figure 3.2 Bulletin Board Sign

finding a compatible learning partner before identifying a partner with complementary study habits. Students also need time to reflect on the choices they have made. For example, a student may need some assistance in reflecting upon her choice to select a book for which there was no accompanying audiotape available.

One fifth grade teacher provides ongoing opportunities for students to make choices by asking his students to write down the names of least two students whom they would like to sit next to in the next six-week seat rotation. Students are told to make choices based on which classmates will support their learning and are reminded that sitting next to their friend may be fun, but that choice may not necessarily be best for learning. The students are also asked to list the names of any classmates that would have a negative impact on their learning. Once all of the choices are made, the teacher generates a new seating rotation, making every attempt to accommodate at least one of each student's choices. Occasionally, the teacher conferences with students to discuss their choices and to explain his perspective on their choices.

A high school science teacher has also found a method for providing opportunities for his students to learn to make responsible choice. This teacher carefully configures membership in small lab groups for the first six weeks of the semester. For the remainder of the semester he informs students as to the requirements of the upcoming lab, suggests the types of learning strengths that might be helpful in accomplishing the lab activities, and then turns the students loose to select their lab partners. When groups are less successful in accomplishing the tasks inherent in the lab assignment, he conferences with the students and assists those groups in processing why the outcomes of the group task occurred as it did. He reports that, over time, the majority of students learn to carefully select lab partners.

Teachers explain that helping students become more responsible and more self-directed is an ongoing process. Many students have not had opportunities to learn to be self-directed and will need support to assume more responsibility. Some students have learned to see the teacher as the expert and will need guidance to learn how to listen to and trust their own perceptions and ability to assess quality of their work. Teachable moments need to be seized in order for each student to learn to assume

greater responsibility. Classroom expectations, as discussed in section 4, are essential in creating classrooms where students learn to share responsibility. Structuring the classrooms so that students are expected to be more self-directed is also essential. Many teachers report that they have to intentionally let go of many tasks that they once assumed responsibility for and ask themselves how they might structure the task so that the responsibility can be shared by all members of the classroom community. For example, Figures 3.1-3.3 illustrate notices that a teacher may post to increase the classroom expectation that students will assume greater responsibility for coming to class with appropriate materials, keeping track of deadlines, and reading class announcements. Figure 3.4 illustrates a technique to encourage students to take responsibility to record class activities and assignments for an absent classmate.

Students as Self-Directed Learners
What you might see...What you might hear

- ✔ Students maintaining a project calendar reminding them of important benchmarks for completing their project.
- ✔ A student volunteering to contact a local business person to act as a resource to the class.
- ✔ Students completing a self-assessment of their performance on a particular assignment.
- ✔ Teachers encouraging students to review their learning strengths inventory to choose an activity that aligns with a particular learning style.

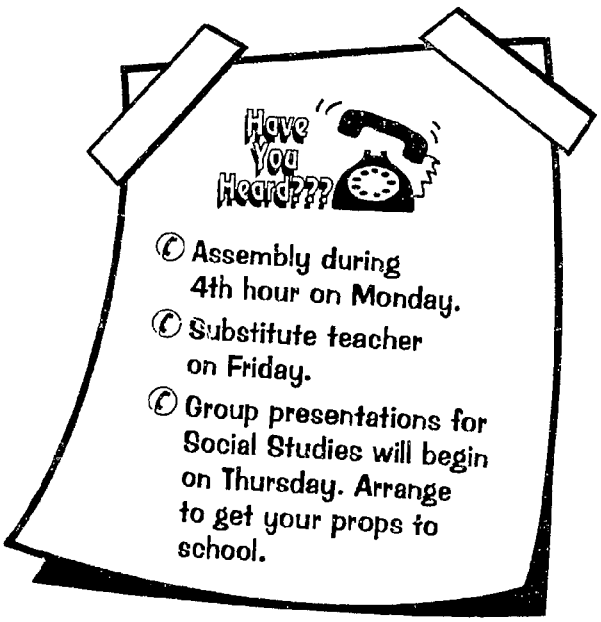

Figure 3.3. Classroom Sign

Figure 3.4. Handout for Students to Complete for Absent Classmates

4 Creating a Classroom Community Supportive of Differentiated Teaching and Learning

The experiences of untold teachers and students, as well as a growing body of literature, affirms the importance of creating a sense of community to support today's heterogeneous classrooms. As described in the earlier section of this monograph, the importance of classroom climate has been documented as an important contributor to student achievement, student attitudes about self and school, and the degree to which students perceive their interdependence with classmates. The classroom provides the context through which students and teachers, on a daily basis, learn how to effectively live, learn, and grow amidst diversity. The classroom as a community of diverse members provides a fertile environment for grappling with issues of fairness, practicing cooperation, proactively addressing behavioral challenges, transforming roles, developing shared responsibility for the well-being of the class, mediating conflict, and understanding the myriad of similarities and differences among learners.

Respect, caring for and being cared about, mutuality, and emotional safety form an important foundation on which differentiated teaching and learning can best be built. A classroom community must therefore be created and sustained that encourages students to take risks, values all students for their unique strengths and needs, supports students as they strive to do their personal best, and assists students in becoming connected with one another. Teachers concur that developing a sense of community in the classroom takes time. Many teachers also believe that it is time well spent, particularly given the growing heterogeneity in most classrooms. Developing a positive and supportive classroom climate is a proactive means of helping students understand why differentiated teaching and learning is an important component of recognizing and respecting diversity. Many teachers believe that the skills needed to contribute to a heterogeneous classroom are the same skills needed to contribute to a diverse society. Skills such as collaboration, negotiation, responsibility for self and others, problem solving, and dealing with multiple perspectives are viewed as life-long skills necessary for students in schools and necessary for citizens in life.

Students need support in understanding why differentiated teaching and learning is important. Many students have at some time in their school career been members of classrooms in which all students were expected to learn the same thing in the same way. These students need time and guidance to gain an understanding that learning can also look like students doing many different things and learning in very different ways during a classroom lesson. Consistent messages from teachers are exceedingly important for students to hear time and time again. One teacher routinely reminds her class "You may notice that I expect different things from different students. That is because we all learn differently and demonstrate proficiency differently."

Facilitating relationships among students, which includes facilitating an awareness of the strengths and needs of each classmate, helps students understand how diversity among classmates necessitates differentiation of teaching and learning. Clearly, the creation and sustenance of a positive classroom community supportive of diverse needs and abilities has important implications for the ease at which teaching staff can establish expectations, individualize curricular and instructional offerings, and assess student performance. Several important facets of creating such a classroom community are described in this section. These include—

- Establishing classroom expectations.
- Identifying and learning about student strengths and interests.
- Enhancing student strengths.
- Utilizing class meetings/class forums.
- Addressing issues of fairness.

Establishing Classroom Expectations

Establishing classroom expectations is essential to creating a climate in which diversity is embraced and nurtured. Classroom expectations provide the basis for establishing the norms that will shape relationships, guide behavior, and provide the continual basis for assessing the alignment between how we believe we should act and how we do act. Active student participation is essential in the development of classroom expectations. Most often, teachers choose to guide students at the beginning of the school year through a process of learning about the importance of beliefs as a guideline for actions and then establishing classroom expectations that embody the beliefs that will be shared by members of the class. Strategies include asking students to think about and then talk about such topics as characteristics of a good place to learn, what a classroom might feel like if it was a classroom that would make you want to try your best, ways in which you want to be treated by members of your class, or what would go on in a classroom in which you felt truly cared about by others. Typically, students might work in pairs to interview each other or work in small groups to generate their responses. The whole class then works together to reach consensus on five to eight classwide expectations. When such a process is followed, responses typically include the type of expectations described in the elementary school example found in the last section of this monograph.

Once classroom expectations have been discussed and agreed upon, some teachers in the primary grades find it helpful for students to work together to draw pictures of each specific classroom expectation. The pictures can be labeled with the expectation (e.g., This is a picture of us sharing our materials. This is a picture of us all getting chances.). The pictures are posted throughout the room to remind students of the expectations. Other primary level teachers schedule a unit on "community" for the beginning of the year thereby creating a curricular and instructional opportunity for learning about the many facets of a community. In upper grades, class expectations are posted in the room and frequently include signatures of all students in the class. In other classes, students are provided with their own copy of the classroom expectations (either a notebook size copy or a wallet size card) and periodically all students are asked to reflect on how well the class is following the agreed upon expectations. Many classrooms display murals or bulletin boards creatively designed by students that describe their classroom expectations or offer a "picture" of the classroom as a community of learners.

Classroom expectations are most meaningful when they become a recurring reference point for guiding actions, resolving challenges, and celebrating growth. These overall classroom expectations guiding how students and staff are expected to act towards self and others are helpful in establishing more specific expectations for such activities as adhering to group norms during a class meeting, working independently on a learning contract, working with a partner to access resources outside of the classroom, or participating with a learning team in a site visit to a local art gallery. The development and sustainment of classroom expectations helps create a learning community that fosters the type of environment described by Parker Palmer (1983)—

> A learning space needs to be hospitable not to make learning painless but to make the painful things possible. . .things like exposing ignorance, testing tentative hypotheses, challenging false or partial information, and mutual criticism. None of these can happen in an atmosphere where people feel threatened and judged.

Establishing Classroom Expectations
What you might see...What you might hear

- ✔ Students discussing a recent event that occurred on the playground and using two of the classroom expectations to assess whether their actions followed the class beliefs about how to treat one another.
- ✔ Teachers using a portion of a mid-year class meeting to revisit classroom expectations and determine if any changes or clarifications are needed.
- ✔ Students listening to a story that exemplifies one of the classroom expectations.
- ✔ Members of a cooperative group processing their performance to assess how well they adhered to the classroom expectations.

Identifying and Learning About Students' Strengths and Interests

All students have preferred ways of learning. Some students learn best by listening, some by seeing, and others by doing. Differentiated teaching and learning seeks to incorporate knowledge of each learner's style, strengths, and interests into how curriculum is shaped and how instruction is designed and delivered. These student characteristics have major implications as to how effective the interaction will be between student and learning environment.

Strengths and interests can be discovered through such techniques as teacher-student, student-student, and parent-teacher interviews; student or parent questionnaires; interest inventories; surveys; and observations. Activities can also be interspersed throughout the year to assist students in becoming familiar with the strengths and interests of fellow classmates. For example, *identity boxes* can be constructed in which students display objects, photographs, and symbols illustrating significant aspects of their identity; *timelines* can be developed which list important events that have occurred in the lives of students; and *personal narratives* can be developed in which students use written or spoken words, music, art, or drama to depict each their stories.

Several teachers report success teaching a unit on the brain early in the year. This topical exploration encourages students to learn about functions of the brain as well as how brains process information differently. Teachers can then extend this unit to discuss multiple intelligences and brain-compatible learning, and explain why classroom activities need to be different given the differing needs and abilities of the members of the class. Many teachers use a common learning task such as practicing spelling words to highlight how different learners are likely to choose practice strategies based on their preferred learning styles. As students hear and see how an auditory learner prefers to spell the words out loud while a visual learner prefers to see the words or perhaps write the words in different colors, they develop an understanding of learning differentiation. Students can also expand on this activity by constructing a web or a list of preferred learning strategies for each learning style.

Other teachers explain differences in thinking and learning styles via metaphors. For example, a teacher might design an activity in which students are to figure out how they will travel from one city to another. Some students may choose to take an airplane so they can get there quickly, other students may choose to drive so they can meander along back roads and take in sights along the way. Student preferences for traveling become the focal point for discussing how students also have preferences for thinking and learning. It is important to convey to students that learning preferences are not better or worse—they are simply different ways of reaching a learning outcome. It is essential that students be integrally involved in identifying and then learning about their own strengths. As described in the high school example at the end of this monograph, it is also crucial that students learn how their strengths and interests impact how they learn. Also important is how staff work with students to become better advocates for their individual learning needs.

Additional ideas for assisting students in recognizing and understanding learning commonalties and differences are illustrated in Figures 4.1-4.3.

Identifying and Learning about Students' Strengths and Interests
What you might see...What you might hear

- ✔ Students completing a learning profile to identify specific learning strengths.
- ✔ Students participating in a scavenger hunt to find classmates with commonalities as well as differences.
- ✔ Students conducting a survey of classmates to assess how many students have which learning styles.
- ✔ Teachers sharing their own learning preferences and discussing how those preferences impact on how they teach.

Discovering Similarities and Differences in Learning Styles and Preferences

Form a group with two other classmates. Using the information you already know about Venn Diagrams, chart how the three of you are the same and how you are different relative to your respective learning styles and preferences.

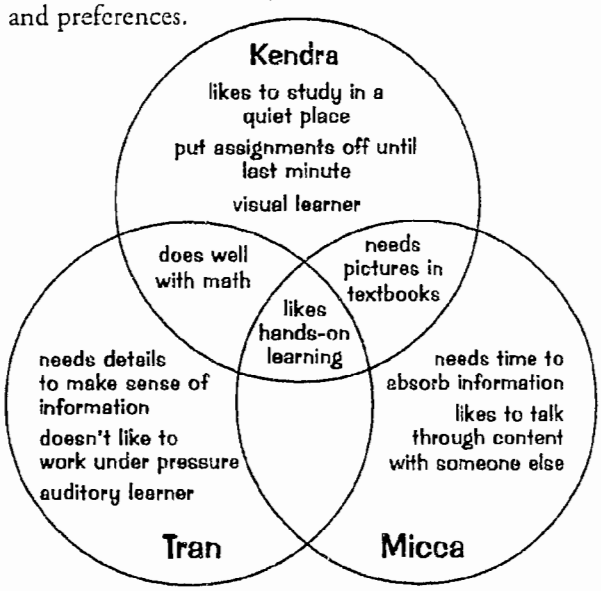

Figure 4.1. Similarities and Differences

Find a Classmate Who . . .

Mingle with your classmates to find someone who matches the description in each box then have the person write his/her name in that box.

Writes in a journal on a regular basis	Prefers information described in charts or graphs	Likes to study with loud music playing
Makes sense of content by talking to someone else about it	Expresses self using music or art	Likes to read
Prefers to work alone on a project	Likes to ask a lot of questions	Works steadily on projects—doesn't put them off
Learns new information best by "doing"	Doodles on worksheets, lecture notes, etc.	Helps classmates

Figure 4.2. Identifying Classmate's Preferences

Find Out About Your Group Grid

As a cooperative group, talk to one another to find out things that you have in common with each other. Put each group member's name (one in each box) in the boxes along the top and the boxes along the left side. Find your name on one side of the grid and in each box where you match up with someone else's name write in the box one thing that the two of you have in common. Where your name on the horizontal side intersects with your name on the vertical side write in the box one thing that you think is special about you. Your group is finished when your group's grid is all filled in.

	Mark	Vu	Shelley	Helena
Mark	good baseball player	play clarinet	like to read horror stories	been to Disney-land
Vu	parents are divorced	never give up	have two sisters	speak two languages
Shelley	like pizza	new at this school	have a pretty smile	like sleep-overs with friends
Helena	have a pet dog	live with my grandma	like school	friendly

Figure 4.3. Group Grid

Enhancing Student Strengths

Once student strengths have been identified, one of many tasks needed to insure the effectiveness of a differentiated classroom is to incorporate identified student strengths into the fabric of the class. In doing so, students feel validated for their differences and have varied opportunities to work from their strengths rather than focus on their areas of weakness or deficits. Curriculum and instruction can be used to maximize the variety of strengths that are represented in a given classroom as well. Differentiated teaching and learning activities promote a variety of options from which students can choose what to learn, how to learn, and how to demonstrate what they know. Teachers report that it is important to teach students about all of the ways in which they are smart and then build in ongoing strategies to help students identify when they are using different ways of being smart.

Many teachers find that students often choose to stay within a comfort zone by consistently selecting tasks that rely predominantly on their areas of strengths. Encouraging students to take risks as learners is also important. It can be helpful to reframe a student's comment of "I can't do that" to "You haven't yet learned how to do that." Teachers who are desirous of encouraging students to take risks will often do such things as clearly model a behavior that pushes them out of their own comfort zone. A teacher might say to her students, "You all know how much I don't like art, but I took a risk today and drew on the board a picture of the important parts of a medieval castle." Teachers also encourage students to step outside of their comfort zone by requesting that students select a portion of their activities in a given unit from their weaker areas of intelligence (if the students are familiar with Howard Gardner's construct of multiple intelligences), from their less predominant learning strengths (if the students are familiar with their learning profiles), or from their lesser preferred areas of interest.

In safe and nurturing learning environments, students are also more apt to view mistakes as natural to the learning process. One student was overheard explaining to a parent, "In our school teachers want us to make mistakes because that's how we learn the most." Similar to the benefits of modeling risk-taking, teachers also attest to the benefits of modeling authentic mistake-making. After describing a recently made mistake, a teacher can process with students how mistakes provide valuable information to assist in the learning process. One teacher prominently hangs a colorful banner in her classroom which reads, "We don't make mistakes here, we make learnings." Once again, a classroom community in which students feel safe and valued strongly supports the growth of students. Risks are more comfortable to take and mistakes are less threatening to make when students and teachers feel a part of a classroom community in which supportive relationships are the norm rather than the exception.

Enhancing Student Strengths
What you might see...What you might hear

- ✔ Students discussing ideas as to how a unit might include activities that encourage many different ways of demonstrating proficiency of unit concepts.
- ✔ Teachers designing learning contracts that provide choices to students as to which activities they will elect to do for a particular unit.
- ✔ Students selecting classmates for a cooperative group activity based upon complementary strengths present in each prospective group member.
- ✔ Teachers conferencing with students to encourage reflection as to what parts of a recent task were easy and difficult and why differences were present.

Utilizing Class Meetings/Class Forums

In many classrooms in which diversity is viewed as an asset to be nurtured, class meetings are held as a vehicle for proactively dealing with issues as they arise, encouraging students to share responsibility for the functioning and well-being of a class, providing a forum that values the "voices" of all members of the class community, fostering group cohesiveness, and making class decisions. Many teachers believe that class meetings increase the sense of belonging that students feel to their class. Students often report that class meetings provide a helpful and routine format for voicing concerns, making plans, checking in on events and plans, practicing skills in getting along with others, and offering a safe place to deal with conflict. Class meetings also provide many teachable moments for operationalizing classroom expectations. For example, an issue of one student monopolizing the discussion during a class meeting can be examined in light of the classroom expectation which states, "Everyone gets a chance to participate in decision-making." Thus, the group norms in class meetings should align with classroom expectations. When there is a lack of alignment, students are provided with an opportunity to discuss possible options for resolving the issue. Given the focus on building classroom communities in which all members share responsibility for the well-being of self and others, class meetings also model such norms such as shared responsibility, respect for multiple perspectives, shared decision-making, fairness, and empathy for others.

Class meetings and class forums occur for a variety of reasons. Some teachers elect to hold class meetings on a regular basis, others choose to convene class meetings on an as-needed bases. Agendas for class meetings can be open for input from any member of the class community or can be focused on a particular topic (e.g., expectations for an upcoming field trip followed up with another meeting to evaluate how the field trip plan worked). Outcomes derived from class meetings or class forums include such things as building relationships among students, promoting equitable participation, fostering responsibility for the class community, and sharing in decision-making.

Relationship-building can be a helpful focus of class meetings, particularly at the beginning of the school year. Students can participate in such activities as drawing an *If You Knew Me Card* and completing the remainder of a sentence which might read, "If you knew me, you would know that I like _____" or "If you knew me you would know that _____ makes me laugh." Another relationship building activity might include students sitting in a circle on the floor with one koosh ball. As one student throws the koosh ball to another, she/he says the name of that student. The student catching the koosh ball must give one characteristic of her/himself before throwing the koosh ball. Yet another activity involves students sitting or standing in a circle with a large ball of string. As each student throws the ball of string (while holding on to a part of the string) to a classmate, the student states one hope or dream for the classroom. Because each student holds onto a piece of the string a large web is created. Students can conclude the activity by discussing the meaning of the web and what a web suggests for building community and fostering relationships.

In order to insure that all voices are given time and respect to be heard, equity of participation can also be a helpful outcome of class meetings. To foster equitable participation, students can engage in such activities as passing a rain stick from speaker to speaker. The guidelines for the use of the rain stick are 1) when the current speaker has finished speaking she/he passes the rain stick to the next speaker and 2) only the person holding the rain stick is able to speak. It is important that the rain stick be passed equitably so that all students have an opportunity to speak. Another strategy for equitable participation is to provide each student with a limited number of tokens or tangible objects (usually 3-5 tokens or objects work well). Each time a student wishes to speak, she/he must relinquish a token. When a student has no more tokens, that student can no longer speak. Both teachers and students report that having a limited number of tokens encourages students to more carefully think through what they want to say before speaking. It also helps acknowledge the input of reluctant speakers who may give up trying to speak because they tire of "vying for air time" with more vocal students.

A third strategy involves coaching students in active listening. Before a student can contribute to the discussion, she/he must briefly summarize what the preceding speaker said. This encourages students to listen to others with as much energy as they might spend on formulating their own verbal contributions to the meeting. A fourth strategy involves the meeting facilitator building in 30 seconds of silence after each person has spoken. This creates time for class members to process what has been said, oftentimes increases the thoughtfulness of subsequent responses, and has the potential to reduce the race to see who can be the first to speak next. Lastly, some teachers find it helpful to provide time prior to the meeting for all students to write down their thoughts about a particular issue that is scheduled to be discussed at the meeting. This up-front notice provides time for reflection as well as providing helpful lead time for those students who like additional time to think about what they might want to say during a class meeting.

Fostering responsibility for the well-being of the class is a helpful outcome of class meetings as it supports the development of positive interdependency among students. Class meetings can be the vehicle for fostering responsibility by such strategies as encouraging students to use "I messages" during meetings; rotating roles of facilitator, recorder, and time-keeper; understanding different perspectives on a classroom issue by assuming another person's role in the discussion; and periodically reviewing, as an agenda item, how members of the classroom are contributing to the well-being of the classroom community.

Sharing decision-making can be practiced during class meetings by discussing when group consensus is a desirable outcome, providing opportunities for students to practice reaching consensus, encouraging students to brainstorm the "best case" and "worst case" of each potential decision before reaching a final decision, and assisting students in involving all stakeholders in the decision-making process.

Utilizing Class Meetings/Class Forums
What you might see...What you might hear

- ✔ Students discussing options for a class celebration and assigning tasks to various students.
- ✔ Students clarifying the problems occurring among a group of classmates during passing period and brainstorming a variety of ways to resolve the issue.
- ✔ Teachers providing feedback to students about their behavior during a guest speaker's talk and eliciting ideas from the students as to expectations for the next guest speaker.
- ✔ Students generating agenda items for a weekly class meeting and assigning approximate time allocations for each item.

Addressing Issues of Fairness

Many teachers concur that heterogeneity exacerbates issues relative to fairness. Because the diversity is more apparent and because students experience the diversity on a daily basis there are ongoing opportunities to address issues of fairness. In the minds of many students and adults, the term "fair" means "the same." Teachers in differentiated classrooms work diligently to teach students that fair doesn't necessarily mean the same. Instead, teachers explain to students, using a variety of examples and teachable moments, that fair means that things could and probably will look different. Teachers attempt to operationalize this concept of fairness by pointing out examples in which students are not doing the same things in the same way, but remind students that all members of the class are doing what they need to be doing to be successful. When students are immersed in a context that defines fairness as everyone getting what they need, students are able to construct a different notion of fairness. In these learning environments the concept of fairness is better understood as the structuring of individual opportunities, expectations, and tasks based on the unique needs of each student. Students must see, through examples and explicit teaching, that while expectations are high for all students, the way those expectations are operationalized will be different.

Strategies for assisting students in constructing meaning about the concept of fairness include having students construct a T-Chart of what fair looks like and sounds like, develop a concept map of fairness, list positive as well as negative examples of fairness, locate and describe examples of fairness as reflected in literature, or grapple with short vignettes or scenarios in which students discuss how to apply principles of fairness to certain situations. Reflecting on experiences with siblings and neighbors can help as well.

Addressing Issues of Fairness
What you might see...What you might hear

- ✔ Teachers using a metaphor to explain fairness such as asking students to think about what might happen if people went to the doctor with different ailments and were told by the doctor that everyone would get the same treatment so that the doctor would be "fair" to all of her patients.
- ✔ Teachers encouraging students to discuss a story in which the main character's life circumstances might justify an action that wouldn't be considered "fair".
- ✔ Students providing examples from their own lives in which family members agreed that different treatment of siblings or extended family was acceptable.
- ✔ Students using their awareness of the differing strengths of classmates to design a project which everyone participates in a way which is fair to all.

5 Organizing and Maintaining Differentiated Teaching and Learning

As with any new initiative, creating and sustaining differentiated teaching and learning can be overwhelming. Teachers often describe the need to design an implementation strategy that is paced in a way to make manageable the move towards greater differentiation. Certain aspects of classroom organization are important to consider in classrooms in which differentiated teaching and learning is being implemented. These aspects include—

- Designing differentiated lessons or other units of instruction.
- Grouping students for instruction.
- Supporting student choice.
- Structuring the learning environment.

Designing Differentiated Lessons or Other Units of Instruction

When beginning the process of differentiating the design and delivery of lessons or units, many teachers find it helpful to begin slowly. Acquiring the skills and the resources necessary to differentiate teaching and learning may best be accomplished by taking it a little at a time. It can at first feel overwhelming to design a unit that offers multiple activities while simultaneously providing for student choice, resulting in active and engaged learning from each student, and culminating in an integrated product. It might be helpful to select one subject area such as social studies and begin by differentiating one unit or select one theme and design a more integrated multiple-activity unit involving several subject areas. Collaborating with colleagues to brainstorm ideas, share resources, elicit feedback, and help to maintain momentum can also provide a valuable support in the implementation process. As described in the multi-age classroom example in the last chapter, the collaboration between general and special educators greatly enhances the instruction for all students. Teachers report that it is also helpful to have larger blocks of time during portions of the day or week. The large blocks of time (one and one-half to two hours) provide flexibility for students to engage in such tasks as project focused activities, small group work, and experiential learning.

Whatever approach is typically used by a teacher in planning for a lesson or unit, it is essential that questions designed to prompt critical inquiry about the degree and type of differentiation be included as part of the lesson planning. The following questions, used by teachers from a New Hampshire high school, are examples of inquiry points that can be incorporated into the planning process (Jorgensen, 1995)*—

- How accommodating will the lesson be for students with different learning styles, interests, talents, and challenges?
- Will the lesson challenge the most well-read student in class?
- Will the lesson motivate and engage students who are not terribly interested in school?
- Can I find high-interest, low-level reading materials for students who don't read or who read with great difficulty?
- What about students with extraordinary learning challenges who may not understand the topic regardless of how I present it? How can I include them in every class period?
- What do I expect students to remember from this unit? What should they be able to do a year from now when they have forgotten all the details?
- Can all of my students achieve some of these outcomes?

* Jorgenson, C. (December 1994/January 1995). "Essential questions—Inclusive answers." *Educational Leadership, 52,* 4:52-55. Reprinted with permission of the Association for Supervision and Curriculum Development. Copyright © 1985 ASCD. All rights reserved.

It will, in many instances, be very difficult in a single lesson to include instructional approaches that appeal to every student's learning style, needs and interests. However, it is possible and desirable to design within a unit of instruction a variety of instructional approaches that complement each student's strengths, interests, and abilities. For example, as part of a second grade unit on learning about friendships, one instructional activity is done with the entire class and asks students to think about and then discuss characteristics of friends and friendships. Another activity is designed to promote individual reflection about experiences in being a friend and having friends. Two additional activities are designed to be done in the context of a small group in which students compare and contrast their experiences with friendships. To demonstrate their understanding about friendship, some students will construct a collage of images depicting friendships. Others will role-play the importance of friendship skills. Still other students might give oral reports describing several stories they read in which friendship was the primary theme. Throughout the unit activities, a variety of resources and curricular materials will be available so that all students can engage in rich and meaningful learning opportunities. While one specific learning task that partially comprises the unit on friendships does not tap each and every intelligence, learning preference or style, the unit as a whole is intentionally designed to be inclusive of diverse learner needs, strengths, and interests. Weaving together a variety of curricular and instructional approaches is at the heart of creating student-centered learning.

Many teachers state that several guiding principles are helpful to keep in mind when designing differentiated lessons and units. It is helpful to identify and clarify the overarching concepts that are at the center of the unit content. Some teachers prefer to identify the overarching essential questions rather than concepts. Identifying the key concepts or essential questions is an important step as it creates a focus that is broad enough for the teacher to further develop both breadth and depth of content. For example, a sixth grade teacher is planning an integrated unit of study on diversity. This unit integrates science, social studies, math, and language arts. The overarching concepts include understanding the issues and challenges of diversity from a variety of disciplines and perspectives (e.g., biological importance of diversity among organisms, sociological exploration of diverse cultures, mathematical trends in measuring and analyzing demographic data); examining the historical existence of diversity; and exploring how diversity impacts contemporary life at local and global levels. These guiding concepts provide tremendous latitude in how students might learn about diversity and demonstrate proficiency.

Once the core concepts or essential question are clarified, a curricular and instructional focus can take shape. In general, when planning differentiated lessons or units, the following suggestions might be helpful to keep in mind—

- Include a variety of perspectives.
- Draw from the experiences of the students.
- Incorporate contemporary issues of interest to students.
- Teach from themes (themes are brain-friendly and promote connections and patterns in learning).
- Strive for multi-dimensional instead of uni-dimensional approaches.
- Think creatively when obtaining resources and materials.
- Establish clear expectations, reasonable timelines, and quality indicators for student work.
- Have fun.

Designing Differentiated Lessons or Other Units of Instruction

What you might see...What you might hear

- ✔ A teacher locating community members willing to share their life story with a student in order to assist the student in developing a personal narrative.
- ✔ Core teachers on an eighth grade team discussing how to adapt several activities in the integrated thematic unit on mysteries for several eighth graders with disabilities.
- ✔ A high school teacher using a local problem involving snowmobile access to private land to assist students in applying negotiation and conflict resolution skills to a contentious issue.
- ✔ Two co-teachers planning a unit using a lesson planning tool designed to incorporate activities across all seven of the multiple intelligences.

Grouping Students for Instruction

Teachers skilled at differentiation extensively utilize small groups as a method for teaching and learning. Student membership in small groups is often a balance of teacher-selected and student-selected group membership. Many teachers believe that an important component of being a member of a heterogeneous classroom community is learning how to work with a variety of classmates. Therefore, in classrooms where differentiated teaching and learning are practiced, explicit and ongoing teaching occurs relative to skills necessary for successful group functioning.

In order to create opportunities for students to work and learn with a variety of classmates, one teacher intentionally arranges seating assignments so that over the course of the year every student has the opportunity to sit in a group with every other student. This teacher asserts that the duration of the seating assignment must be long enough that if and when difficulties arise, students understand the need to resolve the difficulties in order to work together in a productive manner. Because of the 4-week duration, there are ongoing opportunities for students to learn such group skills as giving and receiving feedback, listening, taking multiple perspectives, observing group process, resolving conflicts, and negotiating. However, the duration is short enough that students also know they will have the opportunity to work with a new group of students in the next 4-week period. This teacher acknowledges that some groups have a hard time working together and the 4-week rotation is long enough for students to realize that they can't ignore challenges and conflicts, but short enough so that they can see the light at the end of the tunnel.

An important component of student grouping is how group membership is determined. It is particularly important that students are grouped using a variety of criteria. For example, students can be grouped together because they share a common interest in a topical area. Students can be grouped together because of a common learning need as indicated on a pre-test or other formative assessment. Students can be grouped together based on the complementary nature of their learning strengths. When homogeneity of ability is the criteria by which students are grouped, it is important to vary group membership in other groups so that the majority of grouping configurations reflect heterogeneity among members. When using homogeneous grouping, it is also important to frequently assess the appropriateness of the criteria for the homogeneity. Within a content area (e.g., math) teachers find that oftentimes students' abilities can change dependent upon the particular topical area or assignment. Homogeneous groups should be utilized in such a way as to allow students to move in and out of such groups, depending on their needs and demonstrated proficiencies.

Teachers utilize a variety of strategies for establishing student groupings. Many teachers prefer to have at least one grouping configuration reflect stable membership (e.g., base groups or other standing groups that sustain throughout the semester or year). In addition, teachers describe the value of having short-term groups that organize around such things as topics of interest, similar learning preferences, group investigations, and groups formed for such instructional purposes as pre-teaching, re-teaching or content enhancement.

In two classrooms in which 61 students are co-taught by a fifth grade teacher and a sixth grade teacher, all students are members of six standing groups (i.e., each student is a member of a color group, animal group, sports group, seasonal group, number group, and rivers group). This standing use of six groups, of which only one reflects a homogeneous grouping based primarily on reading and expressive language abilities, creates a great deal of flexibility as the teachers plan their lessons and in some cases as they spontaneously adjust the daily schedule. When planning a unit, these teachers may decide to utilize a grouping configuration that reflects heterogeneous groups in which both the fifth grade and sixth grade students are combined (animal groups). For another unit, the teachers may choose to use the grouping configuration in which grade level-alike students are heterogeneously mixed (color group). For yet another unit which introduces new concepts, the teachers may decide to begin the unit with the homogeneous configuration in order to focus more specifically on the needs of each group and then move to a different grouping configuration as the unit progresses and as student interests unfold. The use of the six standing groups also permits the teachers to make spontaneous yet organized changes to the schedule. In their morning review of the daily schedule, the teachers might decide (after sharing their reflections on how science has gone the past two days) that the science lesson could be better

taught using the seasonal groups (of which there are only four groups) rather than the animal grouping (of which there are six groups). As responsible and self-directed learners, the students know to check the schedule board each morning (and if necessary before the start of each class) to obtain necessary information about which grouping configurations will be used. To assist students in acclimating to this grouping system, all students were given a list at the beginning of the school year that clarified which groups they were in. Most students only needed the list for several weeks before they had memorized the groups to which they belonged. Several students, less able to remember their group, taped their list inside their folder and were able to refer to the list as needed.

The benefits of flexible grouping configurations include the ability to maximize the differing strengths and abilities needed for different tasks and subject areas, and reduce the stigma that is often associated with students who are consistent members of groups perceived to be lower in status than the other groups. The use of flexible grouping also provides students with opportunities to learn about unanticipated competencies in fellow classmates and can accommodate different learning rates since students are able to move in and out of groups depending on their needs and readiness. Most assuredly, well-designed grouping configurations will not, in and of themselves, ensure the effective functioning of groups. As described in the earlier chapter on teacher and student roles, students who engage in interdependent roles with classmates will be far more successful in small group learning situations. A classroom community supportive of diversity also goes a long way in providing a climate conducive to students working and learning together. Additionally, the design of small group learning tasks will also contribute to the effectiveness of the desired outcomes. Tasks that are open-ended increase the need for interaction among students and support the importance of different solutions and multiple right answers. Tasks in which a variety of abilities and learning strengths are required for successful work completion assist students in seeing the value of diversity and reinforce positive interdependency among group members.

Grouping Students for Instruction

What you might see...What you might hear

- ✔ On Fridays, students in a seventh grade math class self-selecting whether they want to participate in a teacher-directed review group to clarify questions about area and perimeter.
- ✔ During the science unit on pond life, students selecting a small group based on their interest investigating plant life in ponds, animal life in ponds, or the pond as an ecosystem.
- ✔ Teachers inquiring as to which grouping configuration the students think would be best to accomplish the task of selecting and inviting a guest speaker to their class.
- ✔ Teachers and students debriefing as to which group skills were particularly helpful in working interdependently while still maintaining individual accountability for completing the assignment.

Supporting Student Choices

One of the roles of students in differentiated classrooms is to learn to be responsible and self-directed, and learn to make prudent choices. When beginning the process of offering increased student choice, some teachers find it more comfortable to limit the scope and/or reduce the frequency of student choice. However teachers choose to structure choice-making, it is essential that teachers involve students in making authentic choices relative to meaningful decisions. It is also essential for students to receive feedback about their choices. The process of making and evaluating choices contributes to students' abilities to develop and refine habits of critical thinking and reflection. Learning to make better choices will be enhanced if the feedback is instructive rather than punitive. Involving the student in a discussion as to the outcomes of a certain choice, and an exploration of outcomes that might have occurred had a different choice been made, will be more helpful than punishment. Feedback can also be shared with an entire class. For example, a teacher might share her perceptions about why the outcomes of a classwide choice were positive. Teachers might also find it helpful to clarify the non-negotiables in the teaching and learning process and explain to students why certain decisions will be made by students and others will be made by staff.

Managing and enhancing student choice can be facilitated by providing assistance to students to enable them to become more comfortable being in the role of choosing. Ongoing support and encouragement will also help some students feel increasingly capable in their ability to make wise choices. At times, assistance might take the form of conferencing with a student prior to the offering of choices and discussing with the student the implications of each choice. A teacher may also use a conferencing approach to describe and justify a more limited array of choices. Another form of assistance may involve all students in a class discussion about the importance of empowering all members of a class to have a voice in what goes on in the classroom. Some teachers find that students, particularly those who have been in classrooms where choices have not been offered, find making decisions about their learning to be somewhat disconcerting. In such situations it may be necessary to teach the skills necessary to make good choices as well as discuss the kinds of choices that enhance learning and the kinds that detract from learning.

Supporting Student Choices
What you might see...What you might hear

- ✔ In preparation for making a choice, teachers asking students to respond to the stem question: "I will choose_____ so that _____".
- ✔ To assist students with differing abilities, teachers offering choices using pictures in addition to a verbal explanation.
- ✔ To discuss a request that students be permitted to eat their snack at any time during the morning block, teacher asking students to discuss the pros and cons of providing class members with such a choice.
- ✔ Students using information about their learning styles to select a location in the room/hallway in which to work on a task.

Structuring the Learning Environment

Consistent with the principle of shared responsibility in differentiated classrooms, it is important that teachers find numerous ways in which to involve students in the classroom structure and its day-to-day management. Structuring the learning environment in a differentiated classroom involves the physical design of the classroom, including the location and storage of learning materials and the establishment of typical routines. Because of the high activity level present in differentiated classrooms, it is important to proactively structure the environment to maximize learning, shared responsibility, and self-direction.

The physical design of the classroom is an important component to consider. It can be helpful to designate specific learning areas and establish clear guidelines as to the kinds of learning that can occur in each area. For example, a corner classroom area with overstuffed pillows may be designed for quiet reading or individual reflection. Space on and around the sofa can be an alternative workspace where students can work independently (with lapboards if helpful) or interact with other students.

Sharing responsibility for the functioning of the classroom as well as fostering self-directedness in students can also be accomplished by the location of classroom resources and students' accessibility to such resources. Supplies can be clearly marked and stored in easily accessible locations. Materials and their corresponding storage bins can be color coded to assist students in returning materials to their proper locations. Activity centers can include clear directions for carrying out different tasks. For example, the writing center in a third grade classroom has colorful posters (using both words and pictures) describing some of the many skills and materials needed in the writing process. Students are able to refer to the posters to assist them in performing the following skills—

- Ideas for how to think of a topic.
- Steps for writing a topic sentence.
- Tips for creating eye-catching and interesting illustrations.
- Samples of different tables of content.
- Ways to construct a concept map using color and pictures.

In a seventh grade literature class, examples of completed projects are available throughout the unit for those students finding it helpful to see examples of previous projects. Also helpful are techniques like the use of choice charts depicting choices of learning centers for the week, a clearly posted daily schedule, and a consistent location for listing daily or weekly assignments.

Organization of typical **routines** is also an area in which proactive planning can insure a more efficient and effective learning environment. In establishing routines for typical events, teachers find it helpful to think about all the tasks that are routinely done each day or each week. Once the routine tasks have been identified, decide which tasks can be shared with students and which tasks remain as the teacher's primary responsibility. A few of the many ways in which teachers and students share responsibilities for routine tasks are—

- When students arrive each morning they locate their clothespin (marked with their name) and then clip it in the hot lunch ribbon or the cold lunch ribbon. At the end of morning meeting one student tallies the number of hot lunches and cold lunches and reports the totals to the cafeteria clerk.
- Close to the door are hanging files marked with each student's name. During the last 10 minutes of class when all students are completing their jobs, any notes needing to go home are placed in the respective file by the student assigned to do that job. It is the responsibility of all students to check their hanging file prior to leaving for the day.

- Students have decided upon a guideline that no more than three students can be at the restroom at any one time. There is a space on the white board for names of those who have gone to the restroom. Students self-monitor when they need to use the restroom, check themselves out by writing their name on the white board space (monitoring the number of students already checked out), and upon their return erase their names.
- When one student completes an assignment on the computer, the student checks the name of the next student on the list and locates that student to inform him/her that the computer is available.
- Students use an erasable felt pen on a laminated destination chart to record where they go during open resource time. Each student marks down both the destination and the time left.

Class jobs are another important area in which typical routines and corresponding responsibilities can be jointly determined. As a class community, all members can determine what jobs are needed in order to maintain a productive learning environment. Decisions can then be made relative to how classroom jobs will be assigned, when they will be completed, and how often job assignments will rotate.

Structuring the Learning Environment
What you might see...What you might hear

- ✔ Teachers involving students in deciding how materials should be organized if the goal is to encourage all students to obtain necessary materials and keep the material area neat.
- ✔ To provide additional support to primary students who do not yet recognize their names, teachers taping a picture of the child to the child's storage cubby.
- ✔ Teachers using color coded file folders in which different types of study aids (e.g., graphic organizers) can be located.
- ✔ Students reminding a classmate as to the agreed-upon routine for using the computer.

6 A Framework for Differentiation

In classrooms in which teaching and learning are differentiated, differentiation can occur in four key areas—

- What students learn (curricular content).
- How students learn (instructional process).
- How students integrate and apply what they have learned (products and outcomes).
- How progress and proficiency are determined (assessment).

In many cases, differentiation occurs in all four areas simultaneously. However, there may be situations in which differentiation occurs primarily in two or three areas. For example, a teacher may choose to have all students utilize the same text or resource and then differentiate primarily in the areas of instructional process and products.

Seven Steps of Planning for Differentiation

A consistently-used planning process is essential in order to construct lessons or units that are differentiated based upon the range of student needs, abilities, interests, and strengths present in a given classroom. Guiding questions will assist staff in evaluating the alignment between the lesson or unit and the diverse needs of the students. Additionally, the following seven-step process, summarized in Figure 6.1, may also provide assistance in planning differentiated teaching and learning opportunities within designated courses, units or other curricular areas.

Step 1: Identify Key Concepts, Guiding Principles, and Outcomes

Once the topic or focus is selected, identify key concepts, guiding principles or essential questions, and desired outcomes. These core components will provide the basis for the unit. The following question might be helpful to ask at this step: *What do I want students to know (e.g., facts, vocabulary words) and understand (e.g., generalizations, links with prior knowledge or experiences) at the end of this unit?*

Step 2: Differentiate Levels of Student Understanding

Differentiate levels of student understanding within the identified key concepts, principles or questions, and outcomes. Given the varying needs, abilities, strengths, and interests of students, students will acquire different levels of knowledge and skills in each unit. While all students should end up with an understanding of the concepts, it is often necessary to individualize the content through which the concepts are taught in order to meet the level at which students will most appropriately learn. While adhering to the belief that all students can learn, differentiated teaching and learning suggest that not all students will necessarily need to learn the same type or amount of content. For example, if literary conflict is the curricular content area, the teacher may select "conflict" as the broad concept and assist students in identifying general types of conflict before moving into an application of how varying types of conflicts are portrayed in literature. By focusing on the broader concept of conflict, all students can engage in learning about conflict with variations made to the level at which students

understand conflict in the context of literature. The following questions might be helpful to ask at this step: *Given the core concepts, relevant applications, key generalizations, and critical skills that I want all students to learn, how can I extend the knowledge and skills for those students ready to move further? How can I insure that students needing a more basic level also receive enriching opportunities to learn about the key concepts?*

Step 3: Determine Which Skills are Important

Determine which skills are important for the students to learn, review, and apply. When designing a unit, teachers often keep a dual focus in mind. Each unit contains a content focus as well as a skill focus. For example, in addition to learning about the different ecosystems in the science unit, students will have opportunities to review and apply several research skills and writing skills. For students needing repeated practice to apply and generalize skills, attentiveness to this step is particularly important. The following questions might be helpful to ask at this step: *What do I want students to be able to do at the end of this unit? What new skills will students need to learn for this unit? What opportunities are present for students to review and apply skills they have already learned?*

Step 4: Identify Relevant District Objectives and State Standards

If relevant to your particular context, identify which district objectives and/or state standards might interface with the unit or topical area. When planning a lesson or unit, many teachers need to be cognizant of how district objectives and/or state standards can be best met in context of a particular unit of study. While the district objectives or state standards do not drive the focus of the content or instruction, careful planning can insure that there be an appropriate interface with the identified unit content and outcomes. The following question might be helpful to ask at this step: *In context of the intended learning from this unit, how can I blend district objectives and/or state standards?*

Step 5: Determine How Students Can Best Learn the Content

Given the range of student needs, abilities, strengths, and experiences, determine how students can best learn about the identified concepts, principles, or essential questions. There are a variety of ways in which students can construct meaning around the core concepts of a particular unit. The learning profiles of individual students will determine the types of instructional activities that will be needed in order to insure that the instructional process aligns with student needs, interests, abilities, and experiences. The following questions might be helpful to ask at this step: *What activities can be utilized that will maximize student strengths, interests, abilities, and experiences? What do students already know about this topic? What additional support needs will some of the students have? How can the activities best accommodate those additional support needs? How best can I group students for the activities in this unit?*

Step 6: Select Product Options

A unit of study should culminate in some type of student product or outcome. Once again, student needs, interests, abilities, and experiences will determine the array of products and outcomes that will be facilitative of the students' successful application and integration of their learning. Select product options that will encourage students to apply their learning from the unit as well as to integrate the knowledge and skills from the unit with previous knowledge and experiences. The following questions might be helpful at this step: *What kinds of products will allow students to demonstrate what they have learned relative to the key concepts, guiding principles or essential questions and also incorporate varying levels of complexity needed by students in order integrate and apply what they have learned? What options can be created that will encourage students to build on their strengths in order to demonstrate what they have learned? How can student choice be incorporated into product selection? How can students best share what they have learned?*

Seven Steps in Planning for Differentiation

1. Identify key concepts, guiding principles or essential questions, and desired outcomes.

2. Differentiate levels of student understanding within the identified key concepts, principles or questions, and outcomes.

3. Determine which skills are important for the students to learn, review, and apply.

4. If relevant to your particular context, identify which district objectives and/or state standards might interface with the unit or topical area.

5. Given the range of student needs, abilities, strengths, and experiences, determine how students can best learn about the identified concepts, principles, or essential questions.

6. Select product options that will encourage students to apply their learning from the unit as well as integrating the knowledge and skills from the unit with previous knowledge and experiences.

7. Select formative and summative assessment approaches that can be used throughout the unit to provide helpful feedback to both students and staff.

Figure 6.1. Planning Process

Step 7: Select Formative and Summative Assessments

Select formative and summative assessment approaches that can be used throughout the unit to provide helpful feedback to both students and staff. In order to continually evaluate the effects of differentiated teaching and learning, it is essential that assessment be designed to occur at the beginning of a unit, throughout the unit, and at the end of a unit of study. Assessment is most helpful when it is designed to inform as well as evaluate. The information obtained from ongoing assessment provides feedback which creates opportunities for both students and staff to continually monitor the teaching and learning process. The following questions might be helpful at this step: *How can I best assess what students already know about the topic? What kinds of feedback do I want throughout the unit to help me determine the effectiveness of the activities? How can I best design assessment tools that will recognize the varying levels at which students will demonstrate proficiency of what they have learned? How can I actively involve students in self-assessment?*

Sample Application of the Seven Steps

In order to more fully operationalize the seven-step planning process, an example of a fifth grade literature unit on humor will be used. This unit on humor has been used by many fifth grade teachers due to the high interest of fifth graders in the topic, the many ways in which language arts skills can be incorporated into the unit, and the opportunities to maximize the diversity of students needs, backgrounds, interests, and abilities. For the purposes of this application of the process, excerpts from the Humor Unit will be described. The complete unit is included in the appendices. This unit is adapted from one developed and used by the Roseville Area School District in Roseville, Minnesota.

Step 1: Identify Key Concepts, Principles, and Outcomes of the Humor Unit.

Two guiding principles frame the Humor Unit. The first principle is that humor is universal, transcending many types and forms of human diversity. The second principle is that humor plays an important role in the lives of human beings. The key concepts of the Humor Unit include: humor takes different forms, humor can be used for different purposes, and humor can have different interpretations. The desired outcomes of the Humor Unit are—

- Define humor.
- Describe attributes of humor.
- Provide examples of humor.
- Produce at least one piece of prose, poetry, drama, or art that expresses humor.
- Identify a humorous event in one's own life and tell a story about it including the purpose served by the humor.

Step 2: Differentiate Levels of Student Understanding in the Humor Unit

The Humor Unit is designed to provide opportunities for students to engage with the guiding principles and key concepts at varying levels of interest and expertise. For those students desirous of extending their understanding relative to the key concepts, their outcomes might involve such things as describing how and why different forms of humor are used, comparing and contrasting cultural implications of humor, analyzing critiques of various types of humor, or evaluating the effects of humor in the context of such areas as physical health or psychological well-being.

For students needing to engage at a different level of learning relative to the key concepts, multiple examples of different types of humor might be provided to allow the students practice in identifying different types of humor and the effects of such humor. Students may also utilize opportunities to create various types of humor (e.g., riddles, puns, jokes, cartoons, impersonations, satires, comic similes) and assess how different people respond to different types of humor. Additionally, texts and resources are selected to reflect the range of reading abilities and interests present among the students. Alternative formats (e.g., audiotape books) are also available for some of the text selections.

Step 3: Determine Which Skills are Important to Include in the Humor Unit

In addition to the content of the humor unit, various skills can potentially be incorporated throughout the unit. Some of the many skills that can either be taught or reviewed include: identification of context, resources for locating word definitions, use of a web to categorize attributions, use of personal narrative and forms of personal expression to convey thoughts or feelings, steps for prioritizing self-directed tasks, and working cooperatively in a small group.

Step 4: Identify Relevant District Objectives and State Standards Related to the Humor Unit

Several district objectives can potentially be identified as having an appropriate interface with the Humor Unit (particularly the activity involving group investigation). These objectives are drawn from fifth grade content standards as well as "task management skills" standards and include: frame a question, collect and analyze data to address the question (e.g., conduct surveys or conduct interviews), use data to evaluate components of literature, plan a report, contribute to group work, participate in class activities, and demonstrate respect for others.

Step 5: Determine How Students Can Best Learn the Material in the Humor Unit

Instructional activities in the Humor Unit utilize three grouping formats: *whole class* in order to conduct pre-assessment, introduce the concept, discuss books that are read in the small groups and debrief the group investigation presentations; *small groups* in order to read and discuss one student selected book and to participate in a group investigation based upon student interest; and *individual* in order to complete activities identified on the Humor Assignment Log, select and respond to additional resources in the context of the group investigation topic, and complete independent reading of the book for small group discussion.

Student abilities and interests are taken into consideration in the selection of texts and resources. To accommodate students who struggle with reading, several books with an easier readability level have been chosen as part of the multiple title selection. One such book also has an audiotape available for students needing an alternative format. Single book selections and additional resources include material reflective of a variety of reading levels and interest areas. Some materials have also been selected because of the illustrations (which will assist some students in gaining information as well as assisting some students with interest and motivation in reading). Student strengths, needs, abilities, and interests are also incorporated into the activities of the book discussion groups as well as the group investigation activity, the culminating project, and the varying types of activities that comprise the Humor Assignment Log (using the multiple intelligence framework, the activities are reflective of all seven intelligences). Student choice is built into a

variety of activities. Students can select which book they want to read for their small group discussion, select which topic they are interested in investigating, select from listed resources or suggest additional resources they would like to utilize for the group investigation, and decide which activities to complete on the Humor Assignment Log as well as how many activities to complete.

Step 6: Select Product Options for the Humor Unit

The primary product of the Humor Unit consists of the project completed by each investigative group. Each group designs and shares responsibility for completing a project that follows an established set of guidelines. The group projects can be done in a variety of ways to be determined by group members with final approval by the teacher. The projects are designed to encourage application of knowledge and skills learned in the Humor Unit as well as integrating knowledge and skills used in other language arts units. Additionally, previous experiences involving the development and presentation of a quality project are reviewed and incorporated into the tasks comprising this unit.

Step 7: Select Formative and Summative Assessments for the Humor Unit

Formative assessment can be used at the beginning of the unit to enable the teacher to determine the students' previous knowledge and experiences with the concept of humor. Formative assessment is also used throughout the small group book discussions to evaluate student understanding as well as the effectiveness of the instructional activities. Staff will use the feedback to adjust and monitor instructional activities as necessary. Summative assessment is done using a four point rubric at the end of the unit to evaluate the projects completed by each investigative group. Summative assessment is also used to evaluate each student's completed activities as individually determined by their learning contract (Humor Assignment Log).

7 Tools for Differentiation

As discussed in Section 6, in classrooms in which teaching and learning are differentiated, differentiation can occur in four key areas: what students learn (curricular content), how students learn (instructional process), how students integrate and apply what they have learned (products and outcomes), and how progress and proficiency are determined (assessment). This section will provide strategies by which differentiation can occur in these four areas. It is important to clarify that the information provided does not exhaustively describe all of the strategies in each area, but rather provides examples of the many strategies that could be utilized to achieve differentiation in the four areas. In this chapter, each of the four key areas will be described, a general list of strategies by which to differentiate will be provided, and a specific description of several strategies including additional resources will be highlighted. (For ease of use, the highlighted strategies will each be on a separate page.)

What Students Learn: Curricular Content

In differentiated classrooms, the teacher coordinates what students learn (curricular content) by engaging in such practices as providing the broad content framework; delineating between essential learning in which *all* students will be involved and areas of learning in which students can *choose* to be involved; considering the impact of varying student needs, abilities, strengths, and interests on the identified content areas; locating and securing a variety of resources; and, when appropriate, integrating the curricular content across subject areas. When differentiating what students learn (curricular content), teachers find it extremely helpful to utilize concept-based teaching and learning. This approach to differentiating content allows the teaching and learning to move from whole to part by focusing on the patterns and relationships present in particular content areas, then moving to understanding specific aspects of a content area and incorporating relevant skills in context of the identified concept. Because of the flexibility within concept-based teaching, teachers can differentiate curricular content by arranging learning experiences along such continuums as concrete to abstract, single-focused to multi-focused, or simple to complex (Tomlinson, 1995). Whatever strategies are used to differentiate the curricular content, it is important that all students have access to relevant learning which incorporates critical thinking and is designed at an appropriate level of challenge for each student.

As stated earlier, clarity of key concepts and desired outcomes is essential to planning coherent curricular content. From the perspective of brain-compatible instruction, assisting students to make connections between acquisition of the desired content and their prior knowledge is essential to the learning process. Teachers use many different techniques for helping students link content with prior knowledge and experiences. One technique for assessing students' prior knowledge as well as potential interest when introducing a new topic is to decorate a bulletin board or illustrate a flip chart and pose a question relating to the main concept of the lesson or unit. For example, if in the unit on geology one of the main concepts is the formation of land masses, the following question could be posted on the board or chart: How is a mountain formed? For the first several days of the unit, students would be encouraged to add their response to the board or chart. The responses could then be used to informally assess students' prior knowledge, determine conceptual understanding, generate a class discussion on the formation of land masses, or prioritize topics for future investigation.

There are various approaches for differentiating what students learn (curricular content). These include using concept-based teaching, using a variety of resources, accessing student-to-student supports, designing independent study or topical explorations utilizing technology, designing learning centers, incorporating group investigations, implementing curricular compacting, designing individualized learning contracts, and posing varying levels of questions. It may again be helpful to operationalize these approaches using the Humor Unit as an example.

Humor Unit Application: What Students Learn

The Humor Unit utilizes a *concept-based approach* to teaching literature. The concept of humor provides the basis for this unit. Within the concept of humor exists broad latitude as to what a teacher might choose to include. As with many other examples of differentiated teaching and learning, the content of the Humor Unit is both teacher-selected and student-selected. For example, if a teacher has a group of students who have very diverse ethnic and cultural backgrounds, comparing and contrasting humor in different cultures might be an appropriate focus. Another teacher may have many students who do not speak English as their primary language and might decide to focus on the relationship between language and humor. Still another teacher may have students who range widely in abilities and therefore may choose to design activities that range from learning about appropriate contexts in which to tell jokes to developing an understanding as to the use of humor in international relations.

The Humor Unit also utilizes a variety of ways in which students access content information. First, *a variety of texts and resources* are used. Each student selects one book (from a choice of six) to read and discuss. These books are specifically selected to reflect a variety of interests as well as reading abilities. Secondly, a variety of other resources are used. Students learn about humor through comic strips, video clips, audiotapes, presentations by local comedians, articles, pictures, interviews with people, and discussions with classmates. Accessing content through a variety of modalities, such as the *use of technology*, increases the options for students to obtain access to information without restricting the level of information for students who may experience difficulties in the area of processing or comprehending written information.

Content is further differentiated in the Humor Unit using a strategy called *group investigation*. For the purposes of the Humor Unit, group investigations are based on student interest and are utilized to explore four areas in which humor is used. Incorporated throughout the Humor Unit is the use of *varying levels of questions*. Questions are strategically developed to follow Blooms' (taxonomy hierarchy of thinking skills) and are used in context of individual, small, and large group activities. Questions range from factual recall of information to synthesis of information. Different questions are used based upon student readiness, learning styles, and levels of understanding. Attempts are made to individualize questions in order to engage each student at an appropriate level of difficulty. *Learning contracts* are also used in the Humor Unit. The Humor Assignment Log is designed as a learning contract in which students negotiate which activities they will complete and how many activities they will complete.

For the purposes of providing more specific information, four strategies will be highlighted: *curriculum compacting, learning contracts, learning centers*, and *group investigations*.

Curriculum Compacting

What it is

Curriculum compacting is a method by which students can demonstrate competency in a certain area in order to skip instructional activities in that area and substitute more challenging instructional activities that offer an acceleration or enrichment of the curricular content (Reis, Reis and Renzulli, 1992). Curriculum compacting benefits students who have strengths, previous experiences, or high abilities in certain content areas. Compacting can be used with any curricular content area.

How to use it

In order to effectively use curriculum compacting, learning objectives and outcomes for a unit must be identified. In addition, specific assessment techniques designed to evaluate the identified learning objectives and outcomes must also be determined. Compacting typically occurs when a teacher and a student jointly determine that the student has already mastered the content of the unit (or a significant portion of the unit) and could benefit from replacement activities. Some teachers determine student eligibility for compacting on an individual basis. Other teachers decide what score needs to be reached in order for students to compact out of all or part of the content for that particular unit or topic of study, and offer all students the opportunity to take a pre-test.

Once the determination is made (often involving the student taking a formal or informal assessment to substantiate mastery of content objectives) the teacher and student design a plan which includes the replacement activities and how performance on those activities will be assessed. Replacement activities can include such things as self-directed learning activities, projects which involve research into specific topical areas, individual or group investigations, topical seminars, or community intensive instruction. Decisions about the selection of replacement activities should be guided by the potential of activities to increase the challenge of the content area and support the student's interests and strengths (Reis, Reis and Renzulli, 1992).

Where to get additional information

Reis, S., Reis, S. 7 Renzulli, J. (1992) Using curriculum compacting to challenge the above-average. *Educational Leadership, 49*(7). 51-5.

Starko, A. (1986). *It's about time.* Mansfield Center, CT: Creative Learning Press.

Winebrenner, S. (1992). *Teaching gifted kids in the regular classroom.* Minneapolis, MN: Free Spirit Publishing

Learning Contract

What it is

A *learning contract* is a negotiated agreement between a teacher and student in which tasks, timelines, and task performance requirements are delineated. A learning contract provides flexibility in the curricular content and can be used in a variety of situations. In many cases, teachers elect to use a learning contract to allow students to individualize the pace at which they move through a unit or individualize a topical focus of a unit. A group of students might participate in established activities in which a group learning contract has been negotiated.

How to use it

When using a learning contract, clarify the learning objectives so that both student and teacher can negotiate the activities designed to accomplish the objectives. If helpful to include in the contract, specify both the learning tasks as well as expectations for student behavior while completing the learning tasks. Several examples of contracts include the following—

- A learning contract may be established to blend class work with independent work. The contract would specify the learning tasks in which the student would join class activities (tasks in which the student would benefit from class involvement) as well as the learning tasks that are individualized to the particular student (alternative tasks);
- A learning contract may be used with all students in a class in order to individualize to student needs and interests. The contract would allow students to select from a menu of choices as to which activities each student desires to complete.
- A learning contract may be used to delineate an independent study in which the student describes anticipated learning outcomes, resources to be utilized, competency level to achieve, culminating project, and timelines.

Where to get additional information

Wilson, J. & Wing Jan, L. (1993). *Thinking for themselves: Developing strategies for reflective learning.* Portsmouth, NH: Heinemann.

Winebrenner, S. (1992). *Teaching gifted kids in the regular classroom.* Minneapolis, MN: Free Spirit Publishing

Learning Center

What it is

A *learning center* is typically thought of as a defined learning space in which individual students or small groups of students spend time engaging in self-directed learning tasks. In a learning center, students participate in such activities as practicing skills, applying knowledge, learning experientially through hands-on activities, working cooperatively, following task sequences in a self-directed manner, and making choices. Oftentimes, learning center activities are open-ended to allow for participation at a variety of levels and abilities.

How to use it

When using a learning center, teachers often balance teacher-selected learning centers with student-selected learning centers. As described in the multi-age classroom example in Section 8, learning centers offer the opportunity to individualize math content for students. With learning centers, it is possible for students to rotate through all centers, go only to certain centers, or repeat centers for concentrated learning. Additionally, tasks within each learning center can be individualized to meet the needs, interests, abilities, and experiences of students. Many teachers find it helpful to design centers around a unit theme with each center focusing on a different aspect of the theme or core concepts. It is also possible to have centers which focus on such general skills as reading, writing, editing, listening, drawing, inquiry, and perspective taking.

When utilizing centers, it is important that students are clear as to task and behavior expectations for each center. It is often helpful to have students share in the development of guidelines as to how responsibility for the maintenance and use of centers will be shared by all members of the classroom community.

Where to get additional information

Stone, S. (1996). *Creating the multi-age classroom.* Glenview, IL: Good Year Books.

Group Investigation

What it is

Group investigation is a technique for differentiating content by constructing small groups that investigate identified areas of a unit or concept. Group investigation, developed by Sharan and Sharan (1990) as a cooperative learning strategy, actively involves students in planning what they will investigate as well as how the investigation will occur. Small group membership is derived from student interest in a particular area of investigation. Each member of the group is acknowledged as bringing meaning to the topical area being investigated and the investigation process relies on interaction among group members. The investigative process culminates in a presentation of the synthesized information. The scope of the topic typically determines the length of time spent on the investigation.

How it is used

When a group investigation is used, an entire class often brainstorms potential research or inquiry-based questions that are of interest to a particular unit of study. The class then prioritizes the areas to be investigated and students choose one area to investigate. Once each small group is assembled, students often follow a process which consists of generating further questions of investigative interest, viewing the questions from different perspectives, developing possible explanations, assigning investigative roles to group members, collecting information, evaluating information, and reaching conclusions relative to the inquiry questions. To assist students in the investigative process, teachers coach students through the process by offering feedback and often providing prompts such as a series of questions (e.g., We are interested in learning more about... Questions we have formulated include... Ways we plan to investigate our questions are... When we examined our data, we found that...).

Where to get additional information

Developmental Studies Center, (1997). *Blueprints for a collaborative classroom.* Oakland, CA: Developmental Studies Center.

Sharan, Y., & Sharan, S. (1990). Group investigation expands cooperative learning. *Educational Leadership. 47*(4), 17-21.

Sharan, Y., & Sharan, S. (1992). *Expanding cooperative learning through group investigation.* New York: Teachers College Press

How Students Learn: Instructional Process

The heterogeneity of student needs, abilities, strengths, and experiences necessitates that students have opportunities to learn in a variety of ways. The process by which students construct meaning about or make sense of a given topic or content area is very individualized. It depends upon such things as the student's background experiences and knowledge, the context in which learning takes place, learning strategies employed by the student, the student's learning profile, and type and level of involvement in the learning process. Students can construct meanings about particular topics or key concepts by engaging in a variety of instructional tasks such as processing the information via discussion, making associations, manipulating ideas, reflecting, acting out or drawing specific understandings, or writing. Student-responsive instructional activities are those in which students are encouraged to be active participants in the design, implementation, and evaluation. Instructional activities that align with the varying needs, abilities, strengths, interests, and experiences of the students create opportunities for successful learning. The instructional process together with the curricular content will determine the appropriateness of learning for each student.

Teachers use a variety of tools to assist in planning how best to differentiate the instructional process. Some refer to a thinking skills taxonomy to plan instructional options using differing levels of cognitive domains. Others use a toolbox approach framed around the seven intelligences to insure that unit activities capitalize on different intelligences (Lazear, 1991). Still others utilize the 4-MAT system to clarify how best to maximize learner styles (McCarthy, 1988).

Organizing a menu of instructional options in which a balance is achieved between teacher-selected and student-selected choices is a helpful way to differentiate the instructional process. For example, learning about the concept of "habitat" can occur in a variety of ways. The teacher may require that each student select a particular habitat to study and may want each student to engage in a writing task relative to their habitat study. How students learn about their selected habitat can vary considerably. Some students may find it helpful to first construct a concept-map to organize their ideas. Other students may need to conference with the teacher to clarify the concept of habitat. Still other students may work in a small group to share ideas and resources with classmates. Accomplishing the writing task can also be done in a variety of ways. One student's learning style may necessitate constructing a model of a habitat from which the student could generate a written description. Another student may rely on her logical-mathematical and linguistic strengths and write from an organized set of notecards on which she has recorded pertinent information from her research. Still another student may need the support of an outline, provided by the teacher, from which to write short paragraphs summarizing what was learned about habitats.

Strategies for differentiating how students learn (instructional process) include such techniques as problem-based learning, cooperative learning, cubing, manipulatives, activities designed around the multiple intelligences, simulations, role-playing, scaffolding, interactive journals, games, concept-maps, learning logs, visual organizers, literature circles, multi-level assignments, and modeled reading or writing. It may again be helpful to operationalize these strategies using the Humor Unit as an example.

Humor Unit Application: How Students Learn

The Humor Unit utilizes a variety of instructional processes to assist students in constructing meaning about the topic of humor. To introduce the topic, the teacher has students work in small groups to construct a web, one of many forms of a *visual organizer.* This helps the students make sense of the information via a visual process of categorizing and forming linkages. Throughout the small group book discussions, group members are involved in a variety of activities utilizing *scaffolding* (e.g., making predictions about the story, analyzing characters based upon selected quotes made by specific characters, participating with staff in modeled reading, and working with a fellow small group member to do a pair-share to discuss aspects of the book). *Multiple intelligences* provides the framework for organizing activities in the Humor Assignment Log. Activities are representative of all seven types of intelligences and students are encouraged to select activities representing both their stronger areas of intelligence as well as their weaker areas. Additional visual organizers are used in the small group activities (e.g., story maps, concept-maps) and in the large group at the conclusion of the unit (i.e., Venn diagrams).

For the purposes of providing more specific information, five strategies will be highlighted—

- visual organizers
- concept-maps
- cubing
- learning logs
- scaffolding

Visual Organizer

What it is

A visual organizer, also known as *a cognitive framework* or *graphic organizer*, is an instructional tool designed to assist students in spatially organizing information for the purpose of seeing relationships and linkages. When a visual organizer is used, many students are able to see how ideas and information are related, can highlight main ideas, and can organize multiple pieces of information within a visual framework. A visual organizer can be used at various stages of instruction. A *web* or a *concept-map* (which will be further explained on the next page) could be used at the beginning of a unit as a pre-assessment tool. A *story map* could be used during instruction as students discuss a book they are reading. Students might use a teacher constructed graphic organizer at the completion of a unit to demonstrate their understanding of the unit content.

How to use it

Given the variety of visual organizers that can be used, it is helpful to have a clear idea as to which organizer would best meet the needs of the students and the demands of the tasks. For example, a flow chart organizer may most accurately match the task demands of depicting what occurs during a science lab. A study guide might be the most effective organizer as students review a chapter in the social studies textbook. As students become more familiar with the array of possible organizers, many teachers find it helpful to make a variety of organizers available and encourage students to select ones they prefer. It is important to teach students how to use visual organizers. Students may find it informative to know the purpose served by a visual framework and also may find it helpful to learn how to personalize organizers to their own learning needs. Teachers may want to model using different organizers so that students are able to see a step-by-step process for recording information prior to using one independently. It is also important to note that visual organizers can be differentiated via the type and amount of information contained in the visual framework.

How to get additional information

Boyle, J. & Yeager, N. (1997). Blueprints for learning. *Teaching Exceptional Children, 29(4)* 26-31.

Irwin-DeVitis, L. & Pease, D. (1995). Using graphic organizers for learning and assessment in middle level classrooms. *Middle School Journal, 26*(5), 57-64.

Concept Map

What it is

A *concept map,* one form of a visual organizer, is often used in conjunction with concept-based teaching and learning. Concept mapping or *concept-definition mapping* (Schwartz and Raphael, 1985) encourages students to graphically connect and associate related pieces of information in order to more fully understand a concept. A concept map can focus on such parts of the concept as examples, characteristics, properties, or key components.

How to use it

In order to help students construct a concept map, it is often helpful to stimulate student thinking by asking such questions about the concept as, "What is it? What it is like? What are examples of it?" The teacher can model doing a concept map using chart paper, the chalkboard, or an overhead projector. Concept mapping can be used to meet a variety of purposes. When the whole class is working together to construct a concept map, some teachers find it useful to generate student responses on sticky notes. As the concept map is constructed, responses can be moved around until students are satisfied that the responses are grouped appropriately. A completed map could also be presented at the beginning of a unit to serve as an advance organizer of the upcoming unit. Students can work in groups to construct a concept map or work individually. Students can also construct their own concept map as they participate in a large group discussion or find relevant information in texts or resources. Additionally, concept maps can be used to assist students in developing a multi-faceted definition or description of a particular concept.

Where to get additional information

Hyerle, D. (1996). *Visual tools for constructing knowledge.* Alexandria, VA: Association for Supervision and Curriculum Development.

Schwartz, R. & Raphael, T. (1985). Concept of definition: A key to improving students' vocabulary. *The Reading Teacher, 39,* 676-682.

Wilson, J. & Jan, L. (1993). *Thinking for themselves: Developing strategies for reflective learning.* Portsmouth, NH: Heinemann.

Cubing

What it is

Cubing was initially created as a technique to stimulate writing. It was then applied as a technique to increase reading comprehension (Vaughn and Estes, 1986). The technique consists of using a six-sided cube on which each side displays one of the following six words 1) describe, 2) compare, 3) associate, 4) analyze, 5) apply, or 6) argue for or against. Cubing is used in order to encourage students to examine a topic from six different perspectives. Each perspective is designed to correspond with six different levels of thinking. It is desirous for students to respond to all six sides of the cube and brief responses are preferred.

How to use it

To assist students in becoming familiar with the cubing technique, it is important to review the meaning of each of the words before beginning the activity. Some teachers display a chart which further clarifies the meanings of all six words or writes the clarifiers on the cube. For example, the word "compare" would be further clarified with the question "What does it remind you of?" The word "associate" would be further clarified with the question "What does it make you think of? If necessary, words that are easier to understand may be substituted for any of the six words (providing the meaning stays constant). For example a primary level teacher may substitute the word analyze with the phrase "tell about the parts of it" or "tell how it is made". Cubing occurs in response to a main idea, concept or important topic. A high school English teacher asked her students to cube the word "English" to enable her to get an idea of how her students thought about the subject area of English. She then asked the students to write a short essay about English using their six responses as stimuli for writing. Cubing can be differentiated by creating different expectations for student responses. One group of students might respond to "describe" by drawing a picture while another group of students would respond using complete sentences (Tomlinson, 1995). Cubing can be done as an individual task with students using their own cube and generating six responses or it can be done in small groups or a large group with different students tossing the cube to which all students would respond.

Where to get additional information

Tomlinson, C. (1995). *How to differentiate instruction in mixed-ability classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development.

Vaughn, J., & Estes, T. (1986). *Reading and reasoning beyond the primary grades.* Boston: Allyn & Bacon

Learning Log

What it is

A *learning log* is used to facilitate student responses throughout a unit, an instructional activity, or an entire semester or year. A learning log typically consists of a spiral notebook or a three-ring binder in which students record their reflections, thoughts, ideas, relevant information, and/or questions. Some students utilize an alternative response mode such as dictating responses into a tape recorder or responding with pictures rather than or in addition to words. Typically, students use their learning logs to respond to specific questions or prompts provided by the teacher or generated by classmates. Differentiation can occur by varying the level of the questions or prompts to which students are expected to respond. Learning logs can be used with specific assignments or projects, or used for such general purposes as a "Literature Log" or a "Reflection Log."

How to use it

The goal of learning logs is to have students respond to prompts that involve them in "identifying, analyzing, and reflecting on aspects of their learning rather than simply recounting or describing the learning experience or activity" (Wilson and Wing Jan, 1993). The use of learning logs encourages students to personalize learning as they use their own words to reflect on and respond to what they are learning. For example, in a middle school unit on immigration, students might use their learning logs to record predictions as to the effects of immigration, generate questions about why people immigrate, state opinions about whether a government should restrict immigration, and list possible resources that might be helpful in learning about immigration. In reviewing students' learning logs, teachers are able to assess student understanding of the content, monitor student progress, stay informed about possible areas of confusion and/or interest, or provide feedback to the student. Some teachers find it helpful to incorporate "learning about how I learn" prompts so that students have continual opportunities to reflect upon themselves as learners. To encourage this type of reflection students may be asked to write about the impact of their learning style on a particular task, reasons for their ease or difficulty in accomplishing a task, or suggestions for creating a better match between themselves as the learner and the instructional task.

Where to get additional information

Ellison, L. (1993). *Seeing with magic glasses.* Arlington, VA: Great Ocean Publishers

Wilson, J. & Wing Jan, L. (1993). *Thinking for themselves: Developing strategies for reflective learning.* Portsmouth, NH: Heinemann.

Scaffolding

What is it

Scaffolding is a technique used to provide temporary support to students in order to bridge the gap between what students know and can currently be successful at doing and the anticipated goal of successfully completing a task without assistance or with less assistance. Scaffolding is often used in the area of reading and includes providing such supports as cueing, questioning, coaching, or providing information.

How it is used

Depending on the type of support that students need, scaffolding can occur at the beginning of a unit. At this instructional stage, scaffolding techniques can include providing a motivating hook for students to stimulate interest, pre-teaching vocabulary words, previewing concepts, connecting content with students' background knowledge, or asking students to make predictions.

When scaffolding is used during the unit, techniques such as pairing students to discuss the material, using guided reading, incorporating reciprocal teaching, encouraging students to visualize the information, involving students in a large group discussion, or having students act out a particular concept or sequence of events can provide an effective bridge. Towards the conclusion of the unit, helpful scaffolding techniques include assisting students to construct a graphic organizer to summarize key points, answer "now what" and "so what" relative to what they have learned, share information with other students, create an artistic product that summarizes the information, or teach the content to someone else.

Where to get additional information

Graves, M., Graves, B., & Braaten, S. (1996). Scaffolded reading experiences for inclusive classrooms. *Educational Leadership, 53*(5), 14-16.

Langer, J., & Applebee, A. (1993). Instructional scaffolding: Reading and writing as natural language activities. *Language Arts, 60*, 168-175.

Roshenshine, B., & Meister, C. (1992). Then use of scaffolding to teach higher level cognitive strategies. *Educational Leadership, 49*(47), 26-33.

How Students Integrate and Apply What They Have Learned: Developing Products

Similar to differentiating *what* students learn (curricular content) and *how* students learn (instructional process), differentiating how students integrate and apply what they have learned is also an important component of differentiated teaching and learning. Just as student interests, strengths, background experiences, and needs play a pivotal role in determining the appropriateness of curricular content and instructional process, the development of meaningful *products* also needs to be aligned with a myriad of student considerations.

Products can be differentiated along a dimension of depth or breadth of content as well as along a dimension of complexity of skills used to complete a product. Products can also vary in format (e.g., a videotaped presentation, an illustrated story, a musical composition or a written essay). Products can involve differentiation of the kind and quality of connections that are made between the content area and other areas (e.g., the role of ethics in the development of virtual communities, the issue of discrimination and the results of a local election, or an exploration of insects and an in-depth look at how infectious diseases are spread). However products are differentiated, the goal should be to provide opportunities for students to integrate and apply the knowledge they have learned in a meaningful way.

Oftentimes, products combine three components: 1) content area knowledge, 2) skills needed to accomplish the product, and 3) the audience for the product. For example, if students are working on a social studies product that involves writing a biography of a person in their community, they will most likely utilize content area knowledge about the role of biographies in history, important elements of a biography, and how to select an appropriate person whose biography would contribute to local and state historical information. These same students are also likely to utilize language skills to assist them in interviewing the person about whom they will write a biography, as well as writing the biography. When the students are finished with their biographies, it would be most appropriate for them to share their work with the person whom the biography is about, with people from the local community, and perhaps with someone from the historical society.

Products can integrate content and skills across multiple subject areas or can focus on a single subject area. Some teachers prefer that products or projects build over time and are sufficiently broad enough to allow exploration and integration over multiple units. (In some contexts, a school-wide theme or a grade level theme guides the development of products.) There are various techniques for differentiating how students integrate and apply what they have learned. In order to explain this particular component of differentiation, several examples will be operationalized using the Humor Unit.

Humor Unit Application: How Students Integrate and Apply What They Have Learned

Students in the Humor Unit are involved in one large group product and several small individual products. The *large group project* is the culminating activity of the group investigation. This activity is purposefully designed to encourage students to integrate what they have learned about humor with the investigative process. The students also have an opportunity to apply their skills related to group accountability, efficient product development, and effective presentation. The *individual product* (the Humor Assignment Log) is a compilation for single task products and offers a variety of ways in which the product can be accomplished. For the purposed of providing more specific information, two important components of developing differentiated products will be highlighted: *designing product options* and *guiding principles.*

Designing Product Options

writing a book report

performing a dance

organizing a trip

developing a video

organizing a slide show

making a trifold display

painting a mural

giving an oral report

inventing a game

creating a diorama

making a storyboard

creating a book map

offering a demonstration

singing a song

performing a pantomime

illustrating a booklet

providing an oral history

making a collage

performing a dance

writing a rap

developing a photo essay

writing an editorial

composing an article

putting on a pageant

delivering a choral reading

sculpting a mobile

constructing a model

designing a simulation activity

working with a hyperstudio stack

making an individual presentation

participating in a group presentation

summarizing a set of interviews

writing a poem

explaining an artifact collection

Figure 7.1.

Guiding Principles for Development of Differentiated Products

- Key concepts and objectives are incorporated into the product design and are considered for both the content focus as well as the skill focus.
- Student interest and opportunities for student choice are part of the product design.
- Students are encouraged to develop product ideas that maximize student strengths and offer a balance of opportunities to work individually and with other classmates.
- Products involve students in relevant and valued activities.
- Students are involved in determining the guidelines as to product expectations and are provided with timelines for product completion.
- Students are taught the skills necessary to successfully accomplish product expectations (e.g., organizational skills, time management, cooperative group skills, reflection).
- Varying types and levels of staff and classmate support are provided to students to assist in product development, implementation, revision, and presentation.
- If a product culminates in a presentation, the audience should be comprised of those people who will offer the student constructive feedback as well as acknowledge the student's effort.
- The product is assessed using multiple criteria (e.g., creativity, ability to capture audience interest, organization, use of resources, accuracy, overall composition, effort, incorporation of main concepts and principles).
- At product completion, students are encouraged to reflect on their learning process and explore areas such as growth achieved as a result of product involvement, discovery of areas of interest, challenges, frustrations, and single best accomplishment from the process.

Figure 7.2.

How Progress and Proficiency Are Determined: Conducting Assessments

The importance of differentiated assessment has been articulated throughout this monograph. Determining progress and proficiency levels of students in differentiated classrooms necessitates that teachers have a wide repertoire of assessment tools. This repertoire often includes such tools as an inventory to assess student strengths and weaknesses relative to multiple intelligences, pre-assessment techniques to determine if a student would benefit from curriculum compacting, informal techniques designed to elicit student feedback about instructional effectiveness, or a student-designed rubric to evaluate performance on specific tasks.

In differentiated classrooms, assessment and instruction are interwoven and assessment is viewed as an ongoing process of feedback that occurs throughout a unit or course. Unlike more traditional perspectives of assessment, it is not viewed as a single grade given at the conclusion of an assignment or a course. Teachers who implement differentiated teaching and learning report that they do not "take time away from instruction" in order to assess because assessment is embedded into the instructional process.

In classrooms in which differentiation is practiced, information derived from assessment should serve several purposes. Firstly, it should document student progress. For example, assessment can document student growth in making oral presentations, completing tasks in a cooperative group, or acquiring new skills. Secondly, it should inform students and parents. For example, assessment can provide feedback about a student's increasing ability to make self-directed choices, self-monitor work quality, or integrate and apply existing skills. Thirdly, it should inform instructional staff as to curricular and instructional effectiveness. For example, assessment can provide the teacher with information relative to the alignment between student needs and a particular instructional task, the potential of a curricular content area to capture student interests, or the range of students' understanding about a particular concept.

Assessment should have a direct connection with what students learn. Therefore, it is necessary to differentiate assessment in order to determine the progress and proficiency of students as they are engaged in a variety of differentiated learning tasks. Similar to the three areas of differentiation described previously, students should also be active participants in assessment. In differentiated classrooms, students often participate in the types and frequency of assessment, learn skills necessary for self-assessment, assist in determining criteria for evaluation, and share decision-making relative to how feedback is given.

There are various approaches for differentiating how progress and proficiency are determined (assessment). These include formative and summative assessment, portfolios, rubrics, scoring guides, authentic performance tasks, goal setting, student-teacher assessment conferences, student-led conferences, quality indicator checklists, work samples, and self-assessment. It may be helpful to operationalize these approaches using the Humor Unit as an example.

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Humor Application: How Projects and Profiency Are Determined

The Humor Unit utilizes both formative and summative forms of assessment. At the beginning of the unit, *formative assessment* is used to determine students' knowledge about the concept of humor. This is determined by having the students respond to several teacher prompts. This information is used to inform the teacher as to how best to proceed with unit activities given the students' prior knowledge. *Formative assessment* is also used throughout the unit during tasks in the small groups in order to provide feedback to both single students and the group as a whole. Additionally, it is used with the group investigation to inform both students and staff as to progress being made with the group investigation tasks. *Student-teacher conferences* are conducted throughout the unit often for the purpose of providing feedback on student choices (when necessary, providing to coaching students to encourage prudent choices), monitoring progress on individual tasks or group tasks, and "checking-in" with students who need additional instructional support and guidance. Finally, several different forms of summative assessment are used towards the end of the unit. A four point rubric developed with student input is used to determine the quality of the presentations shared by each investigative group. Summative assessment is also used to evaluate the accomplishments of each student relative to their learning contract. For the purposes of providing more specific information, three strategies will be highlighted: formative assessment, portfolios, and rubrics.

Formative Assessment

What it is

Formative assessment typically occurs at the beginning of a unit and occurs throughout unit activities. From a teacher's perspective, the benefits of formative assessment include an increased awareness of students' knowledge of a topic or concept prior to beginning a unit. This information allows the teacher to design instructional activities commensurate with students' readiness levels. When used during the implementation of a unit teachers often use the assessment information to make appropriate modifications to the instructional process. From a student's perspective the benefits of formative assessment include beginning a unit with a better understanding of known content and yet-to-be-learned content, and receiving feedback throughout a unit as to progress. Formative assessment also provides students with ongoing opportunities to share responsibility for instructional effectiveness.

How it is used

Formative assessment can take many forms. Teachers might choose to do a KWL (What I *know*, What I *want* to learn, What I *did* learn) throughout the course of a unit. Using the information generated from the W portion, a teacher could pose the following question to students: "Here are the objectives for this unit, what do you think you will need to learn to meet these objectives?" Another option at the beginning of a unit is to engage students in a fact-storming activity in which students generate as many facts and associations that are relevant to the key topic or concept. Midway through a unit, a teacher could request that students complete a "ticket out the door" card. Using this strategy, students are asked to write a short response to a teacher prompt such as "Write your best guess definition of inertia and hand it to me on your way out the door." Similar quick feedback strategies include a 1-Minute Response Paper or using a 1-5 hand signal to indicate progress on a task (e.g., a teacher might say "Hold up 5 fingers if you are well on your way with your report, hold up 1 finger if you don't know how to begin". However formative assessment is done, the information obtained should continually assist both teachers and students in obtaining constructive feedback to assist in achieving successful teaching and learning.

Where to get additional information

Carr, E., & Ogle D. (1987). KWL plus: A strategy for comprehension and summarization. *Journal of Reading, 30(7)*, 626-631.

Harmin, M. (1994). *Inspiring active learning.* Alexandria, VA: Association for Supervision and Curriculum Development.

Portfolio

What it is

A *portfolio* is an assessment tool designed to purposefully gather a representative sample of authentic student work over time in order to provide a "picture" of student growth. Each artifact, individually selected for inclusion in the portfolio, includes a rationale stating why the piece was included. A portfolio can provide a picture of what a student learns as well as how a student learns. Many teachers describe that portfolios highlight individual strengths, demonstrate individual growth over time, and focus on what students can do. Many teachers believe that the use of portfolios actively involves students in the assessment process.

How it is used

In developing and maintaining a student's portfolio, many teachers find it helpful for a student to keep a working folder in which all work produced by a student is kept. The content of the portfolio consists of selected samples drawn from the student's working folder. Periodically, a student (with help if appropriate) reviews the content of their work file and selects items to include in their portfolio. It is essential that the student provide a rationale for the selection. Students can write their rationale, dictate it to a teacher or a classmate to write down, or, if need be, use an audiotape. For example a writing portfolio might consist of: a brainstormed list of topics about which to write (the rationale being that the student learned how to brainstorm possible topics), examples of different types of writing (the rationale being to document growth in narrative, expository, and creative writing), writing goals established by the student (the rationale being to document self-directed learning across a variety of subject areas), selections of work done by prominent writers (the rationale being to provide examples of preferred types of writing and writing styles), and anecdotal responses to written products provided by parents, peers, and the teacher (the rationale being to describe how feedback has been incorporated into the student's writing skills).

It is very important that students be at the center of this process, actively involved in each step. For students unaccustomed to sharing responsibility for assessment, it will be helpful to provide guidance as the student gradually feels comfortable taking more responsibility for self-assessing his/her work.

Where to get additional information

Au, K., Scheu, J., Kawakami, A. Herman, P. (1990). Assessment and accountability in the whole literacy curriculum. *The Reading Teacher, 43*(8), 574-578.

Overturf, B. (1997). Reading portfolios reveal new dimensions of students. *Middle School Journal, 28*(3), 45-50.

Rubrics

What it is

Rubrics are an assessment tool that explicitly delineates criteria used to denote varying levels of performance. Rubrics vary in the number of levels used and the kinds of criteria which are specified at each level. For example, one type of rubric might be constructed for an oral presentation and include four levels of performance (ranging from outstanding to unacceptable) with five criteria listed for each level. When designed well, rubrics should clearly communicate to teachers and students the criteria by which a learning task will be assessed. When provided to students at the onset of a task, students are able to understand various aspects of a quality performance and are assessed according to known criteria. As stated by many teachers, "If we expect students to do quality work, they need to know what quality looks like."

How it is used

In order to be useful as an assessment tool, criteria needs to be clearly specified. Many students are inexperienced in sharing responsibility for determining criteria for assessment. For these students, it can be helpful to familiarize students with a rationale for rubric use. Many teachers prefer to involve students in identifying the criteria. For example, to design a rubric for assessing a book report students might first be involved in reviewing different book reports (demonstrating a range of quality) in order to generate characteristics that contribute to a quality book report and characteristics that detract from a quality book report. The students, with guidance from the teacher, can summarize and order their characteristics along a predetermined number of levels. (When students are new at developing rubrics it is advisable to limit the levels to three to four. For young students, two levels might be an appropriate starting place.) It is important that the terms used in the criteria are understandable to students. Many teachers also recommend that negative language be avoided whenever possible and describing what is done instead of what is not done. (For example, one criteria at the top level of performance for a rubric assessing an oral presentation states the speaker looks at the audience and establishes eye contact with members in the audience. The criteria at the middle level of performance for the same rubric states the speaker glances at the audience and gives infrequent eye contact.)

Where to get additional information

Goodrich, H. (1997). Understanding rubrics. *Educational Leadership, 54*(4), 14-17.

8 Case Study: Collaboration in Two Multi-Age Classrooms

Kathy Arnold, Shawn Gombos, Sharon Truex, and Jennifer York-Barr

Greetings and welcome to our multi-age classrooms in St. Cloud, Minnesota, a community 75 miles north of Minneapolis/St.Paul. Our names are Mrs. Truex, Ms. Gombos, and Mrs. Arnold. We are the teaching team for 54 lively children in two classrooms. Mrs. Truex and Ms. Gombos are general education elementary teachers with 7 and 12 years of teaching experience respectively. Mrs. Arnold is a special educator with 10 years of experience. Two years ago the three of us decided we would like to work together more closely so that children with special education needs would no longer need to be pulled out to receive services and so that we could better support the learning of all our students. Mrs. Arnold joins each of our classrooms every day during math and every other day for part of language arts, about two and one-half hours between our two classrooms each day. We have significantly restructured how we design instruction to better accommodate a wide range of student abilities and to make better use of the talents and expertise each of us brings to our students.

In Mrs. Truex's classroom, there are twenty-six children spanning ages 6 through 9 (grades one through three), seven* of whom have identified special education needs (mild disabilities and/or emotional/behavioral disabilities), and one who receives English as a Second Language (ESL) services. In Ms. Gombos' classroom there are twenty-eight children, five* of whom have identified special education needs, and three who receive ESL services. In addition, about half of the children in each of our two classes receive services from Title I staff. Our multi-age design allows children to remain in the same classes for three* years. Class composition, however, changes regularly throughout each school year because many children move in or out of the neighborhood in which our school is located. During the past school year in Mrs. Truex's room, for example, about one-third of the class members (a total of 16 members leaving or joining) have changed because families have moved.

Mrs. Truex and Ms. Gombos are assigned adjacent classrooms that are connected by an inner accordion door which is usually open. Students associate primarily with one class and teacher, but the two classes join together for several activities throughout the day, such as at the daily morning meeting, introductions to new units, special events (e.g., guests), or an enthusiastic round of singing before the day begins. Each of our classrooms is arranged so that children have a variety of places to learn. When each class meets as a whole or when the two classes meet combined, students gather on the risers in Mrs. Truex's room or on the large rug in Ms. Gombos' room. In each classroom there are six tables around which four to six children can sit and work, a computer station, and a mini-library with space to lounge and read. The children work anywhere and everywhere.

The weekly schedule for our classrooms is shown in Figure 8.1. You can see that math is scheduled in the morning and language arts in the morning and in the afternoon. Mrs. Truex and Ms. Gombos scheduled their respective 1-hour math blocks at different times so that Mrs. Arnold, the special educator, could be present in each class during its math period. Although both classrooms have language arts in the morning and again in the afternoon, Mrs. Arnold is present only during the afternoon session. She teaches with Mrs. Truex three afternoons each week for 60 minutes and with Ms. Gombos two afternoons each week for 90 minutes.

* *Students with special education needs were not intentionally clustered in these multi-age classrooms. A commitment to not move students from multi-age classes until becoming fourth graders resulted in slightly higher numbers of identified students during this school year. If evenly distributed across classrooms, about four students might be expected to have special education needs in each classroom in this school.*

Instead of scheduling Mrs. Arnold in each classroom every afternoon for about 30 minutes, it was decided that instruction with two adults would be more effective in longer blocks of time every other day. This has worked well. Mrs. Arnold's schedule is shown in Figure 8.2. In addition to working in these two multi-age classrooms, she provides support in morning and afternoon kindergarten classes and is available for resource room support first thing every morning.

The students in our multi-age classrooms know that we expect a lot in terms of being responsible, respectful, and caring members of a learning community. Students are expected to always "give it a try" and to help one another. When new students join our learning community we expect that others will teach them the routines. It takes about one month each fall for newly arriving first graders to know what is expected, where to find information, and the overall routines and responsibilities.

At the beginning of each school year, we facilitate a conversation with the students to jointly establish expectations for our learning community. Since we have taken the time to create these expectations together, students have been more likely to honor the expectations and to monitor and remind one another of what was agreed to and why. We ask, "What will make our classrooms a place in which you can learn your best?" When students offer suggestions we ask them to explain why their suggestion is important. Overall, we emphasize that as members of a community, the students have both rights and responsibilities and that each child is responsible for honoring the agreed-upon expectations. Here are the community expectations that our classes generated for this past school year—

- Work hard and always do my best. Give it a try!
- Help others.
- Treat each other with respect.
- No name calling.
- Listen when others are talking.
- Follow directions the first time they are given.
- Respect myself, others, and property.
- Help each other in classroom routines.

As a teaching team, the three of us also have created shared expectations. We share a commitment to align instructional practices with our values, beliefs, and research-based knowledge about how children learn best. These practices include—

- Inclusion of all learners, regardless of individual differences.
- Heterogeneous student groupings, including multi-age.
- Self-directed learning with adult guidance.
- Curriculum based on real life experiences in order to build on background knowledge.
- Integrated, thematic units.
- Performance-based assessment with regular, specific feedback.
- Fun!

One day a student left the room to get the milk for snack break and commented to a visitor (the fourth author of this section), "It's always a party in there!" Although our expectations are high, we also want the children to enjoy coming to school. As you read through this section of *Differentiated Teaching and Learning in Heterogeneous Classrooms*, you will learn specific ways we attempt to implement these practices into daily classroom life.

Now that you know a little bit about the students, structures, supports, and expectations in our classrooms, we will devote the remainder of this section to describing in greater detail how our team of two general educators and a special educator work together to make learning better for all the students in our class and to make teaching more fun and supportive (although sometimes more complex) for the three of us. We have found that by changing to a classroom structure in which students are taught and expected to be self-directed and interdependent, we have been able to connect individually with each child on a daily basis. For many parts of the day, our roles have shifted to being facilitators of learning, instead of deliverers of information. This shift has freed us up and provided the flexibility required to individually coach, teach, and monitor the performance of each child. We know what and how each child is learning. In addition, Mrs. Truex and Ms. Gombos now have a clearer understanding of the abilities and the instructional supports for students with Individualized Education Plans (IEPs). This has resulted in more appropriate and increased expecta-

	Monday	Tuesday	Wednesday	Thursday	Friday
7:55-8:00	Lunch Count				
8:00-8:20	Handwriting/Spelling				
8:20-8:35	Meeting				
8:35-9:05	T–P.E. G–Music	T–P.E. G–Art 8:30 to 9:15	G–P.E. T–Art 8:20 to 9:05	G–P.E. T–Explore	G–P.E. T–Music
9:05-9:35	T-Music G-Explore	T- Music. G-Explore	G/T-Explore Snack	T-P.E. G-Music	T-Explore G-Music
9:40-10:30	Gombos: Math Truex: Language Arts				
10:30-10:40	Snack T/G				
10:45-11:40	Gombos: Language Arts Truex: Math (Lib. check out 11 :00)		(Paul- 10:55)		
11:45-12:15	Lunch				
12:15-12:30	Lang. Arts Centers	Read	Lang. Arts Centers	Read	Lang. Arts Centers
12:30-1:00		Lang. Aris Centers		Lang. Arts Centers	
1:00-1:30	Discovery 1:15	Computer	Discovery 1:15		Discovery 1:15
1:30-2:00					
2:00-2:15	Class News / Jobs / Coats Etc.				

T = Mrs. Truex G = Ms. Gombo

Figure 8.1. Sample Weekly Classroom Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00	Resource Room				
8:15					
8:30	Prep				
8:45					
9:00	Kindergarten				
9:15					
9:30	Math (Gombos)				
9:45					
10:00					
10:15					
10:30	Prep				
10:45	Math (Truex)				
11:30					
11:45	Lunch				
12:00					
12:15	Lang. Arts Truex	Lang. Arts Gombos	Lang. Arts Truex	Lang. Arts Gombos	Lang. Arts Truex
12:30					
12:45					
1:00					
1:15	Kindergarten		Kindergarten		Kindergarten
1:30					
1:45					
2:00					

Figure 8.2. Weekly Schedule for Special Educator

tions of these students throughout the day, instead of just when Mrs. Arnold, the special educator, was present. Previously, when Mrs. Arnold removed students for academic instruction, the classroom teachers were less sure about what was appropriate to expect of the students and how best to support their learning for other parts of the day.

In this section, we focus on differentiated instruction related to the academic areas of math and language arts. Of course, there continue to be adjustments made, but we will describe generally how it looks at this point in our development. Next, we reflect on our process of joining together as a general education-special education teaching team. Finally, we offer suggestions that might be helpful for other educators considering movement toward differentiated teaching and learning with integrated special education services in inclusive classrooms. We have grown to love this way of working together and with kids—but it wasn't easy getting to this point.

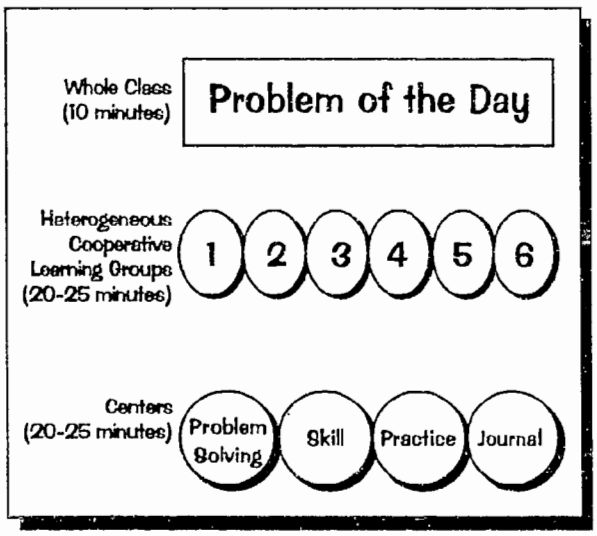

Figure 8.3. Components of Multi-Age Math

Multi-Age Math

Math is scheduled from approximately 9:30 to 10:30 in Ms. Gombos' room and from 10:30 to 11:30 in Ms. Truex's room. By scheduling math at different times, Mrs. Arnold (special education teacher) participates in both math classes. There is also a Title I paraprofessional who works in each classroom during math class. In this way, three adults (the classroom teacher, the special educator, and the Title I aide) are available to students during math. Math is structured the same way in both classes.

Four days each week, Monday through Thursday, there are three components to math: (1) problem of the day; (2) heterogeneous cooperative learning groups; and (3) four centers, referred to as problem-solving, skill, practice, and journal. These components are visually displayed in Figure 8.3. On Fridays, the teachers (general and special educators) provide direct skill instruction to all students in the classroom. Only on Fridays, the students are homogeneously grouped by ability. All four ability groups receive instruction on the same concept or skill, but the specific focus of instruction varies based on ability. For example, if the major concept is fractions, one group might be learning the basic idea that fractions represent part of a whole (e.g., one piece of a six piece candy bar can be thought of as 1/6), another group might be comparing fractions, another group might be working on equivalent fractions. The content of Friday's direct math instruction is largely derived from the scope and sequence of the math curriculum for grades K through four. The concepts introduced on Fridays are then the focus of work completed in the Practice and Skills Centers the next week. Following is a description of the three components of math that occur Monday through Thursday.

Problem of the Day

Math begins with the entire class gathering for whole group instruction focused on the Problem of the Day. The content for both the Problem of the Day and the heterogenous learning groups which follow is drawn from teacher developed thematic math units written by Mrs. Truex and Ms. Gombos. Math concepts and skills are taught and used in the context of a story. For example, one unit is called *Let's Go Camping!* (see Appendix B for the entire *Let's Go Camping* unit). The math concepts and skills taught include multiplication, division, addition and subtraction of whole numbers; money concepts; interpreting data from charts, tables, graphs, or maps; problem-solving; estimating; measurement; fractions; geometry; and calendar skills. Other units address many of the same concepts and skills. This recycling of concepts and skills provides important opportunities for students to continually review and apply concepts throughout the school year. This contrasts significantly with more traditional approaches to teaching math in which the focus for a month may be fractions and then fractions are not addressed again until the following year.

The *Let's Go Camping!* unit contains 31 problems. It begins as follows—

> Your family and two other families are going camping. You cannot wait. You love to camp. Your favorite part is making S'mores and setting up the tent. You and your family decide to go camping where there are a lot of trees and islands. This should be fun. Let's get a move on!

This introduction is followed by clusters of story problems that require understanding and application of a range of math concepts and skills.

Back to the Problem of the Day—The children gather together as a whole group for about 10 minutes. Either the classroom teacher or special educator lead the class through a problem or problems that preview the type of problem(s) they will be expected to solve in their heterogenous cooperative learning groups. For example, when the problem(s) from their *Camping* unit for their heterogenous group was about fractions, the teacher worked through a sample problem with a multi-segmented candy bar as the focus: "If there are six pieces in the candy bar and Mrs. Arnold eats two pieces and the principal eats one piece, what fraction tells us how much of the candy bar is gone?" This preview included reminders about the whole number going on the bottom and the part number going on the top. Students might then be shown how to reduce the fraction into its smallest form. For example: "3/6 can be reduced to 1/2". Students were asked to "Compare the fraction of 1/2 and 4/6. Which is larger and how do you know?"

The teachers remind students that some members of the class may understand a little bit about the problem and others will know how to figure out the answers. From the beginning of the school year, teachers emphasize that individual students have had different experiences and will know different things. It is considered okay not to always understand everything, but it is expected that every student will follow along and participate. During the Problem of the Day, some students may be developing an understanding of the math vocabulary and approaches to solving problems, in addition to learning more basic math skills. Throughout the year the curriculum is designed to provide opportunities for continual review of concepts. It is thus unlike more traditional approaches in which, for example, once the unit on fractions is completed it is not revisited until the next year. In sum, the Problem of the Day provides an introduction and practice session for the problems that each group will be expected to solve.

Heterogeneous Cooperative Learning Groups

After the Problem of the Day is previewed for the entire class, a student reader is identified for each heterogenous group. Each reader obtains his/her file box and sits at the table for his/her group. The rest of the students then walk to shelves to obtain their individual file boxes. The file boxes contain notebooks and/or folders for each of the class periods during the day. When the students settle at their respective tables, they take out the math notebook, open to the next clear page, and write the date. Meanwhile, the designated reader is looking over the excerpt that he/she is expected to read aloud to the group. It is not unusual to see the special educator or classroom teacher working with the readers as they prepare to read aloud to their groups. There are six heterogeneous groups with four or five students ranging in age from 6 to 9.

The reader first reads the story context which frames each set of problems and then reads the first problem assigned for the day. Members of each group work together to discover the answer. Some

group members use their fingers, some draw in their notebooks, some use manipulatives. Some ask questions, and others provide ideas or share how it makes sense to them to solve the problem. As soon as each member in a group can solve the problem and explain how he or she did so, each records an answer in their respective individual notebook. The reader then moves on to the next problem. Here is an example of clustered problems—

> You and your brother are in charge of setting up the tents. One tent will be for your mom and the other tent will be for you and your brother. Each tent takes 6 stakes to set it up.
>
> 20. On your mom's tent, there are 2 stakes that are broken. Show with uni-fix cubes how many stakes are not broken. Write a number sentence, too.
> 21. On the tent for you and your brother, there are 3 stakes that are broken. Write a fraction that shows how many stakes are broken.
> 22. Each stake costs $1.50 to buy. How many stakes do you need to buy to replace the broken stakes?
> 22a. How much money will you need to spend to buy replacement stakes? Write an addition sentence that show how much money you will need.

As the groups are working, the classroom teacher, special educator, and Title I paraprofessional move among groups to provide instructional guidance and support as necessary. Usually, each adult monitors two groups each day and rotates which two groups they support on a daily basis. In this way, each adult has supported each group of students at least once each week.

After the groups have finished their assigned problems and students have recorded their work in their individual notebooks, the classroom teacher or special educator reviews the problems with the entire class, calling on students randomly to state their answer and explain how it was discovered. The Heterogenous Cooperative Learning Group component of multi-age math class takes about 20 minutes.

Math Centers

The final math component involves four heterogeneous groups of students rotating through four centers across four days. The centers are: (1) problem-solving, (2) skill, (3) practice, and (4) journal. At each center there is a folder with instructions and necessary materials for the group. In two centers, each student has a different folder which contains work individualized for his/her abilities and learning priorities. Each group has six or seven members who vary in age, ability, and gender. There is a four-day rotation. For example, the first group would spend Monday at the problem-solving center, Tuesday at the skill center, Wednesday at the practice center, and Thursday at the journal center. At the beginning of the year, students referred to a posted list (see Figure 8.4) indicating which students were in which groups, and which groups were scheduled for which center on a specific day. After a couple months, many students no longer need to refer to the list. The classroom teacher, special educator, and Title I paraprofessional monitor and support students during this center time, each adult overseeing one or two groups.

At the Problem-Solving Center, there is a crate with all the necessary supplies and a folder labeled, "Problem-Solving," with directions inside. This center provides an opportunity for students to use real, hands-on materials in solving math problems. Brainteasers requiring creative exploration of how to arrive at answers may be posed as well. Here are two examples—

> *Money Bags*
>
> Tell what coins are in each of the bags shown below. There may be more than one solution.
>
> Bag 1: 50¢ with 5 coins
>
> Bag 2: $.46 with 9 coins
>
> Bag 3: 73¢ with 7 coins
>
> Bag 4: $.67 with 11 coins

Math Centers

Monday		Tuesday		Wednesday		Thursday	
Practice	Jordan	Problem Solving	Jordan	Skills	Jordan	Journal	Jordan
	Courtney		Courtney		Courtney		Courtney
	Brandon		Brandon		Brandon		Brandon
	Jazmine		Jazmine		Jazmine		Jazmine
	Tasia		Tasia		Tasia		Tasia
	Danny		Danny		Danny		Danny
Problem Solving	Matt	Skills	Matt	Journal	Matt	Practice	Matt
	Cassie		Cassie		Cassie		Cassie
	Mariah		Mariah		Mariah		Mariah
	Evan		Evan		Evan		Evan
	Caitlin		Caitlin		Caitlin		Caitlin
	Anna		Anna		Anna		Anna
	Tony		Tony		Tony		Tony
Skills	Andrew	Journal	Andrew	Practice	Andrew	Problem Solving	Andrew
	Ricky		Ricky		Ricky		Ricky
	Kirsten		Kirsten		Kirsten		Kirsten
	Tiffany		Tiffany		Tiffany		Tiffany
	Chris		Chris		Chris		Chris
	Noah		Noah		Noah		Noah
	Keisha		Keisha		Keisha		Keisha
Journal	Kyle	Practice	Kyle	Problem Solving	Kyle	Skill	Kyle
	Tiger		Tiger		Tiger		Tiger
	Rick		Rick		Rick		Rick
	Michael		Michael		Michael		Michael
	Erin		Erin		Erin		Erin

Figure 8.4.
Heterogeneous Math Center Group Assignments in Mrs. Truex's Class

Lid Ratios

1. Pick out a lid to measure.
2. Cut a string that measures around the lid exactly (the circumference).
3. Cut a string that measures across the center of the lid (the diameter).
4. Tape your circumference and diameter strings onto a large sheet of paper.
5. Cut strings to measure the circumferences and diameters of several more lids.
6. Tape these strings on your paper.
7. Study the circumference and diameter strings for each of the lids.
8. How many times larger is the circumference string than the diameter string?
9. How many diameter strings would fit along the circumference string?

At the Skill Center, there are three folders, each of which contains a different "level" of work. The focus at this center is to promote skill development. Within each group, some students are working on third grade math, some on second grade math, some on first grade math, and some on math uniquely tailored to their abilities irrespective of grade level expectations. As an example, during skill center time two students in one group were playing a dice game to work on regrouping for addition. As they completed a turn, they marked their progress on a worksheet. Two other students in the same group were working on subtraction strategies using a deck of cards and recording their progress on a worksheet; the remaining two students were creating different combinations to add up to whole numbers using beads as manipulatives, then recording the combinations on a worksheet. Sample worksheets for these activities are shown in Figure 8.5. The variety of activities at each table generates inquiry and conversation among students working on different activities.

Similar to the Skills Center, the Practice Center also has folders, each with varied levels of work tailored according to student abilities. Participation at this center focuses on practicing the skills that were introduced the previous Friday. Often this takes the form of independent work on worksheets. Recall from the description about the direct instruction provided on Fridays that the general concept is usually similar across students, but the specific skills and application vary. For example, everyone may be working on patterns. Some students are figuring out what comes next in a basic "circle-square-circle-square..." pattern. Others are making their own patterns using letters and shapes. Still others are determining the rules for more complex number patterns (e.g., add 3 then take away 1 is the rule to the pattern of "1,4,3,6,5,8,7..."). On each folder are the names of students who should engage with the materials in that folder. If a student would require an activity adapted for his/her individualized needs, the student might engage in an activity designed by the special educator. Examples of work samples at three different levels are provided in Figure 8.6.

Finally, there is the Journal Center, a favorite place for many of the children. The learning activities at this center vary considerably but, in general, provide an opportunity for students to write about something to do with math. Writing about math requires a different way of thinking about math and helps solidify the concepts. This center is intended to promote metacognition. Students must think about how they do math and work on formulating their thoughts in a way that makes sense for expression using language. There is just one folder in the Journal Center and, like at the other centers, it contains instructions and examples for the writing expectations. Here are some examples—

- The group is provided with six or more greeting card pictures and asked to write a story about the picture that includes numbers.
- Students are asked to think, talk, then write about places outside of school where they see and use numbers.
- How would you solve the problem 13 + 7? Write your answer using words.

A benefit of requiring journaling during math is that the special educator is present and can support students with their writing. Several students have IEP objectives related to writing.

Figure 8.5. Samples of Varied Level Activities for Skill Center

Group 1

ENRICHMENT

Name_____ Date_____

3.1 ENRICHMENT for pages 78–79

Regrouping and Addition

Play Highway Addition with a friend.
Use one number cube. Each player uses place-value models, a place-value mat, and a marker. Decide who drives the car and who drives the truck.
The player who drives farther wins.

a. Each player begins with 20 miles. Show 20 with place-value models on the mat. Place the car and truck markers on "Start." Each player tosses the number cube. The greater number goes first.
b. Toss the number cube. Move the car or truck that many spaces on the highway. Show the number that you landed on with place-value models on the mat. Record the number on the miles chart. Find the value of all the place-value models on the mat. Record the sum in the miles chart.
c. Repeat step b, taking turns adding miles. When both columns in the chart are complete, compare the miles. The greater number of miles wins.

Miles Chart	
Car	Truck
20	20

START	22	25	4	38	27	1	18	47	27
46	35	1	13	26	23	28	2	17	33
37	39	10	36	14	35	41	16	3	43
		45	5	14	15	40	32	15	22

33

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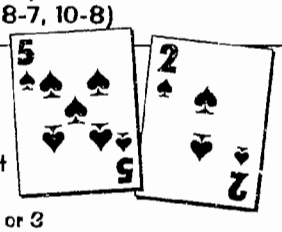
Group 2

Subtraction Review Strategies

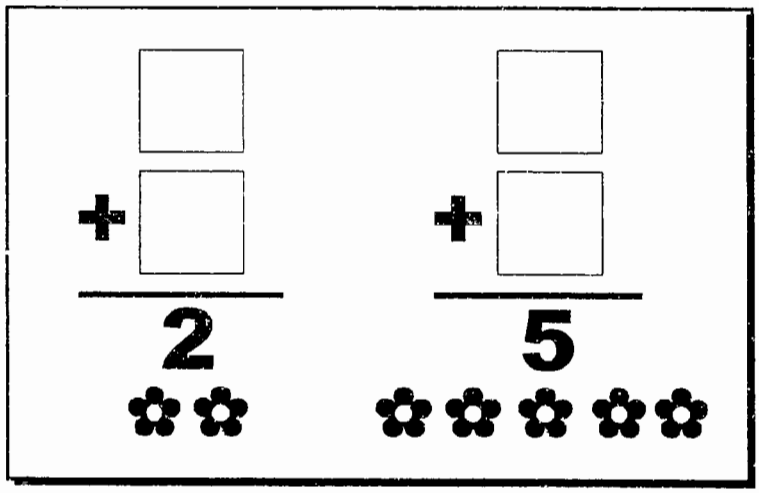
Subtracting from 10	(ten facts)	3 points
Subtracting zero	(J, K, Q = 0)	2 points
Subtracting 1, 2, or 3	(countbacks Ace = 1)	1 points
Differences of 1 or 2	(when #'s are 1 or 2 apart on # line 8-7, 10-8)	4 points



Take turns

1. Draw 2 cards, put largest # first
   Strategy
   Subtracting 1, 2, or 3
   Points
   1 Point
2. Decide which strategy you can use (that will give you the most points!)
3. Write your points on a tally sheet.
4. First one to 20 points wins

Group 3



Multi-Age Language Arts

Every morning Mrs. Truex's and Ms. Gombos' classes spend about one hour engaged in language arts activities. (Recall that Mrs. Arnold, the special educator, is not present during this morning language arts session). Each engages in a slightly different sequence of reading and writing activities, but the overall design and instruction is similar. We will specifically describe language arts in Mrs. Truex's classroom. About 30 minutes are spent teaching to the whole class and about 30 minutes is allocated for individual or small group work.

The focus of instruction to the whole class on Monday, Tuesday, and Wednesday is reading. Stories are read and discussed together, with explicit attention to reading strategies. For example, review of previous material and prediction of future occurrences can assist with comprehension. On Thursdays, the focus of instruction to the whole class is on writing. Students have been taught the following writing process: *complete planning worksheets* → *develop first draft* → *edit* → *conference with teacher* → *write final draft* → *share with class.* On any given Thursday, therefore, direct instruction with the whole class might focus on any one of these stages in the writing process or on an element of good writing and traits of good writing. Another alternative is the class generating a story together with instruction focused on teaching specific story elements, such as the setting, the characters, or the plot. On Fridays, the focus of instruction to the whole class is determined based on the challenges that emerged for students during the week. In sum, whole class instruction focuses on some aspect of reading or writing and provides enough support so that when students transition into their individual or small group work most know what is expected and can work well without constant guidance.

During individual or small group time, students read individually appropriate books or work on writing using the process outlined above. The special educator helps students find books at the appropriate levels for individual students. The classroom teachers are becoming more adept at this as well. After reading a book, each student writes a Mini Book Review. The student places a 3 inch by 5 inch Post-it note in the back cover of the book. On the note, the student writes his or her name, the date, and then a brief review, which includes a rating (1-5) and a summary using interesting words. Here are some examples—

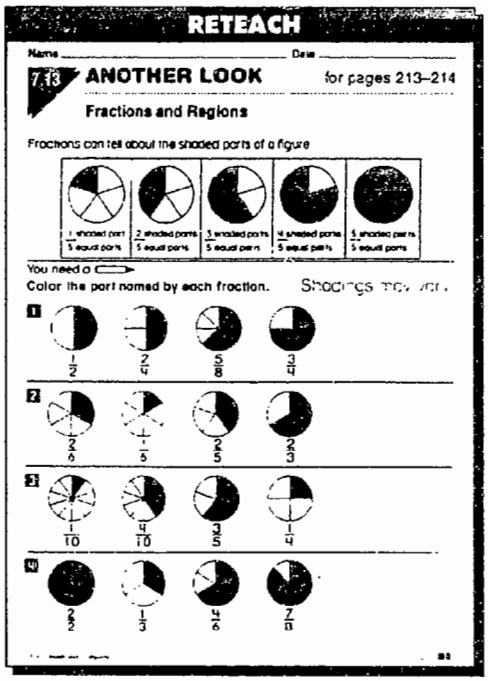
- The Berenstein Bear Scouts in the Giant Bat Cave. 5. The story was about Ralph Ripoff who tried to turn Giant Bat Cave into an underground theme park. Cave-o-rama. Talents.
- This story is about a little girl named Fern that loved a pig named Wilbur. And a spider helped save the life of Wilbur by the help of Templeton. A rat helped nobody unless there was something for him in it. 4. It was an interesting book with lovable animals. Templeton. Aeronauts.

In addition to the Mini Book Review, students choose from among several response options: writing a summary of the story in their journals, creating a graphic organizer of the story content, drawing a picture, or writing key words.

In the afternoons, language arts instruction takes the form of reading and writing rotations during which students are expected to work responsibly on their own or with a partner. These rotations are scheduled every day. The special educator is present in each class every other day. As mentioned previously, Mrs. Arnold spends 60 minutes in Mrs. Truex's room 3 days each week and 90 minutes in Ms. Gombos' room 2 days a week. During the rotations, students spend about half the time working on independent reading assignments and the other half working on independent writing assignments. The classroom teacher and special educator monitor student performance and work with individuals or small groups of students. The classroom teacher has a clipboard which lists each child's name. Over the course of a week, she conferences individually with each student several times and records what has been accomplished and what is posing a challenge.

During the reading rotation, each student reads a different book, either one that they have selected or that a teacher has helped them to select. As described above, when the book is finished, a response option is selected and completed. Sometimes, teachers suggest a specific response option for an individual student. If students have elected to read a book together, they can also work together on their response.

Figure 8.6. Samples of Varied Level Activities for Practice Center



RETEACH

Name _____ Date _____

7.13 ANOTHER LOOK for pages 213–214

Fractions and Regions

Fractions can tell about the shaded parts of a figure

1 shaded part / 5 equal parts | 2 shaded parts / 5 equal parts | 3 shaded parts / 5 equal parts | 4 shaded parts / 5 equal parts | 5 shaded parts / 5 equal parts

You need a

Color the part named by each fraction. Shadings may vary.

1. $\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{8}$ $\frac{3}{4}$

2. $\frac{2}{6}$ $\frac{1}{5}$ $\frac{2}{5}$ $\frac{2}{3}$

3. $\frac{1}{10}$ $\frac{4}{10}$ $\frac{3}{5}$ $\frac{1}{4}$

4. $\frac{2}{2}$ $\frac{1}{3}$ $\frac{4}{6}$ $\frac{7}{8}$

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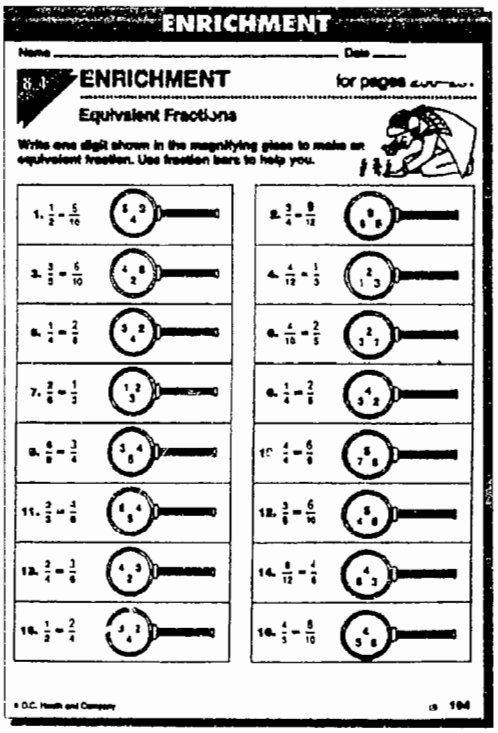

ENRICHMENT

Name _____ Date _____

ENRICHMENT for pages

Equivalent Fractions

Write one digit shown in the magnifying glass to make an equivalent fraction. Use fraction bars to help you.

1. $\frac{1}{2} = \frac{5}{10}$
2. $\frac{3}{4} = \frac{9}{12}$
3. $\frac{3}{5} = \frac{6}{10}$
4. $\frac{4}{12} = \frac{1}{3}$
5. $\frac{1}{4} = \frac{2}{8}$
6. $\frac{4}{10} = \frac{2}{5}$
7. $\frac{2}{6} = \frac{1}{3}$
8. $\frac{1}{4} = \frac{2}{8}$
9. $\frac{6}{8} = \frac{3}{4}$
10. $\frac{4}{4} = \frac{6}{8}$
11. $\frac{3}{5} = \frac{4}{8}$
12. $\frac{3}{8} = \frac{6}{16}$
13. $\frac{3}{4} = \frac{3}{8}$
14. $\frac{8}{12} = \frac{4}{6}$
15. $\frac{1}{2} = \frac{2}{4}$
16. $\frac{4}{5} = \frac{8}{10}$

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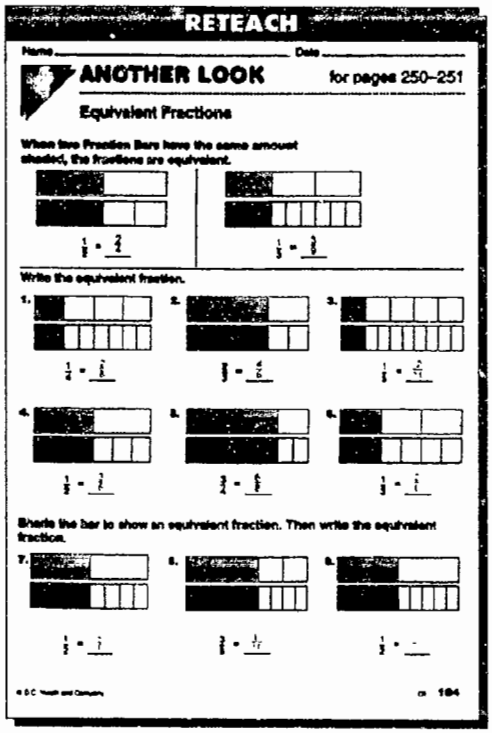

RETEACH

Name _____ Date _____

ANOTHER LOOK for pages 250–251

Equivalent Fractions

When two fraction bars have the same amount shaded, the fractions are equivalent.

$\frac{1}{2} = \frac{2}{4}$ $\frac{1}{3} = \frac{3}{9}$

Write the equivalent fraction.

1. $\frac{1}{4} = \frac{2}{8}$ 2. $\frac{3}{4} = \frac{6}{8}$ 3. $\frac{1}{8} = \frac{2}{16}$

4. $\frac{1}{2} = \frac{3}{6}$ 5. $\frac{3}{4} = \frac{9}{12}$ 6. $\frac{1}{3} = \frac{2}{6}$

Shade the bar to show an equivalent fraction. Then write the equivalent fraction.

7. $\frac{1}{2} = \frac{3}{6}$ 8. $\frac{3}{4} = \frac{9}{12}$ 9. $\frac{1}{3} = \frac{\ }{\ }$

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During the writing rotation, students develop their thinking, writing, and editing skills in the context of story creation. The specific focus for individual students varies depending on experience and ability. Some are learning temporary spelling, short sentences, spaces between words, and idea sequencing. Others are creating a written story that is rich in ideas and clever in plot, as well as technically correct. Each student has a writing journal, usually a spiral bound notebook. The structures used to support writing vary depending on the individual writer. For example, some children might be using pictures and writing one or two words. Other students will be creating longer and more elaborate sentences. Samples of worksheets used to help students prepare and structure their writing are shown in Figures 8.7a. and 8.7b.

Monitoring Performance of Children with IEPs

Monitoring individual student performance is a high priority for the teaching team. As mentioned above, during the reading and writing rotations the classroom teacher circulates among the students to conference individually. In addition to this type of monitoring for all students in the class, the special educator maintains a high level of accountability for student progress related to IEP objectives. There are several organizational structures used to support her efforts: individual working folders are maintained for each student with an IEP; a district-developed comprehensive curriculum-based assessment tool; and a weekly planning log for each class.

For each student, the special educator maintains a folder that contains documentation of individualized priorities and progress, including an IEP brief sheet with levels of current performance and objectives succinctly outlined (see sample in Figure 8.8), especially in the areas of reading, writing, and math; Fry word accomplishments; and reading performance charts indicating rate, accuracy, and comprehension. Reading performance is assessed using a curriculum-based assessment tool developed by a team of special educators from throughout the district. For each grade level, there are reading passages used to probe accuracy on word recall, reading rate, and comprehension. Student performance is charted regularly. This assessment is packaged in a 4-inch three-ring binder. It has been enormously helpful for the special educator working in inclusive classrooms as it provides a quick measure of student ability level and is used every 2 months for reassessment to determine progress. In fact, the success of this curriculum based assessment in reading has prompted the team of special educators to dedicate the upcoming summer to developing a similar tool for math. Always there is inquiry about the types of services and supports that are best for kids in order to meet their individual needs. By implementing curriculum based assessments, the teaching team was able to proceed with confidence. Halfway through the first year and continuing through the present year, these assessments indicate that students on IEPs are doing as well as, or better than, expected.

Finally, in order to keep track of all the students with IEPs—what they are working on and how they are doing—the special educator has developed a weekly plan/log for each class. As shown in Figure 8.9, the students with IEPs are listed in the left-hand column and notes are made as needed in each day's block to cue the special educator what needs to be attended to. Individual student assessments are usually conducted throughout the week.

Reflections

We are excited about the movement we have made toward differentiated teaching and learning. We see the diverse array of children in our classrooms learning together and learning well. Two of the most significant shifts have been: (1) changing from teacher-directed to a more student-directed (teacher as coach) instructional design; and (2) eliminating pull-out special education services but maintaining a commitment to providing high quality, intensive instruction and adding the special educator as a member of our teaching team. We have made a lot of progress. But have not yet "arrived." More than ever before, we know that we will probably never arrive. The closer we get to our vision of where we are going (albeit vague), our vision of what is possible expands. It expands in a way that we could not have described without going through the process. We learn as we go—learn about each other, about our role as teachers, about how kids view themselves as learners and community members, about the myriad of instructional possibilities. Perhaps most of all, we have learned to view the development of our

Writing Planning Sheet

My story will be about–

The story will take place–

The characters in my story are–

This is what will happen in the beginning of my story–

This is what will happen in the middle of my story–

This is what will happen in the end of my story–

The problem in my story is–

The solution in my story will be–

I will describe one of the characters in my story using these words–

My introduction to my story will be–

The cover of my book will look like this–

Figure 8.7a. Sample Planning Worksheet for Writing

Nonfiction Planning Sheet

My story will be about–

These are things I know about my topic–

1. 2.
3. 4.
5.

If I don't know about my topic, then I might have to learn about it from a book or another person.

Beginning–

Middle–

End–

If I learned about my topic from another book or a person, then I will write that book down or that person's name at the end of my book.

_____ book title

_____ name of person

Here are some facts about me, the author, that I will put at the back of my book

_____

_____

_____

_____

The cover of my book will look like this.

Figure 8.7b. Sample Planning Worksheet for Writing

instructional practices and our relationships with one another as processes that have necessarily evolved over time. As we learn together in the daily context of our classrooms, we re-envision and re-create how we work together. Sometimes it is confusing and frustrating. Sometimes it is crystal clear. Always we know we are learning and improving what we do. Always we try to keep in mind our valuable role in shaping the lives of children, and in doing so, shaping what our communities can become.

Initially, it felt like we were walking on eggshells. We hardly even knew one another and we certainly did not know how to plan or work together. As we got to know one another and learned what each of us had to contribute, we started to create a new learning environment together. We started having more fun—laughing more, sharing stories, and creating a shared history that has enriched our relationships. There is no going back. We have passed the point of no return, although we are not sure exactly how we will continue to evolve our practices in the future. We know that what we are creating is and should be fluid—changing as our context, students, and skills and perspectives change.

In an effort to capture how each of us individually reflects on our process of change over the past two years, we each wrote a letter, as if to a colleague. In many of the resources on collaboration and integrated services that we read along the way, it sounded almost too good, too easy. The three of us have discovered many paradoxes in our process. It is both rewarding and challenging, fluid and stuck, easy and hard, fun and frustrating, effective and flopped, supportive and vulnerable. We share these letters with you in hopes that you get a sense of realism about our process.

Letter From Sharon, Multi-Age General Educator

Dear Colleague:

If you are reading this letter you may be considering a change in the way you structure your classroom to meet the needs of all the children in a more inclusive setting and perhaps with the addition of a co-teacher [special educator] in the classroom. I will share with you my perspectives and view on how the process has evolved for me.

Our school district had the opportunity to participate in a grant entitled, Creating Capacities Within (CCW). Some teachers in our school volunteered to be in a group to explore different ways of collaborating to best meet the needs of children with a wide range of abilities. For two reasons I was not one of the teachers who volunteered. I was completing my Masters program and was consumed with that. I was also unsure about the direction that the grant would take and what the final results would be. My teaching partner [general educator] was on the grant team. I was assured of receiving information from her. The first year of the grant provided opportunities to explore options and then

Jane Smith

Specific Learning Disability **IEP due 5/97**

Reading/written language
- 225 minutes/wk.

Articulation
- 40 min./wk.

ADHD
- Takes 10 mg. Ritalin at 11:00
- School nurse monitors medication

Reading
- Fry sight words - 115 to 200
- Increase reading rate from 34 to 60 wpm–4th grade
- Increase accuracy from 86% to 98%—4th grade
- Comprehension—main idea, relate episodes

Written language
- Spell 350 high frequency words
- Capitalization—punctuation
- Write 6 to 8 complex sentences on topic
- Write all cursive letters from memory

Should wear glasses for all school work

Figure 8.8. Sample IEP Brief Sheet

to plan more specific instructional changes. At the end of the first year, our school's CCW team decided to move in the direction of integrating special education services within the regular education classrooms. Since we have a high number of special needs students, I viewed this as a positive change. I joined the team at that time. I believed it would be beneficial having a special education teacher within the classroom to help students with their classroom assignments and to reinforce the skills on their IEPs. I have always been disturbed with the difficulty experienced by many children in transitioning effectively when going to or coming from the resource room.

It is very important to note that throughout our implementation process, we had a great deal of support and guidance from the grant facilitators. They tried very hard to be available for troubleshooting, and to help plan. On a school-wide basis, we started the first year of implementation (the second year of the grant) with the special educator racing among classrooms trying to support students during their respective academic times. The special educator was feeling fragmented and frustrated, as were the classroom teachers. No one felt good about how we were attempting to meet the needs of kids. We soon discovered that classrooms containing larger numbers of special needs children (my classroom for one!) required a larger block of classroom time for the special educator. It also became apparent that regular educators would have to confer with one another to decide who would be willing to have language arts and/or math in mid-day and afternoon times. If we wanted to benefit from the special educator's expertise during academics, we couldn't all teach them in the morning. All the teachers met and reworked the schedule so it was more equitable and effective. This was an important lesson in how the building-wide schedule has a big effect on services provided.

So our journey had a rocky beginning, but once we were past scheduling, we were able to focus on how best to meet the needs of the children as a teaching team. We eased into co-teaching slowly. It was difficult for all of us. As a regular education teacher I had to "get past" turf issues and feeling like I was giving up "my class." Figuring out how another teacher in the room could be beneficial and used in very different ways took awhile. An hour of planning time every other week (supported by the grant) was invaluable. The special educator and myself could plan ahead, focusing on ways to take advantage of the co-teaching opportunities and on keeping track of student achievement. We started small and gradually came to a comfortable place in which the special educator and I alternated teaching to the whole group. We both monitored students as they worked in cooperative groups on a daily basis. She was sure to keep close tabs on students with IEPs. Sometimes, she also taught small groups of children at the same time that I was teaching small groups while other children worked independently. In the afternoons, she worked with children during an independent reading and writing time. This was an excellent time for children to remain part of the class, with expectations to complete the same type of assignments and work, but with the special educator available to modify and adapt as needed for identified students.

During our second year of implementation (third year of grant), we made even greater gains as we redesigned math, and to some extent language arts. To take full advantage of co-teaching was one way to more effectively teach kids at all levels.

	Monday	Wednesday	Friday
Monica			
James			
Kadua			
Maria			
Donald			

Figure 8.9. Sample Weekly Monitoring Guide for Students with IEPs

In all of the years I have been teaching, I have never felt more in touch with and aware of the progress of the special education students than I do now. Since we changed to an integrated model of service provision, the children seem to have a greater sense of belonging. Children with special needs do not "stand out" from others in the class because the special educator coaches them and provides direct support within the classroom setting. She also includes other students nearby. As far as the rest of the class is concerned, she seems to be there for everyone. I have also noticed that there is far less disruption due to less movement in and out of the room.

The structure of the classroom can influence how a program like this works. It works well for us in our multi-age classrooms. But whether you have a single-grade or multi-age class, think of many possible ways you can organize students (large group, individually, small group) and provide instruction, especially when another teacher is available for parts of the day. You may need to redesign your classroom or school program so there is a better chance of being successful. It's worth the time and effort. I would not want to go back to pull-out programs again. The benefits far outweigh the time and effort it takes to get started.

Best regards,
Sharon, Multi-Age General Educator

Letter from Shawn, Multi-Age General Educator

Dear Colleague:

Remember when we told each other that all we ever wanted to do was teach? Remember in college when we couldn't believe how some people only wanted to teach because they got summers off? We had such high standards and ideals then. There was nothing stopping us. I sure wish I could figure out how I got stopped. I remember wishing that I could try something new—face a challenge head-on and conquer the obstacles. I wonder when opportunity will knock on my door and revitalize my teaching and my classroom? There was something out there just waiting for me—but where?

Little did I know that opportunity was right around the corner! Integrating special education into my classroom has given my students and myself a whole new and clear view of learning and the importance of teaching "to all." There was always this diagram in my mind of who I was reaching when I taught. Seemed like some kids already knew it. Others weren't getting it. Some kids—the ones in the middle—I was reaching. I knew this wasn't right, but I couldn't figure out a way to fix it. It looked like this—

XXXX XXXX I'm reaching these kids.	XXX XXX These kids already get it. What do I do now?	XXX XXX I don't know how to help these kids. They don't get it. I can't give it to them.

There was always the "fringe." Now, I don't worry about the fringe because I can work together with another teacher to help meet the needs of "all."

Isn't it always so strange when reflecting on something that feels so right, that the tough road we all took to get this far has faded into a distant memory? I have had to force myself to try and remember feelings and thoughts that were in place early on. I can put it very simply to you. The structure of my classroom has changed, my relationship with the special educator has changed, and my relationship to students has changed. Whoever said that "change is hard" knew what they were talking about. It's gradual, tedious, frustrating, confusing, sad, lonely, and scary! The good news is that it can also be exciting, energizing, challenging, invigorating, and fun!

The only reason that all of this is worth it to me is that I know in my heart of hearts that the children in my classroom benefit from knowing that all learners are accepted into and nurtured within our learning environment. The learners know that everyone brings something unique and wonderful to our "space" and without the differences and uniquenesses, our classroom and world would be one without hope and a sense of purpose for our future of living together.

This process has been a good reminder that as a teacher I must embrace change! I must accept the feelings of confusion and insecurity it brings and know that the end goal—a learner who is capable of creating capacity within him or herself to accept and be accepted by others—is my ultimate gift given to the world. Go ahead—create capacities within your learners! A BETTER WORLD—JUST AHEAD. THE CHANGE HIWAY! CAUTION: IT'S SCARY

Bye for now,
Shawn, Multi-Age General Educator

Letter from Kathy, Special Educator

Dear Colleague:

I am writing this letter to share my thoughts about becoming a team teacher with two general educators. It is something I had thought about for several years, but had not had the opportunity to explore. The model we have developed is better than I anticipated while the process of getting here has been harder.

The process we have gone through has involved many wonderful moments and a few scary ones! When we started out we did not really know each other. We tried very hard not to step on each other's toes, to the point where we were not talking about things we should have talked about. It takes time to really get to know each other and feel completely free to talk about the hard stuff.

The first year we worked together in a general education classroom. I started with a more traditional approach. I pulled kids off to the side or worked with them using different materials at their places in the classroom. As the year and our collaboration skills progressed, I did my instruction in the context of the classroom program. When the students were in reading, I helped pick out stories and books that were at their level. In writing, I worked with identified students (and others) on classroom writing projects. I worked to address the identified IEP objectives using the classroom materials and structure. The first year I was in the classroom only during language arts. I worked with the students on their math skills in the resource room.

The second year we made ever greater gains. Redesigning math using a team teaching approach was a great help to us in our development as a team. The math program was developed with a role defined for me. As the year went on, I started to take on some of the role of the classroom teacher as well. For example, I was instructing the large group in the Problem of the Day two days a week and taking two direct instruction skill groups on Fridays. One day each week in language arts, Ms. Gombos and I each provide instruction to half the class. Now we work together to provide materials that are at the students' levels. We continue to refine as we go—this is a process!

The past two years have been ones of incredible growth for me as a teacher. One of the greatest benefits of this approach has been my ability to see "my" (special education) students in the classroom setting and help them function better in that classroom. I've been able to work with a large group and increase my skills in that area. I have been able to observe and learn from the teaching strategies of my partners. They have learned that there is no "magic" that we do in special ed!

A wonderful aspect of our model of instruction is the change I have seen in all the students. I am viewed as just another teacher in the room. I am not sure they know I am a special education teacher or who the labeled students are. As far as they are concerned, I am there for everybody, and I am! Some students recognize my strengths and seek my assistance in those areas. Students work in different ways at different levels. We work together to provide all students with appropriate materials and instruction.

As I close this letter, I am thinking about a recent occurrence that caused me to reflect on what our team has created and how vulnerable it might be. We recently had a change in administration. This made me nervous wondering whether or not we would be supported in continuing to provide integrated services. It made me realize what a loss it would be to go back to teaching in a pull out model. It is interesting how after about 10 years of viewing my role as a teacher and providing services in one way, I could in less than 2 years, become so strongly committed to working with students in a more productive way. I would never want to go back to a total pull-out model. The students I used to teach in a separate room have become classroom-wise and continue to develop their skills. They are learning well throughout the school day among their peers. So am I.

Take care,
Kathy, Special Educator

Suggestions

If we only knew then what we know now! Here are some lessons we have learned that might be helpful if you are considering a change toward more inclusive and collaborative classrooms. We'll start with some general comments and then provide more specific suggestions for getting ready, for initial implementation, and for ongoing work together.

Stay focused on the kids. For the most part, they do just fine. It seems to be the adults who have the most difficulty. The children will do well and you will see this right away—thank goodness! Their acceptance and growth is what keeps you going and committed. We've said it before, and we'll keep on saying it (even though there are lots of times we get tired of it) but—it really is a process. It takes time to learn "how" to collaborate and plan. Some of the "collaboration recipes" sound easy enough, but when you take the plunge to really doing it—it can be *way* hard. No one seems to cue you in on the emotional and psychological aspects of the change process, or, if they do, you don't have a way to understand it until you experience it. This is not just about behavioral change; it is about significant shifts in your perspectives, your roles and responsibilities, your schedule and space, and your beliefs and skills. Yes, you bring with you a solid base of expertise, but moving that expertise into a new framework takes awhile. Do not be hard on yourself if things don't always work as well as you thought they would. It takes time to figure things out. We made a lot of changes as we went along and undoubtedly will continue to do so.

Getting Ready

You could plan forever and still never be ready enough. Mostly, you need to just do it and learn and revise as you go. There are, however, some important considerations and activities before you begin implementation—

- Start with a small enough chunk that your whole day doesn't feel overwhelmed. Choose a class or two. Expand from there. We expanded considerably our second year in terms of how much of the day was differentiated and the degree to which we differentiated instruction. Don't take on too much at once.
- Get to know your teaching partner. Take time to discuss your beliefs, your desires as a teacher, your approaches to learning, your involvement with families. Observe in each other's classrooms. Try to create an opportunity to learn more about collaboration and integrated services together by reading, viewing videotapes on co-teaching, visiting other schools, talking with people who have more experience with inclusion, and attending or hosting workshops and conferences. As you get to know one another more, you begin to feel more comfortable and trusting. You develop a shared set of experiences and history. Trust is an essential element of collaboration. It is knowing you can count on one another. It is the foundation for reflection and constructive inquiry that leads to continuous improvement.
- Talk about specific children and how they seem to learn best. For students with IEPs, share and talk about the IEPs with one another. Talk about the daily schedule and routines in the classroom. Come up with an initial plan about what you will each do when you show up in the classroom together. It may feel a bit forced at first, but you are likely to feel more comfortable if you have a plan. Just don't plan on sticking to it very long.
- Attend to the schedule. The longer the block of time for teaching together, the better. Anything less than 30 minutes does not provide the opportunity to share instructional responsibilities. If necessary, move to an every other day schedule to get longer blocks of time. During the team taught days, focus on teaching students how to get along and work well when an extra adult is not around. Different structures may be used on team taught and whole group instruction days as well. We changed our afternoon team teaching

schedule from 30 minutes each day in each of our two classrooms to 60 minutes three times each week in one class and 75 minutes two times each week in the other class. This made a world of difference. Everyone is in it for the long haul, and the continuity is not lost.

- Each child needs to be taken from where they are and moved forward. Structure your learning environment to promote individualized, independent, and self- or group-directed learning. The instructional design greatly affects the ability to meet individual student needs. As you read in our program description, individualization is built-in through the use of centers, folders, personalized book selections, and learning outcomes. With the students' work prepared, teachers are freed up to directly support and to monitor. Less "lecture" and more "coaching" seems to enhance student learning and maximize use of adults.
- Design open-ended assignments so that all students can work at their own levels to meet their appropriate expectations. This way everyone is in a different place – so no one really sticks out. Children with special needs learn accountability and independent work skills by being included in this type of program.

Initial Implementation

Now that you have gotten to know one another and have an initial plan in place, begin your adventure. Know that some of the items listed here are things we did not do, but should have done—

- Introduce the special educator at the start of the year, on the very first day of school. Here is one way: "This is Ms. Arnold. She is a teacher who is going to work with us during math in the morning and during our reading and writing rotations in the afternoon."
- From the start, both teachers need to work with all the kids so children see them both as a resource. As a general educator, don't shy away from special education kids. Take the plunge and work with them. Ask for advice from the special educator, and watch what she or he does with the kids. Talk about it after class to be sure that you understand. As a special educator, take an opportunity to teach to the whole group or to work with students who are gifted academically. Both teachers' teaching repertoires and understandings of kids expand.

Ongoing Work Together

One way or another, your team needs regular opportunities to meet and plan. You don't necessarily need big chunks of time. At a minimum, schedule one full hour every other week, or, if possible, every week. The more talking and sharing you can do the better. As you work together more, interactions during your planning time become more proactive and reflective. What we mean is, you move beyond just figuring out how you are going to structure groups, what your roles will be, and what content you are trying to cover. With regularly scheduled time together, your reflection on practice can move to a deeper level: "What happened, why, and so what?" "Who needs to move on and who is still struggling? How can we adjust to meet these varied needs?" "How are we doing at fostering caring and interdependence?" "Are all the kids moving along with their reading?" Some thoughts about ongoing collaboration are shared here—

- We needed to learn how to effectively plan together. It is not something many people know how to do without practice. We realized there have been few opportunities in our professional lives as teachers, or even in our personal lives, to learn the art and science of collaboration. In fact, we have incidentally learned a lot about how not to collaborate. This is another area in which the children frequently are more adept than are we. They don't have as many years to "un-learn."
- Even before you begin to play around with different ways of teaching together, there is an adjustment period for just having another teacher present in your room. Most of us are not used to "being public" with peers as we teach. We have grown a lot in our collaborative teaching, but we know we have a long way to go. We view it as a continuum—

- Each person brings different capacities and needs to the planning process. Ask one another what seems most urgent to talk about now, and what can wait. As you share your perspectives, really listen to the other person. Don't pretend that you understand what he or she is saying or why, if you really don't. Take a risk. Ask. Inquire. It will help clarify the perspective for both of you. Rarely do any of us take the time to really examine why we believe and say certain things. What are our underlying assumptions? Don't be in too much of a hurry to add your two cents. Many times, people just wait for one another to take a breath and then get their opinions into the interaction. It becomes like a ping-pong match with neither person fully hearing the other or feeling heard him or herself. In the realm of differentiating instruction, diversity of experience, skills, and perspective is a definite asset. You need to be able to talk freely and in depth with each other, to talk about what is going well, what you want to refine, and what you feel the need to learn more about.
- Put yourself in each other's shoes (figuratively speaking of course). Monitor your defensive side and remember you are all in this to help kids. Keep that foremost in your mind. When you feel a bit defensive or tinges of conflict, assume the best of intentions by the other person. It is also okay to let them know how you feel. Maybe together you can figure out the source of the discomfort.
- Resist the urge to control and take over. Classroom teachers are especially likely to move into the control mode because, after all, we are used to running the show. Give up some of that ownership. Allow the other person to move in and share in the instruction.
- Finally, it feels supportive to talk with others who are going through or have gone through similar changes. At least twice each year we have taken time for conversation with other teams to share what is going well, what challenges, what we are learning, and what we continue to question.

We wish you well as you join with others to recreate what schooling is for you and for your students. There is no more important job than contributing to the development of young people. Young people we want to support in their growth to be competent and caring members of a more inclusive society. A team of teachers sharing students and teaching responsibilities are stronger than teachers working alone. Expect to learn many things from each other; each person has valuable skills and special areas of experience. Find a partner or two and venture forth together!

9 Case Study: Students Take Charge of Their Learning

Barb Vallejo, Jane Stevenson, and Jennifer York-Barr

At South High School, located near the heart of Minneapolis, Minnesota, many students with disabilities are learning what it means to take charge of their learning and many other life choices during their years in high school. Teachers facilitating this effort assert that students have to be in charge, and that "students do not have a choice in this world about that." These teachers remain cognizant of the fact that high school marks a beginning to the rest of students' lives and that educators must prepare students to be responsible and strategic learners in both academic and non-academic pursuits. The teachers want students to know that they have choices in life and that each choice they make has consequences, some of which are positive and some of which are negative. One special educator explains that at their high school—

> The [special education] teachers have built in strategic and responsible learning as part of everything we do. So the expectation is there that all students will advocate for themselves, to whatever capacity they can. When the ninth graders are just coming in, the expectation is clear that they're going to advocate for themselves. Obviously, if they can't, we're there to support them. By the time they are juniors and seniors, [they] are taking charge of their lives....What we don't want to do is make them dependent on us. Because when we're gone, they've still got their lives. So as much as possible and as quickly as possible, the responsibility shifts over to the students, because it's their education. It doesn't help them if we're doing it for them.

One way that the teachers work with students to instill and enhance capacities for effective learning and decision-making is Support Class. One purpose of Support Class is to directly teach and continuously apply strategies for success in general education classes. Although some students may have been taught such strategies in elementary or middle school, rarely have the students been observed using the strategies in their high school courses. Strategies for success include responsible and proactive communication, general organizational and specific thinking and learning strategies. The characteristics of strategic learners and strategic teachers listed in Figures 9.1 and 9.2 are reviewed with students and serve as a guide for development.

A Strategic Learner

1. Knows a large number of useful learning strategies.
2. Understands when, where, why strategies are important and how they can be applied.
3. Selects and monitors strategies wisely and is extremely reflective and planful.
4. Develops a belief in himself/herself as a learner and becomes empowered by that belief.
5. Believes in personal effort–the learner must put out effort in order to get results.
6. Is intrinsically motivated.
7. Does not fear failure, but believes failure is essential for success.
8. Has concrete, multiple images of "possible-selves"– both hoped for and feared selves. Has "script" that is positive for the future.
9. Knows a great deal about many things and has rapid access to that information.
10. Has a history of support from family, school, and society.

Figure 9.1. Characteristics of a Strategic Learner

Adapted with permission from Deshler, D. & Lenz, B.K. (1990, July). Presentation at the Strategies Intervention Model Trainer's Conference, Center for Research on Learning, University of Kansas, Lawrence.

Another purpose of Support Class is to provide opportunities for students to envision possibilities of a desirable future and chart a course for moving toward that future. Also, in Support Class, students have opportunities to converse about choices involving relationships with peers.

Support Class is required for all ninth grade students receiving special education services. By beginning right away, students develop a relationship with a special educator who is a source of continuity and support throughout high school. After freshman year, Support Class is voluntary. Almost all sophomores, juniors, and seniors who attended Support Class as freshmen, however, choose to enroll. In fact, when scheduling classes, they usually first inquire about when Support Class is scheduled and then build the rest of their schedule around that period of the day. Why would students voluntarily elect to have Support Class in their daily schedule? In the words of students themselves, in this class they "learn more about what you have to do", "get the help you need", and "get your homework done." When interviewed for this chapter, students stated that two important learning outcomes of Support Class were organization and self-advocacy. One student explained that she learned to "tell teachers that I have problems so they can understand me better." A high school graduate who now attends community college shared the following—

> If I didn't learn self advocacy, I wouldn't be here right now talking to you. I'd still be a very quiet and inside person. Ever since I started [Support Class], I've been able to, more and more, speak up for myself and ask for what I really need. My learning disability is verbal and comprehension. Learning things is very hard for me, it's like straining. I remember in high school I had a lot of trouble trying to ask teachers questions so I would just sit there and not understand. It was like somebody was speaking in a completely different language. I was, like, I was not going anywhere. The teacher would say, "Is there any questions?" Really I wanted to raise my hand, but I was just so scared. (Graduate)

Another Support Class student articulated a perspective on learning that has become a strong foundation for maneuvering through high school—

> You might as well choose to learn. If you are going to go anywhere in life you are going to need it [a high school education]. If you have a family, you will need to work full time. (Sophomore)

Most of the students who sign up for Support Class have IEPs indicating special education needs related to specific learning disabilities. Students attend the Support Class facilitated by their special education case manager. During every trimester, each case manager is scheduled for one or two periods of Support Class each day. In each period approximately 15-20 students who can range from ninth to twelfth grade are enrolled. Generally, students have four general education classes, one team-taught class (i.e., taught by a general educator and special educator), and one Support Class.

How does a focus on becoming responsible and strategic learners fit in the context of differentiated teaching and learning? To increase the likelihood of academic and social success in school and beyond, students must assume personal responsibility for their learning and their lives. As students move into secondary settings, it becomes increasingly clear that it is neither possible nor desirable for special educators to assume a long-term role as advocates for differentiation and accommodation. Students must develop the perspective, confidence, strategies, and skills required to have their needs met, to assume responsibility for learning, and to make positive choices for their lives.

In this section of *Differentiated Teaching and Learning in Heterogeneous Classrooms*, the use of one specific structure, Support Class, will be explored as one way to discover and expand students' capacities for self-advocacy and responsibility in academic and non-academic life in high school. The information presented in this chapter was generated from observations of Support Class, from a review of written documents used in Support Class, and from multiple formal and informal interviews with two Support Class teachers and eight Support Class students. First, Support Class will be described. Second, the roles and contributions of the special educators who facilitate Support Class will be discussed. Third, advice for teachers and students will be offered from the perspective of the Support Class students. Finally, closing comments will be made.

A Strategic Teacher

1. Involves knowledge of the big picture and helps learners fit themselves into it.
2. Recognizes importance of empowering students and transfers power to students so they are empowered.
3. Thinks aloud–always modeling–problem-solving–positive self-talk.
4. Frames experiences and focuses students' attention on important aspects of situations.
5. Makes connections from immediate situation to multiple occurrences–shows relationships and applications of strategies in multiple instances.
6. Is a pattern hunter and identifier for students–helps students see patterns. Manipulates information easily and provides rationales for strategy application.

Figure 9.2. Characteristics of a Strategic Teacher
Adapted with permission from Deshler, D. & Lenz, B.K. (1990, July). Presentation at the Strategies Intervention Model Trainer's Conference, Center for Research on Learning, University of Kansas, Lawrence.

Support Class

The course map in Figure 9.3 shows the "big picture" of Support Class, including principles of growth, performance standards, rituals or structures, and numerous strategies and skills. Overarching tenets are that students are in charge of their own lives, that learning must be student-mediated (as opposed to teacher-mediated), and that by combining effort and strategies students will be successful. Operationally, the Support Class course map translates into a 50-minute class period, offered 5 days each week. There is a consistent, recurring set of expectations and organizational strategies, such as using calendar planners, journaling, writing letters to general education teachers, and completing monitoring forms regarding progress in general education classes. There are also elements of Support Class that occur periodically or are interwoven, such as teaching students how to lead their own IEP meetings. teaching and reteaching specific learning strategies when needed to successfully complete specific assignments and other course work, conversing about desirable possibilities for life in the future, and engaging in reflection and coaching about relationships with peers. All of these components are described in greater detail below.

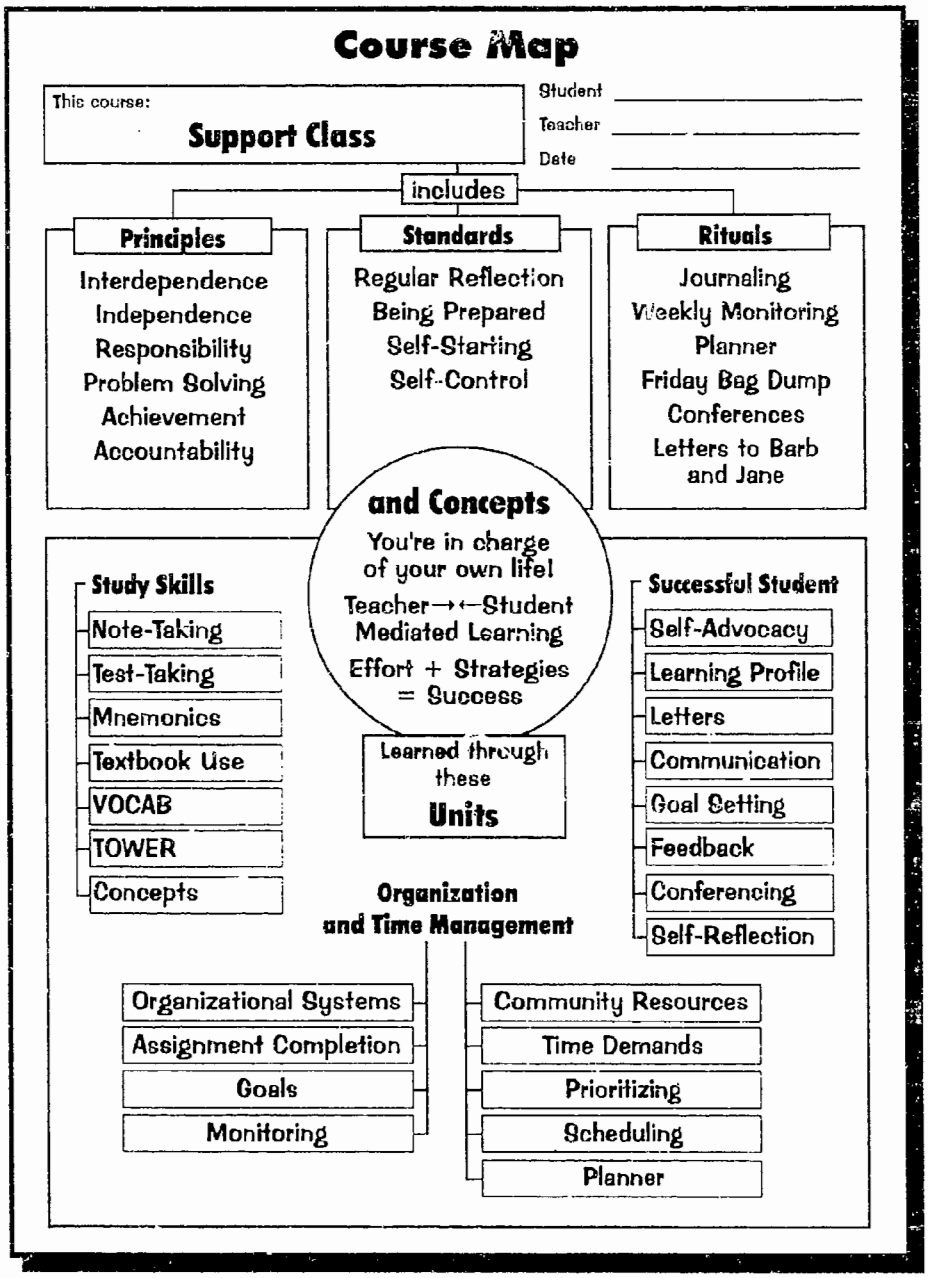

Figure 9.3. Course Map for Support Class

Organizational Structures and Strategies

Staying organized is a major challenge and responsibility for high school students. Students who participate in Support Class are taught and expected to use the following organizational tools—

Planners. Small calendars (the type that are frequently used by adults to keep track of appointments) in which students record appointments, assignments, projects, tests, and other class expectations. Students are expected to keep their planners with them at all times, although not all choose to do so. In general, carrying around a lot of "stuff" was considered undesirable by many students. As an alternative, some keep their planners in their lockers and fill them out at the end of the day. Those who consistently use the planners attest to their effectiveness for staying organized and keeping track of expectations for all their classes.

Letters. Letters are individually written by students to their respective general education teachers. The letters state the specific learning challenges experienced by the student and strategies that promote successful learning and task completion. A copy of the form letter and an example of a student letter are shown in Figures 9.4a and 9.4b At the beginning of the school year, students complete an inventory of strengths and weaknesses. Prior to writing their letters to teachers, they analyze then match weaknesses to needs for accommodation. Specific accommodations are developed for specific classes as needed. Each student has a file of letters saved on floppy disks. At the beginning of each trimester, saved letters are pulled up then revised for the upcoming trimester classes and teachers. For the most part, general educators appreciate and have responded well to the requests made in the letters. This type of initiation by students has been viewed by general educators as positive and responsible.

Journal Writing. Journal prompts written on a monthly calendar (see Figure 9.5) focus attention on circumstances in which students are likely to find themselves at school. Prior to writing responses, students discuss topics in small groups to generate ideas. Reflecting on the prompts and constructing responses are intended to raise the level of student awareness and proactivity about the specific circumstances. A student commented that he did not like journaling, but that "journaling helps teachers know how we feel about things. "Students are required to respond in writing to the journal prompts every Monday, Wednesday, and Friday as indicated on the monthly calendar. Examples of journal responses are presented in Figure 9.6.

Monitoring Worksheets. Provide a weekly record of work required and completed for every class in which a student is enrolled. A copy of the monitoring worksheet can be found in Figure 9.7. Students are required to ask each of their general education teachers to complete the form. Teachers record missing assignments, tests, and homework, then initial the form. The monitoring form provides information for weekly conferences held with a case manager.

Notebooks or Folders. Used to organize work for each class. Some students color code their folders and notebooks by class. Options are suggested by teachers or other students. Each student then decides which approach they think will work best. Some keep their class materials in their lockers. Others keep their folders in the Support Class classroom and stop by between every class to exchange folders. As with the planners, carrying around lots of "stuff" is not popular. Even though one student explained "My system is to throw it all in my bag!" almost all felt that backpacks (or other bags) were a problem because it is difficult to find what is needed and usually there is a lot of excess paper and other material. Students who choose bags as the repository for their materials are encouraged to perform the "bag dump" ritual at least once each week.

The Support Class classroom has several round tables with four or five chairs around each, two teachers' desks, four computers along a side wall, a chalkboard along another wall, and a table with an open file of student folders. The structure of the class is best described as free-flowing and self-directed. Students sign-in on the board, check the board for announcements or specific assignments, then individually determine how to use the class period—sometimes with coaching by the special educator. Students can be observed composing letters or final drafts of assignments on the computers, working on

March 12, 1998

Dear_____:

My name is _____, and I am in your _____hour class. I think it will help me to learn in your class if you know a few things about me.

I am very good at _____.
I am interested in _____.
After high school I plan to_____.

Some things in school are hard for me to do. Some of the hard things are_____.

I have found that I do better in classes when _____.
In your class, I think it will help me a lot if _____.
If you have questions about how I learn you can ask me or _____, my case manager. My goal in your class is to_____.

Sincerely,

Figure 9.4a. Sample Form Letter Framework from Student to General Educator

March 12, 1998

Hello,

My name is Harold Willis. I am in your 6th hour class. I have a learning disability. I would like you to know something about me. I would like you to know that I try to take good notes, try to ask you for everything if I miss that day. I try to be on time and I will try to have good attendance in your class.

I made need to have have extra time for some assignments, tests, and homework. If I am having some problem or missing something in your class, I would like for you to tell me. Most of the time I will ask you for help.

If there is anything that you would want to know about me, you can talk with me or you can ask Barb Vallejo or Jane Stevenson in room 146.

Sincerely,

Harold

Figure 9.4b. Sample Form Letter to General Educator

February 1998

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 Monitoring check	4 Explain the kinds of things teachers do that tells you when to take notes.	5 Planner check	6 Write about 2 different ways that you have taken notes in class. Friday conference	7
8	9 Write about what you generally do after you have taken notes.	10 Monitoring check	11 What have you learned about how to take notes during January and February?	12 Planner check	13 How do your notes help you study for tests? Friday conference	14
15	16 No school Presidents Day	17 Monitoring check	18 Explain how you usually study for an upcoming test.	18 Planner check	20 What specific study techniques do you use before a test? Friday conference	21
22	23 Write about how you think you could better prepare for tests.	24 Monitoring check	25 Explain how preparing for tests now will help you two years from now.	26 Planner check	27 Write about something you want to accomplish before the end of 2nd trimester. Friday conference	28

Figure 9.5. Sample Monthly Calendar with Journal Prompts

course assignments at the round tables, organizing files and folders, or requesting assistance from a classmate or teacher. Students organize themselves into small groups based on common subjects or teachers to form study communities, share information on assignments, and work cooperatively to solve problems on difficult assignments. The special educator monitors student engagement and takes time to check individually with each student.

Once each week on Friday each student leads a weekly conference with his/her special educator, who is also the case manager. The purpose of the weekly conference is to provide updates about coursework and assignments, discuss appropriate accommodations, solve specific difficulties encountered during the week, and make sure both teacher and student are aware of the focus for the week. To close the conference, an action plan is developed to focus student effort for the next week. The guide used for conducting the weekly conference is shown in Figure 9.8. The special educator also maintains a matrix to track the progress of all students in each section of Support Class, see Figure 9.9.

When students were asked, "Overall, what works best for you in Support Class?" and "What does not work well?", all responded that the planners, the monitoring worksheets, and the teachers themselves were most helpful. Many also indicated that behaviors such as being on time, bringing course materials, and having a good attitude were important. One student clearly articulated what he valued in Support Class: "...cooperation of the teachers. They treat us like adults, even if we're not adults. They make learning fun".

Not considered helpful by students were being late (or not coming at all), complaining, not doing work, being loud, and being inflexible about where to sit. Also mentioned as problematic was teachers trying to make students work. Students felt that there had to be a conscious cooperative effort on the part of students and teachers to make learning happen.

Have there been days when you felt like giving up? Explain what you did to prevent it. How did you keep going?

Yes, I felt like giving up a lot of time, but the way I keep my self going is to remember that I can get it out of my way, and that if I didn't get it done some teacher would keep on bugging me about it or some teacher won't take work a week late. I also think about how much I get from my grades, too.

Why is the end of the trimester so stressful?

Because then there's going to be a new trimester and you'll be all confused on your new schedule and you won't be able to understand your whole new day of the trimester.

How do you go about planning a large project? Explain your steps to finish a major project.

First I would have to go to the library and get my books that I am studying about. Then I would make copies of what the important stuff was about. Then I would read it and highlight it and get on the computer and start writing it. Then if I had to draw a map I would draw it on a big poster board and put pictures on it.

What are some time management strategies you are using to help you organize your work?

I plan to do my homework during 2nd support hour and 6th hour support because I want good grades at the end of my 10th year at this school.

Figure 9.6. Sample Student Journal Entries

Interwoven Components

When talking with teachers and students involved with Support Class, a number of components emerged as important, although they do not occur with the same predictability as use of the organizational tools described above. These are referred to here as interwoven components and include coaching students to lead their IEP meetings; continuous teaching, review and application of learning strategies; in-person communications with general education classroom teachers; dialogue about future dreams and plans; and relationships with peers.

Student Role in IEP Meetings

Students are encouraged and supported to assume a lead role participating in and eventually facilitating their IEP meetings and periodic reviews. This is a major shift from how most students have participated in years past. Some students have not even been present at IEP meetings prior to secondary experiences, as was the case with one student who noted the following—

> When I was in 8th grade, it was the first one I went to. [Teacher] called me out of gym and I thought I was in trouble. I went to the meeting and my mom was there. The teachers told me I needed to be at the IEP meeting. They told me that the IEP was going to affect me for as long as I'm in school. It has to be my ideas and goals that go forth at the meetings. (Sophomore)

The first couple times that a student is expected to either lead or participate significantly in his or her IEP meeting, the special educator and student practice, frequently by role-playing. Parents and staff are informed prior to the meeting about expectations for participation and about roles. One student explained—

> My teacher and my mom tell me a few days before my meeting to think about goals I want to work on and areas I need help in. That gives me time to think and get ready for the meeting. Then I can walk in ready. (Sophomore)

Another student reflected on a shift that happened to her as she moved toward taking charge of her IEP meetings—

> Sometimes there's big disasters with IEP meetings, especially mine. I mean, my parents were the ones who were talking. I never said a thing. I just sat there. I got so mad because I couldn't say anything. And it's like, wait, this is my meeting. I'm supposed to say something, but I can't. [Other people] would say, "Oh, well, she wants to go into this" or "she wants to do that." And I'm [thinking] how do you know? You never asked me. That's one thing you need to stop at IEPs, you know... I had a lot of problems with that and I finally did it. I sat there and I said, "Well, this is my meeting. I want to talk. This is what I want to do." That's it! I'm going to start speaking for myself. You know, I am a big believer in that... I am telling my opinion and I've found that my opinion is important. (Graduate)

Creating the capacity for students to lead their IEP meetings reinforces the perspective that they are in charge of their lives and that the purpose of the meeting is to design an educational experience that supports their learning desires and needs.

To: Teachers of _____

From: Barbara Vallejo and Jane Stevenson

Date: Week of _____, 1997-98

Please indicate by initialing in the appropriate column whether or not _____ is up to date with his/her assignments in your class. If not, he/she should note on this sheet any work that may still be completed for credit. Please add any comments.

Thank you for your assistance.

	Class	All Work in	Work Missing	Comments
1				
2				
3				
4				
5				
6				

Figure 9.7. Weekly Monitoring Worksheet

Continuous Review and Application of Learning Strategies

The Support Class special educators continually teach, review, reteach, and assist students to immediately apply strategic approaches to learning. Each trimester a new learning strategy is taught. The specific strategy choice is determined based on the most critical demands on students. Strategies taught include test-taking, note-taking, and assignment organization and completion. Given actual assignments or other coursework that students are expected to complete, the special educators may generally or specifically coach a student through other strategic thinking and learning strategies. The teachers emphasize that there are many ways to effectively work through tasks. They focus on increasing each student's repertoire of strategies. A large part of their job is being sure students have a variety of strategies available, and know how to use them. For example, when a student receives an assignment, the teacher might ask, "What strategies do you already know that will help you with this assignment and how can you use that information?" Students identify specific advantages. "I use a test-taking strategy because it helps me remember which words to avoid in a test." The teacher might also identify several specific learning strategies that might be helpful for a given task and then suggest that the student select one strategy. For example, when faced with an actual assignment, a student was reminded of the DEFENDS writing strategy (Decide-Estimate-Figure out- Express- Note- Drive-Search) as one approach that might work well. Students are encouraged to recall previously learned strategies and helped to adapt them to current classroom demands. The adaptation of the learning strategies component of Support Class is necessarily personalized but planful given the varied experiences, skills, and expectations of the students in the class.

Weekly Conference Record

Name_____

Date_____

Weekly Reflections

Tests Taken_____

Assignments _____

Issues/Feedback _____

6th Hour

Journal

Monday Wednesday Friday

Planner

Monday Tuesday Wednesday Thursday Friday

Monitoring

Hr 1 Hr 2 Hr 3 Hr 4 Hr 5 Hr 6

Accommodations requested/used

Action_____

Goal_____

Plan_____

Figure 9.8. Weekly Conference Record

In-Person Communication with Teachers

A third interwoven component of Support Class that occurs is coaching students on how to communicate effectively with general education teachers. In addition to individual letters sent out at the beginning of each trimester, it is necessary for most students to negotiate individually and in-person about course expectations, potential strategies, and accommodations that might be appropriate. The specific ways in which a student is coached varies depending on the student's experience and skill with communication and negotiation, the degree of discrepancy between what a teacher expects and what a student feels is possible, and interpersonal dynamics of the individuals involved. The ultimate goal is for students to individually meet with and successfully negotiate mutually agreeable solutions with general education teachers. Prior to an actual in-person interaction, the special educator and student may role play the situation. After the interaction, the special educator and student process what happened, why, and what it means for future interactions. Some negotiations are successful. Others are not. Either way, students are coached to interact and respond appropriately. Following are scenarios offered by three different students that involved direct interactions with general educators—

> I came to talk to [Support Class teacher] because I was mad and I wanted to talk to [general educator] to get things resolved. [Support Class teacher] went to talk to [general educator] to ask if she would go to a meeting to sit down and talk about our attitudes—both hers and mine. Then the three of us sat and talked to each other. We

resolved it by setting up a meeting for at least twice during the trimester to see how things were going and so I wouldn't get behind in my work. (Sophomore)

One time this trimester, I had to make up some time. I had to meet with my math teacher to ask if I could make up time. He said we couldn't make up the time, we had to do the work instead. (Sophomore)

I went to talk to a teacher after school to ask for more time on tests and more time on reports. He wasn't willing to let me and I failed. But in Biology class, I told [Biology teacher] about my letter during the middle of trimester to let him know what I needed and it worked. (Sophomore)

Future Orientation

The importance of interweaving a futures orientation into Support Class cannot be overstated. A significant amount of the meaning given to the experience of high school is linked directly with perceptions about what that experience can lead to after graduation. Special educators talk with students about what it means to be a successful student, about their individual strengths and interests, and about their desired futures. As students share their perspectives about Support Class and life in high school, it is clear that in their minds, success, strengths, interests, and future possibilities are inextricably linked.

One specific tool used to create or affirm a desirable future is the *Dare to Dream* worksheet shown in Figure 9.10. Students complete this worksheet in the fall and spring of every year. As they construct their responses, they consider where they might like to travel, what type of work or career they might enjoy based on strengths they could bring to a work environment, and what types of relationships they desire. Students are encouraged to dream and to set their goals high. Teachers and students talk together about steps to take to move toward that desirable future. An example of how future desires and career interests based on strengths are linked with success in the high school was clear in tracking one student's set of responses to questions about what he is good at and what it means to be successful—

To be successful, means to go beyond the goals you have set for yourself. I want to play in the NBA or own my own business. Before I do all that I want to graduate from high school and go to college... I am good at math. I can handle money, balance a checkbook. Anything with numbers, I can do it. I am changing my major for college to business. I plan on owning my own business. There are a lot of these classes [business, math] here [high school]...Nowadays you have to go to college to get a good job. A high school diploma isn't going to get you much. Then you can get a better job. You can fulfill any dream that you had as a child. (Sophomore)

Rarely does such an articulate, cohesive, and focused response emerge from a 16-year-old student. Another student responded that he was good at working with his hands and wanted to go into automotives, but that first he had "to start working harder and stop following my friends. They skip a lot." Other students articulated unique strengths and interests, ranging from history, working with others, anything with words, and cooking.

Support Class Spring Trimester, 1998

Student Name	Letter	Journals	Planner	Monitoring	Conferences	

Figure 9.9. Progress Monitoring Form for One Trimester

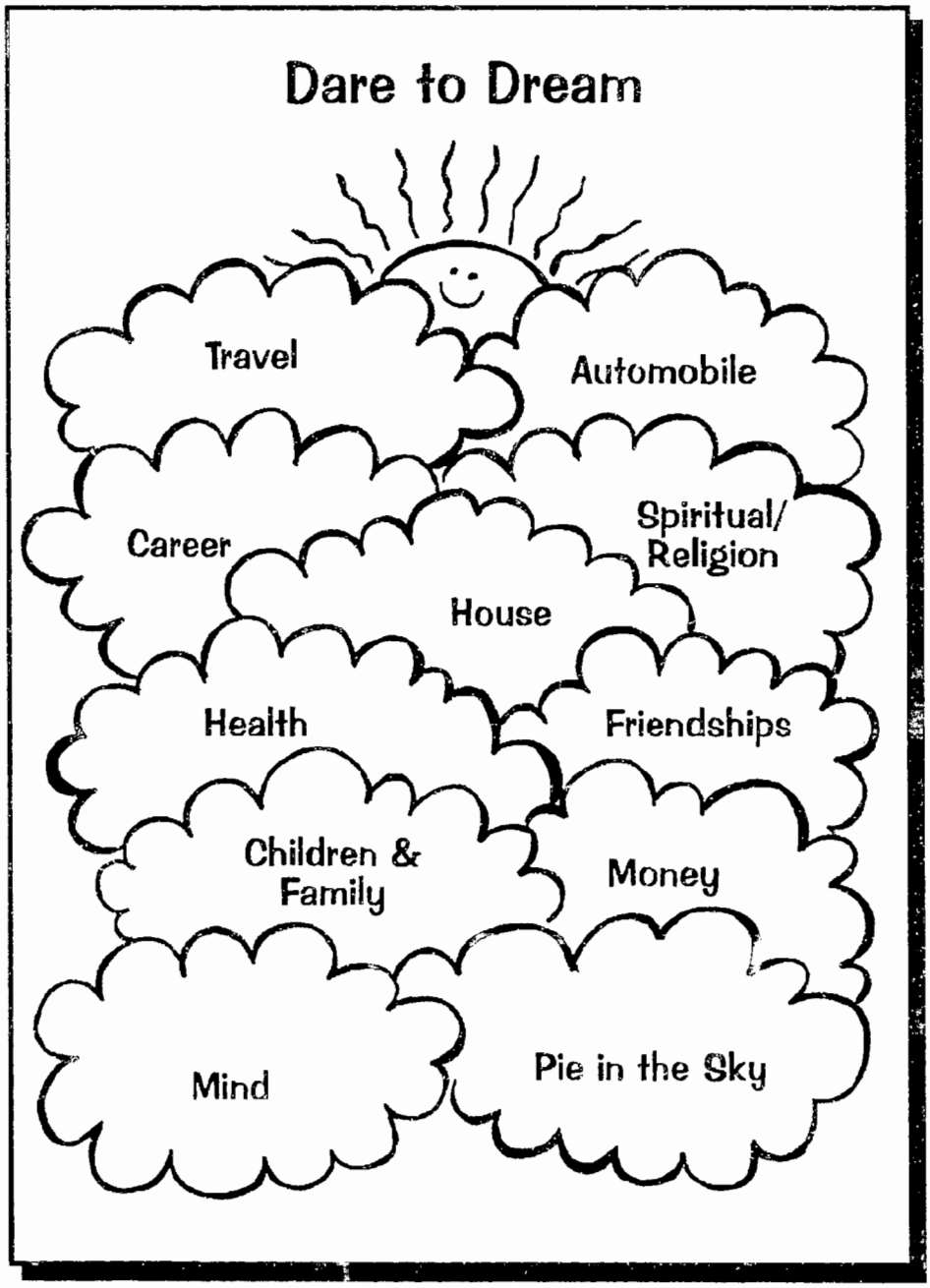

Figure 9.10. *Dare to Dream* Worksheet

Some students struggle with envisioning a positive future. The teachers observe that when students can generate a positive future vision and can integrate their disability into a positive view of themselves, they can be successful. For students to see themselves and their future in positive ways is viewed as a cornerstone to effective decision-making, as well. Many students struggle with competing views of who they are. One student vacillates between viewing himself as a "bad boy from the streets" and "a good boy with a new family." Others teeter on the edge of viewing themselves as gangsters or as students. Whatever view of themselves students choose influences their life paths. Although the teachers realize that they cannot tell students which views and paths to choose, they can raise alternative perspectives. They can and do assert that each person has choices and that each choice results in different consequences—some positive, some negative. Frequently, the challenges experienced by students about positive life visions and choices relate directly to a highly influential presence in the lives of most high school students—relationships with peers.

Relationships with Peers

Perhaps at no other time in life is the effect of peer groups felt so keenly as during junior and senior high school. An implicit purpose of Support Class is for students to develop a positive support system and to know they will be supported throughout high school. The special educators discuss with students the impact of choosing to hang out with peers who are not succeeding. They encourage students to examine their own values and make conscious choices about their peer group. When students find themselves in circumstances where their expressed values are being challenged, some students will choose wisely. Some will not. On a daily basis teachers see students become who they think they are, based in part on how they think others see them, for better or worse.

In a conversation about what it means to be successful, many students mentioned the influence of peers. One specific stream of conversation centered on different choices that individual students make related to passing courses. Choosing to pass courses thereby earning credits, was linked with graduating from high school, which was linked with pursuing post-secondary experiences that will lead to desirable employment and other future opportunities. The presence of potential for negative influence by peers was evident throughout the interviews, as reflected in comments such as--

> My freshman year I failed a class, but I made up the credit. This year in the auditorium with sophomores, I had to tally up the classes. I marked off 17 credits. Some other people only had 9, 11, 12 credits. One of my friends failed five classes in one trimester. He won't graduate with us. (Sophomore)

> Most of my friends are skipping and not graduating. We sit down. We talk about it. Now that they aren't graduating it hurts them. I told them, but they don't remember. I don't show them any pity, though. I maintained my focus to try to get all my credits. (Senior)

> Most of my friends are 5th and 6th year seniors. I failed two classes this year. Sophomore year has been harder than freshmen. I need to put in lots of time after school. I am competitive. I see it as a win-lose thing. They don't care. They don't have family support. They don't listen to their mom or they are so old that they don't have to. (Sophomore)

> I don't see how people come to school and sit on the wall all day. I ask them why they come? You can all go home. It is mostly African American males. Makes us look bad. I don't know how they are brothers, they live in the Hood just as I do. Why? I just don't know....They think it is cool that they have new shoes every day. Drug money goes fast but you can't use that much money because the cops watch you. Unless you are in a big gang, you won't get much off that. They make fun of what I make. I make $250 every two weeks. They might make that every day. But I never got into gangs because it won't lead you anywhere. I don't need to do that anymore. (Senior)

Also evident was positive influence of peers. One student stated, "One of my friends has all his classes with me so he won't slack off." Some students have informally established peer support or mentoring through connections made in Support Class. In one student's junior year, he took on one of the freshman as a mentee. Not only did no one "touch" the freshman because he was hanging with this junior,

but the junior also inquired regularly about where the freshman was at with assignments and with credits. Other students identified the Esteem Academy and a cross-age African American Male Support Group as beneficial. In general, peer mentoring was considered to be important. Students recognize that many times students are more likely to listen to other students than to adults. One graduate who now attends a community college chose as her community service focus to come back and mentor freshmen. Speaking from experience, she understands the "freshmen attitude" and how unlikely many freshman are to make good choices or to listen to adults. Also speaking from experience, she knows how important it is to get off to a good start during the first year in high school.

It was interesting that two of the males in the interview group indicated that they felt freshmen females had a harder time than males—

> It is harder for the females because they do things that women do to belong. We [males] don't spend time in the mirror. (Sophomore)

> They come to school but they don't do anything. They do their nails. They don't do their work. Can't do typing with your nails that long! (Senior)

Two of the young women in the group added that, "Girls have sex so that boys will like them." Articulated by most of the students in the interview group was the perspective that many females in high school face a gender barrier to being successful—the burden of being attractive and desired by the males.

Relationships with peers is a dominant presence in high school. Having the opportunity to develop positive peer relationships with other students who experience similar challenges and who want to be successful is an enormous support. Also significant is the ongoing and consistent, if not persistent, positive influence of Support Class special education teachers who are respected, trusted, and depended on by students. Being known and cared about by the same adult throughout four years in high school can only increase the likelihood of success in school and beyond.

Role and Contributions of the Support Class Teachers

Clearly evident when observing the Support Class special education teachers and when listening to their reflections and perspectives about Support Class is the influence of cognitive coaching. The two teachers interviewed have been trained in cognitive coaching and use the strategy of asking questions to provide a cognitive prompt for students to consider a variety of perspectives and options before making decisions about how to proceed. Asking questions is also used to prompt reflection on actions already made. The teachers self-reported roles include—

- Coaching students about how to organize their work, proceed with assignments, interact with regular classroom teachers, think through actions and consequences, envision desirable futures, and interact with peers.
- Providing direct instruction as needed. Frequently, this involves teaching and reviewing specific learning strategies.
- Functioning as an idea resource so that students can identify other resources where they can access needed information. Teachers also provide ideas about ways that students might choose to create and propose alternative assignments.
- Co-teaching with general education teachers. Support Class teachers usually co-teach two academic classes, such as English, physical science, or math.

When students were asked "What makes Support Class successful?" all indicated that the type of teacher involved was critical. They explained that the teachers had to be dedicated, patient, have a good personality, and expect you to do your work. The value placed on teachers "staying on students" was reflected in a number of student comments—

> Freshman year you should be on us good. In junior year, we have to do it more on our own and show or tell [Support Class teacher] you need help. (Senior)

> One day I was surprised because I didn't go to class. It scared me because I didn't think she was checking on me like that. We already know that [teachers] know when we skip. (Sophomore)

The Support Class teachers asked students whether or not they should sometimes let students fail. An interesting series of responses followed—

> Some people need to fail. I learned a lot. (Sophomore)
>
> [Support Class teacher] told me I was going to fail my math class. She drew a picture of a man on a cliff with a 40 foot drop and rocks, and spikes, and a river. It was up to me. She showed it to me two times. (Sophomore)
>
> If a student shows that they don't care at all, then there is a certain point when you should leave them alone. If a student is acting out, you should leave them alone. If you see someone who still wants to do the work, you should back them up. They have to show you something. (Senior)

When asked what school would be like if the Support Class teachers weren't there, students responded that they would not have learned as much, and that even though counselors keep students informed about their grades, the Support Class teachers are a constant and specific support in their lives. A graduate stated—

> [Support Class teacher] was my case manager, so I felt really comfortable always going to her when I felt that I couldn't do it myself, although she did try to push me to do it myself. She was, like, "Well, you know, this is your class, your education. You are the one who needs to ask the questions." Basically, she really supported me is what I'm trying to say. She really supported me and moved me and led me in the direction of being able to ask questions. (Graduate)

In conversation with the Support Class teachers, the depth of commitment, the strength of beliefs, and the underlying values about students realizing that they have choices and that they are responsible for their lives were very clear—

> [We] refuse to buy into the "victim" mentality. It is OK to acknowledge past injustices but you can't stay stuck. For example, some kids blame the system for being identified as special ed. I have offered to de-label kids and then I ask, "Now what?" I explain how I see it—"You are going to have to get past it. You are going to have ask for what you need. You have to take control. Choosing not to have voice is choosing to be a victim. The minute you articulate what you need, you are on your way." When this shift in attitude occurs, kids are on their way. (Support Class teacher)

An application of this belief system in action emerged as the teachers talked about accommodations. They indicated that because of Section 504 of the Rehabilitation Act, some teachers (general educators and special educators) feel obligated to do anything and everything that is asked for. Some teachers think that because a student has a learning disability teachers have to do what ever students say. The two Support Class teachers who were interviewed talked about the difference between reasonable and unreasonable accommodations. Some accommodations are appropriate and level the playing field. Other accommodations result in inappropriately decreased expectations. The differences can be subtle and certainly vary among individual students. One of the teachers shared the following—

> Last week, one of my students said, "You're making us do the same thing as the other kids and we can't because we have learning disabilities." I reflected on this comment for a few days, asking myself whether or not my expectations were reasonable and how to respond to this student. The next class session, I said, "You made me think about my expectations of you. I want you to think about how you want me to treat you. Think about whether or not it matters if you are writing a check and put the decimal point in the wrong place. You write a check for $100 and you put the decimal in the wrong place. You make out the check for $1000 and end up being accountable to pay the $1000. You decide if you want lower expectations, but you have to realize the potential consequences. Do you want me to treat you like you aren't able to learn? Think about what you want and what kind of expectations you want me to have. We can do it that way, with lower expectations, but you are responsible for whatever happens as a result." (Support Class teacher)

The student decided he did not want expectations to be lowered because of his learning disabilities.

The two Support Class teachers who were interviewed expressed concern over seeing a lot of IEPs that focus, sometimes exclusively, on accommodations with little, if any, focus on learning strategies. They view this as potentially diminishing the capacity of the students to achieve—

> If given a choice between the easy way and the hard way, many students will choose the easy way. For example, in some Support Classes students don't have to journal and they just get to work on their homework. They can also go there to have tests read to them. We won't automatically read tests to our students. As much as possible, we teach students how to take tests on their own...We spend our energy on teaching students how to access what they need. We don't want to be the people providing needless accommodations. Kids have to learn to be ethical and responsible about their decisions—what do they need vs. what do they want? A moment of clarity happened for me when a student informed me, "I failed a test yesterday because you weren't here [to read it to me]." I thought to myself, "What have I done?"

A few students have inquired about switching to other Support Classes because of the high expectations in this class. The students are told that if their parents are also in favor of a change, the change to another Support Class will be made. Only once has a formal request been made to change classes.

When Support Class teachers were asked to make recommendations for new teachers, they indicated that new teachers, general educators and special educators, must have many opportunities to reflect on and dialogue about their belief systems and philosophies and how that impacts their interactions with students and their approach to instruction. They also stated that new teachers, particularly special educators, need a strong background in reading, writing, and learning strategies, with a focus on how curriculum and instruction can be embedded in real contexts and content area classes.

Perspectives and Advice

The final portion of this section reports Support Class students' perspectives on general education teachers and classes, and offers advice for teachers and students that is intended to promote students becoming responsible self-advocates. Although not emphasized, students also mentioned the importance of parents cracking down on their children and going to school to see what their children are up to.

Perspectives on General Education Classes and Teachers

There was no shortage of student opinion about what constitutes effective and ineffective classes and teachers. Further, it was difficult to distinguish between what makes a class effective and what makes a teacher effective. From the students' perspectives, the teacher essentially makes or breaks the class. Overall, students did not indicate that a lot of teachers and classes were considered "bad." Most were at least "okay".

Besides being required to copy notes from the board and classes being "boring", the most salient characteristic of ineffective classes was a teacher who did not seem to care much about students or who did not expect very much from students. Actually, when listening to the students, the attributes of caring, and having high expectations seemed almost synonymous. Here are a few comments to illustrate—

> I hate it when I tell someone my problem and then people start treating me funny. They talk down to me...They come to me every single time asking me if I need help... I don't like it when teachers say, "Oh well, maybe you'll get it next time." A teacher should crack down on you and tell you that you have an F. Most teachers treat people as students not as individuals. [Students] figure if the teacher doesn't care, why should you? (Senior)

> They stereotype you that you are already going to fail. They may see you in the hallways. When I tell them that my plan is to go to college, they are shocked. Out of 10 people in my class, I have the most credits. Some are shocked and some expect it. If they took the time to talk to me to see how my intellect is, they would see I could make it. (Senior)

> I can tell a teacher who doesn't care by the first week–the way they treat students. [For example] if I go up to them, first, they ignore me. I go to them later, they still do. They either don't care or they don't have the time. If they don't care about the students then they are in it for the money. I can just tell. (Sophomore)
>
> If they don't care, they don't say anything to you. (Sophomore)

When difficulties arise between students and general education teachers, the special educators work through with the students ways they could communicate with teachers. Most of the time, positive changes result. After meeting with a teacher who was considered to be non-caring, one student indicated a somewhat improved relationship with the teacher—

> I had a couple meetings with her. At first I didn't like her. I had some meetings and that helped... She is a new teacher. She is learning with us. I think that at first she didn't like [our high school], thought it was too ghetto. She has never had any experience with inner city kids. (Sophomore)

Only rarely does it become necessary to bring legal requirements into conversations with general educators. When assertion of the law becomes necessary, students are coached on how to responsibly enter this element into the conversation while remaining focused on generating solutions. For example, they might be coached to use the following language, "The law requires... and here is what that means for my situation..." Sometimes the situation progresses so that direct interaction between a special educator and the general educator is necessary. For example, one student needed accommodations on a written final. The teacher was very reluctant to provide the necessary accommodation. The student met with the teacher, then with the Support Teacher, and then with the case manager. In a fourth meeting, the general educator was reminded that he was legally obligated to develop a reasonable accommodation for the student for the final exam. After extended discussion with the case manager, an accommodation was developed and agreed upon.

General education classes and teachers that were perceived positively by students had the common characteristic of a teacher who "acts like she wants to get to know you" and a teacher who has high and clear expectations. Also mentioned were the benefits of hands-on learning activities, simulations, and games as ways to more actively engage students in the learning process. Several classes and teachers stood out for students as exemplifying these desired characteristics—

> [Math teacher] used games that taught us how to do math work. Keeps people more into it. She was happy. Did physical things to enjoy the class. She made it easy, wanted to get to know everyone in the class. (Senior)
>
> [Health teacher] makes class fun. She is known for failing people. You have to go to class and do the work. She tells you up front. She gives you a sheet to tell you what to do. Tells you what to do to get an A, very specific. (Sophomore)

The student who made this last comment took out his wallet and removed a multiply folded piece of standard size paper. The paper turned out to be a syllabus from the health teacher's class. He showed the syllabus and stated that "So far, I have 60% of my grade in." This interaction was significant in that the student kept the syllabus with him in his wallet and was on top of the course expectations. High course expectations that are written down for students were considered very helpful.

Advice for Teachers

It is clear that students positively perceive teachers who care, who have high and clear expectations, and who actively engage students in learning activities. Also important is that teachers consistently communicate that the responsibility for learning is with the student. One student suggested, "When you want to help someone out, tell them that you want to help them when they want to do something different. You can't change them until they want to be changed." Additional words of advice for teachers offered by Support Class students are the following—

- Start encouraging advocacy with students at a young age, at least in middle school and even better in elementary school.
- Practice advocacy skills with students.
- Encourage students to make decisions and advocate for themselves.
- Be accessible and available to students after class and after school.
- Be aware of students who are quiet and having difficulties. Initiate a conversation with them.
- Stay on top of the students who don't ask for anything. They still may need help.
- Be open to students and give someone a chance.
- See situations from the student's perspective and try to understand the effects that a learning disability may have.
- Understand that a student may have difficulty advocating for themselves the first few times and will need support and encouragement.
- Understand what they are saying. Ask if you don't understand what the student means.

Advice for Students

Perhaps the most difficult and most important domain in which to use self-advocacy is with peers. Students remark about their efforts to remain responsible and take charge of their choices amidst their peers. Emphasized was the importance of freshmen getting off to a good start. A senior stated—

> Most come in thinking they are going to pass. I try to tell them, but they don't listen. I say to my brother every day to get all your credits so you can have some more fun...When you are a freshman you have to know it is mandatory to get all your credits. Just cause you are labeled a sophomore, that is nothing. You still have to get those credits rights. I tried to tell him. (Senior)

Teachers and students felt strongly that a formal student mentoring program should be initiated and that the potential for students to receive credits as a mentor should be explored. The teachers also felt that in addition to Support Class, freshmen would benefit from one class focused exclusively on learning strategies (see, for example, the Strategies Intervention Model developed at the Center for Research on Learning Disabilities, University of Kansas, Lawrence).

Recognizing the challenges that can arise in interactions with peers, the Support Class students offered the following advice to other students—

- Be in class more than in the hallways.
- In class, be quiet, settle down, and start working right away.
- Make your own decisions and be in control of your own life.
- Ask questions and get the information you need.
- Let your teachers know you want to learn and will need help.
- Ask teachers for help respectfully and at appropriate times.
- Acknowledge and explain your disability and ask for what you need.
- Speak up about what you want as your IEP goals.

- Tell your teachers what you want in school and what your goals are in that class.
- Make a conscious effort to work with the teacher.
- Be a leader with your friends and stick up for yourself.
- Try to avoid difficult situations, but if you can't, speak up.
- Involve yourself with your school, your teachers, your parents, and with your life.
- Find out what you need to do, what is important to do, and stand up for what you believe in.

Closing Comments

In this section, the importance of students learning to be responsible, strategic, and effective in their academic and non-academic high school endeavors has been emphasized. The central role of consistent, caring, and skillful adults in the lives of students has been emphasized as well. One specific structure, referred to here as Support Class, has been described. Research on change in schools has repeatedly demonstrated that creating new structures is sometimes necessary, but always insufficient to promote meaningful change. What happens within the structure is what makes the difference. The values and beliefs of the Support Class teachers are the foundation for the interactions, strategies, and skills that are operationalized in Support Class. In their own words, the Support Class teachers asserted—

> It would be easy to operate Support Class structurally. It would be a bookkeeping task—attendance, homework, letter, etc. But this would not result in change. The focus is on developing generative capacities. To help students see things in a new way and then to choose how to act. To discover, "who I am and who I want to be". Awareness, discovery, integrating that piece that may have felt shameful. We support them to develop a compass. Our Support Class is not a class for the primary purpose of passing other classes. Support Class is to develop capacity within the person. School is not real—it is only a short period in their lives. We can't lose focus of where they need to be. Passing classes doesn't matter in the same way that developing capacities for life after high school does.

Evident in these powerful words is a belief in the capacity of students and the importance of enhancing that capacity before students leave high school. The teachers believe that if internal capacity is discovered and strengthened, external indicators will appear (e.g., passing classes and graduating from high school). One final comment is offered as further evidence of the Support Class teachers' belief that students can effect positive change not only in their own lives and the lives of their peers, but that students have the capacity to change the culture of schools—

> How do we facilitate a revolution in a politically correct way?...How do those with the least amount of power in school but who are impacted the greatest—the students—change the system? The students can, even if it is one teacher at a time.

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Appendix A: Humor Unit

Humor Unit

Fifth Grade Literature Unit
Adapted from Roseville Area Schools, Roseville, Minnesota

Recommended Books

Multiple titles for small group discussion—

- *The BFG* by Ronald Dahl (difficult)
- *Nasty, Stinky Sneakers* by Eve Bunting (easy)
- *Your Move, J.P.* by Louis Lowry (5.9)
- *Martha's Mice* by Dick King-Smith (5.3)
- *The Not-Just-Anybody Family* by Betsy Byars (4.7)
- *Jennifer Murdley's Toad* by Bruce Coville

Single titles—

- *Family Dinner* by Jane Cutler
- *The Boy Who Owned the School* by Gary Paulson
- *Make Like A Tree and Leave* by Paula Danziger
- *Beast Feast* by Douglas Florian (short, easy poems with illustrations)
- *Poet for Chuckles and Grins* by Leland Jacobs (variety of short poems)
- *Kids Pick the Funniest Poems* by Bruce Lansky (poems range in length from four lines to two pages and poems are categorized by topic)
- *Fables Aesop Never Wrote* by Robert Kraus (colorful illustrations, moral is listed for each fable)
- *The Osborne Book of Funny Poems* by Heather Amery (colorful illustrations, poems vary in length)
- *A Bad Case of the Giggles* by Bruce Lansky (poems were selected by students and poems are categorized by topic)

Depending on student interest and reading abilities, add such resources as—

- comic books, joke books
- newspapers
- non-fiction books on well-known comedians cartoonists, etc.
- articles about humor
- magazines
- books-on-tape
- videotapes

Unit Outcomes

Important outcomes for all students—

- define humor
- describe attributes of humor
- produce at least one piece of prose, poetry, drama, or drawing that expresses humor
- identify at least one humorous event in one's own life and tell a story about it including the purpose served by the humor

Extensions for some students—

- describe how and why different forms of humor are used
- compare and contrast cultural uses of humor
- critique one humorous situation, evaluating the type of humor, the desired outcome, and the effect on the viewer/listener
- evaluate the effects of humor in context of such areas as physical health or psychological well-being.

Ideas for Differentiated Teaching and Learning

Pre-Assessment

All students will write down (or discuss with teacher or teaching assistant, or dictate to a classmate to write down if writing is not an accurate way to assess the knowledge of some students) responses to the following items—

- define the word "humor"
- list different types of humor
- describe at least two ways that people respond to humor

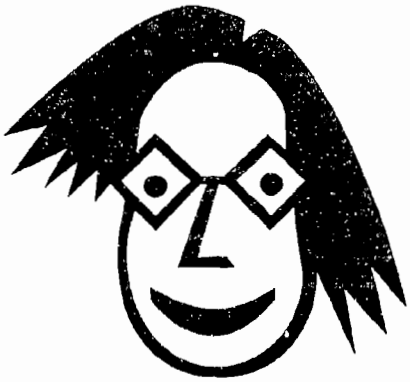
This information will be used to make decisions about how best to introduce the unit concept to the large group. Students having particular difficulty with the concept of humor, as determined by the pre-assessment, will be noted by the teacher in case additional support is needed to facilitate these students' participation in the unit activities.

Introduction of Unit Concept— Whole Group (1-2 days)

The teacher will show a comic strip on the overhead, tell a knock-knock joke, read a poem, and show a video clip from a show or a movie. She will then ask the students the following questions and web their responses on a large piece of paper—

- What do the four things you just saw/heard have in common?
- What makes them humorous?
- Do all of you find all of them funny? Some funnier than others?
- Why do some people find some things humorous and other people don't ?
- Where else might you find humor represented?

The teacher will then ask students to use the contents of the web and in small groups develop a definition of the word "humor." Students can also use their pre-assessment definitions to assist them. The teacher will rotate amongst groups to provide assistance where needed. After students have completed their group definition of humor, one person from each group will write their group's definition on the board. After all of the definitions have been written on the board, students do a pair-share and look for commonalties and differences among the definitions. The teacher will then facilitate a discussion with the purpose of coming up with one definition of humor. The definition can be written on a big piece of paper and posted by the web. All students will write the definition in their notebook.



Introduction of Unit Activities and Expectations—Whole Group (1 day)

In order to assist students in making a choice as to a preferred book, the teacher will describe the books and resources that are included in the humor unit highlighting such things as the plot, description of characters, and organization of each book or resource. Students who have read any of the books can be invited to share their thoughts and recommendations. The following unit activities and expectations will then be reviewed with students.

- All students will select one of the six books to read (there are eight copies each of six different books). The teacher will plan to conference with any students needing assistance in their selection (the teacher might also guide student choice based on information about students' reading ability, the availability of an audiotaped version of several of the books, and the potential teacher-need to group several students who would benefit from a short pre-teaching session about the book).
- All students will participate in small discussion groups with classmates who have selected the same book.
- All students will brainstorm possible areas of interest for further investigation and based upon interest will select to participate in a group investigation with others who have selected the same topical area of humor. Each group will present group project.
- All students will read/listen to/watch at least two additional resources on humor that correspond with the topical group selected by each student. (Students need to clear selection with teacher). The teacher will have additional audio and video selections, as well as joke books, comic books, non-fiction books about cartoonists or comedians, and other resources of interest to students. Students will complete a teacher-developed response sheet for each of the additional resources and turn them in with their Humor Assignment Log at the end of the unit.
- All students will complete a Humor Assignment Log. The number of items selected will be based on an individual learning contract. The Log along with completed tasks will be turned in at the end of the unit.

Unit Activities–Blend of Independent, Small Group, and Large Group (2 weeks)

Independent

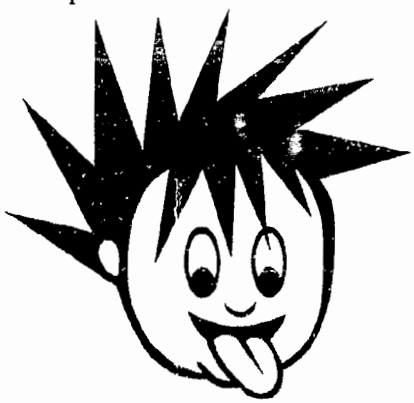
Students have class time throughout the unit to read their book and two additional resources (or in some alternative format obtain information from their selections). Initially, while students are reading silently, the teacher can conference with individual students about such topics as their selection of additional resources, individual learning, or progress in understanding concepts.

Students also have class time throughout the unit to complete their selected items for their Humor Assignments Log. (The Humor Assignment Log is included at the end of this unit.) This independent work time is the anchor activity. The teacher can use this time to pull together a small group (book discussion groups or groups investigating different topics) and work with that group while the rest of the class works independently.

Small Groups

There are two small group configurations for the unit. Both of the small groups are based on student interest.

The first set of small groups consists of six groups of no more than eight students per group, each group comprised of students reading the same book. In these groups, students will discuss teacher-directed and student-directed questions about the book as well as completing teacher-selected assignments. An example of teacher selected assignments includes such things as doing a character quote activity prior to reading the selected book, completing a story frame about the book being discussed, or completing a character analysis of a main character in the book. (These examples are included at the end of this unit.)



The second set of small groups consists of group investigation areas. Topical areas might include interest areas similar to these four—

- How is humor used in art (e.g. paintings, cartoons, caricatures, illustrations)? As an additional resource the teacher can include a booklet on learning how to cartoon as well as examples of picture riddles. The poetry books could also be used if students wanted ideas on how to illustrate poems.
- How is humor used in literature (e.g. short stories, poems, riddles, books, limericks)? The teacher can include a number of additional resources on riddles, word play, and rhyming poems as well as books of poems, fables, and stories.
- How is humor used in the media (e.g. television, advertisements in magazines, billboards, commercials)? The teacher will need to conference with this group to share ideas for additional resources.
- How is humor used in everyday life (e.g. school humor, family "stories", greeting cards, idioms, music, cultural differences relative to humor)? The teacher will need to conference with this group to encourage the students to use the many resources that are available throughout the class and the school (e.g., observations, interviews with students and staff, shared stories, pictures, experiences among group members).

Group Project

Each group is responsible for a group project which includes—

- A description of the investigative strategies used to answer the question.
- Results of the investigation (anticipated and unanticipated).
- At least five examples of the kinds of humor found in the selected area and the perceived purposes of the use of such humor.

The group projects can be done using words, pictures, photographs, actual objects, a slide show, a presentation to the class via a skit or a song, or another format as determined by the group members. A four-point rubric, done with the entire class prior to starting the projects, will be used to guide the assessment of each group's project. It is expected that each group or a representative of each group will inform the teacher as to their project plan.

Large Group

Large group instruction is used at the beginning of the unit to "ground" students in the concept. It is also used as the small groups are completing the discussion of their selected books. A large group discussion is used to highlight and review relevant applications of the main concepts of humor that are present in each book. The teacher might want to use a Venn or Three-Way diagrams to help the students see comparisons among the books. Large group instruction will also be used at the end of the unit after each group has presented their project.

Individualized Support

If helpful for specific students, additional support can be provided to certain students via the use of modified materials (e.g., partially completed story frames, timeline of events from story, glossary of words, summary of key events, audiotaped books, or close-captioned videos); assistance from the paraprofessional, special educator, or ESL teacher; short checks for understanding with the classroom teacher; or differing expectations (e.g. the student learns about one of the characters, three main ideas, and can describe the outcome of the story).

Humor Assignment Log

Make up a riddle and ask two people to try to solve it.	Act out a comic strip. Invent voices.	Conduct a survey of at least 10 classmates about their favorite type of humor. Graph your results.	Look through an issue of a newspaper or magazine. List all of the types of humor you find.
Ask an adult to share a humorous situation from his or her life.	Re-write the words of a song and make them humorous.	Pretend like you are marketing an item. Write a pun about the item to encourage people to buy it.	Journal about a humorous event from your childhood.
Draw a picture about a humorous situation that you recently saw or heard.	Make your own comic strip using pictures and words.	Write down or illustrate a humorous event from a book you are reading.	Write a satire about a current happening.
Write the definition or give an example of at least seven types of humor.	Interview at least two people about their favorite comics, funniest books, and favorite humorous TV shows or movies.	Develop your own idea. Write it here.	Write or audiotape a funny poem or story.

How many activities do you plan to do? _____

Negotiated points_____

Story Frame for "Nasty, Stinky Sneakers"

Directions—As you read the story and work with your group members, use this story frame to capture key aspects of the story.

The story takes place _____

_____.

_____ is a character who _____

_____.

A problem occurs when _____

_____.

After that _____

_____,

and _____

_____.

The problem is solved when _____

_____.

The story ends when _____

_____.

Making Predictions: "Jennifer Murdley's Toad"

Directions—With the members of your group, read the following quotes which were taken from the story. Based on the quotes make at least 10 predictions about the story.

"The day reached a new low when Jennifer's teacher, Mrs. Hopwell, assigned an essay on 'My Favorite Pet.' "

"Something about the old man's voice told Jennifer that if she knew what was good for her, she would want the toad."

" 'You got me, kid,' croaked a gravelly voice from inside the box."

" 'I supposed he let me in so that I could turn into a toad', said Jennifer bitterly. 'I just wish I could figured out what I did to deserve this.' "

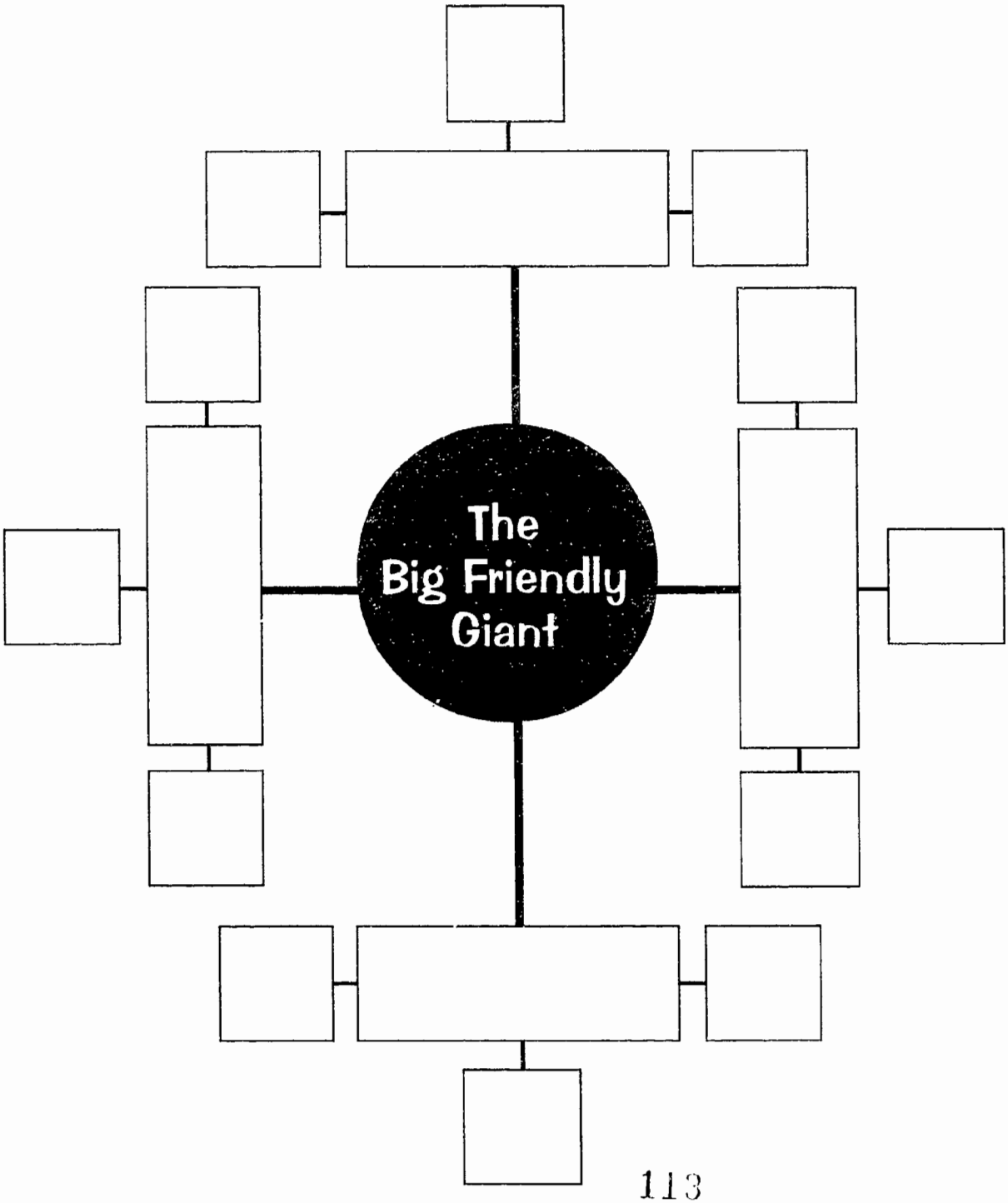
" 'Brandon!' she snapped. 'Come here. I have to turn you back now.' Jennifer felt a fear unlike anything she had ever experienced before."

" 'He's only a toad,' wheedled the witch, 'and a rude one at that.' "

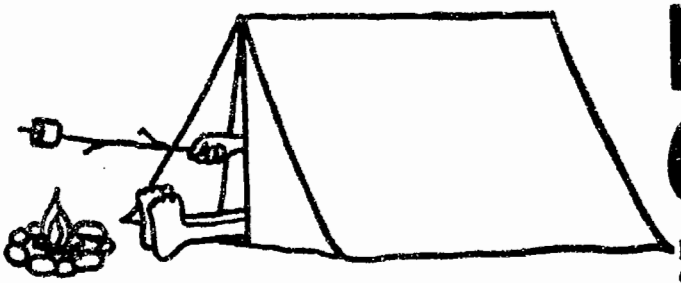
" 'Barbie and Ken!' bellowed Bufo. 'Perfect plastic people! Is that what you want, Jennifer?' "

Character Analysis: "The BFG"

Directions—As you read and discuss your story, construct a web using this example or one of your group designs to describe the qualities or traits of the giant.



B Appendix B: Let's Go Camping Math Unit



Let's Go Camping

Developed by Kathy Arnold, Shawn Gombos, and Sharon Truex

Your family and two other families are going camping. You can hardly wait. You love to camp! Your favorite part is making S'mores and setting up the tent.

You and your family decide to go camping where there are a lot of trees and islands. This should be fun. Let's get a move on!

Concepts Taught

- X, ÷, +, - of whole #'s
- Money concepts
- Interpreting data from charts, tables, graphs or map
- Problem solving
- Estimating
- Measurement
- Fractions
- Geometry
- Calendar skills

Materials Needed

Unifix cubes
Calendar
Calculators

There are 18 people who will be going on the camping trip.

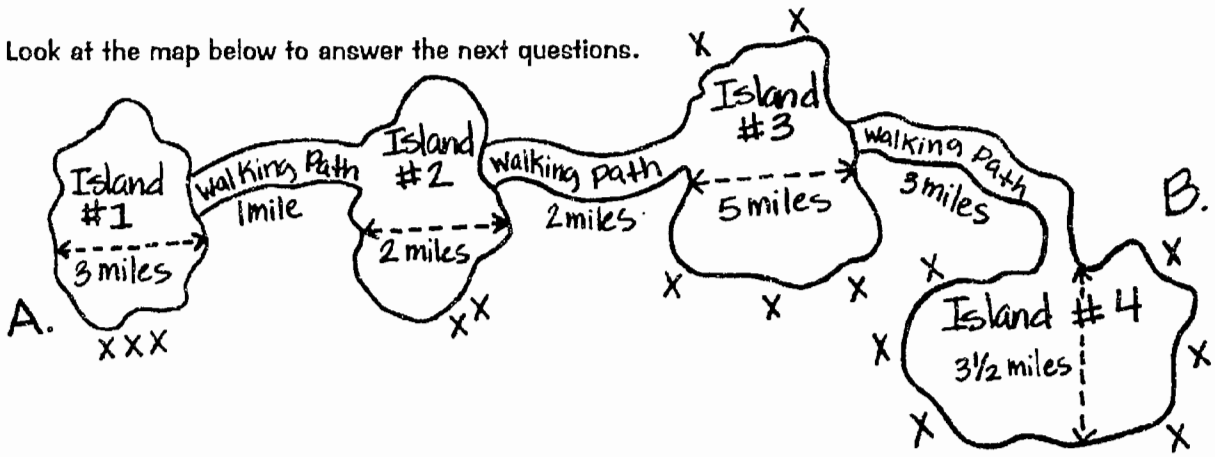
1. If three people fit into a canoe, how many canoes will you need to rent for the trip? Draw a picture to show your answer.

2. If 2 people in each canoe use 2 paddles each, how many paddles will be needed for the trip? Draw a picture to show how many paddles will be needed.

3. Each canoe costs $6.00 a day to rent. You will need the canoes for 5 days. Write a number sentence to show how much money you will need to rent the canoes.

4. In order to rent canoes, you must also pay some money in case you sink a canoe. Each canoe will be charged $10.00. Draw a picture and write a number sentence to show how much money you will have to pay in case you sink a canoe.

Look at the map below to answer the next questions.



5. Without counting, estimate (guess) how many miles it is from one end of the campground to the other.

6. Which island or islands are the farthest across?

7. With unifix cubes, show how many miles total there are in this campground. Write a number sentence to show the total amount of miles.

8. Write a number sentence that shows how many miles there are in walking paths.

9. How far is it from side A to side B? Count the island distance and the walking path distance. Write a number sentence that shows how you figured out the total amount of distance.

10. If you walk 6 miles, how many miles do you have left to get to the other end of the park?

The x's on the map are showing how many campsites are available to use.

11. Draw a picture and write a number sentence that shows how many campsites there are in the park.

12. One half (1/2) of the campsites are already taken. Draw a picture and write the number to show how many are full.

13. Each campsite can hold 4 people. Use your calculator to figure out how many people can be in the campground if it is full. Write down the number sentence that shows your answer.

14. Each campsite costs $3.00 per day. One family will stay for 4 days. How much do they have to pay? Write the addition sentence and multiplication sentence to show how much this family will have to pay.

15. Another family chooses to stay 7 days. Write the addition sentence and multiplication sentence to show how much this family will have to pay.

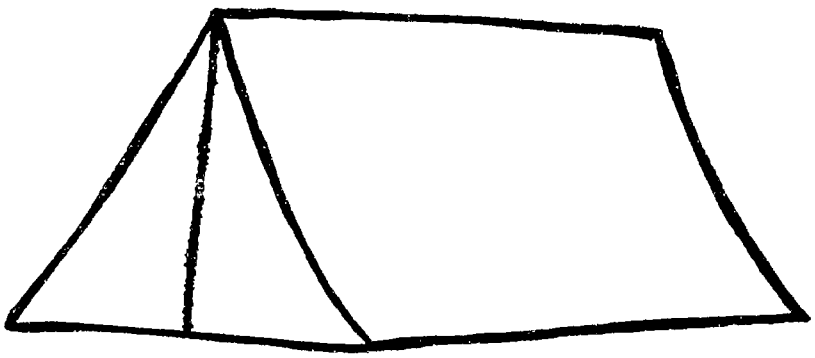
16. One family wants to stay for 5 days. They paid for 5 days. How much did they pay?

17. They had to leave one day early because their dog got sick. They got some money back because they did not stay for 5 days. Write a number sentence to show how much money they got back.

You finally find a great camping spot. You are ready to set up your tent.

18. On the tent below, draw a line of symmetry on the entrance of your tent.

19. How many faces can you count on the tent (triangular prism)?



You and your brother are in charge of setting up the tents. One tent will be for your mom, and the other tent will be for you and your brother. Each tent takes 6 stakes to set it up.

20. On your mom's tent there are 2 stakes that are broken. Show with unifix cubes how many stakes are not broken and write a number sentence too.

21. On your and your brother's tent there are 3 stakes that are broken. Write a fraction that shows how many stakes are broken.

22. Each stake costs $1.50 to buy. How many stakes do you need to buy?

22a. How much money will you need to spend buying new stakes? Write an addition sentence that shows how much money you will need.

You finally get the tents set up, and you are ready to cook some supper. You have got a great meal planned. The meal will include hot dogs, chips, pickles, potato salad, baked beans, and pop. Yum!

23. You and your family are ready to eat. You have 3 people in your family, and each of you wants 2 hot dogs. Show with unifix cubes how many hot dogs your family will eat. Write an addition sentence and a multiplication sentence, that shows how many hot dogs will be eaten by your family.

24. You bought a package of hot dog buns that had 10 buns in it. Knowing how many hot dogs your family wants to eat (see 23), how many hot dog buns will you need?

24a. How many hot dog buns will be left? Write a number sentence to show this.

You open your cooler up and find that you have 24 cans of pop. 6 of them are Diet Coke, 4 of them are Root Beer, 3 of them are Sprite, 7 of them are Coke, 2 of them are Dr. Pepper, and 2 are 7-Up.

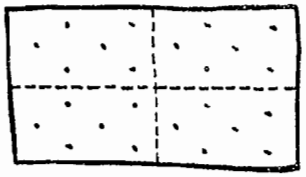
25a. You want a Sprite, your brother wants a Diet Coke, and your mom wants a 7-Up. How many cans of pop did your family drink?

25b. How many Sprites are left?

25c. How many Diet Cokes are left?

25d. How many 7-Ups are left?

You have a great meal, and you are now ready for dessert. Of course, you want to have S'mores. Yummy. The three of you will make your own S'more. Each person will get 2 graham crackers, 2 marshmallows, and 1 chocolate bar. A graham cracker can be divided into 4 small sections or two larger sections. Look at the picture below.



26. Draw this graham cracker in your notebook. Make a line that would show 1/2 of the graham cracker

Each S'more takes two graham crackers 1/2's.

27. How many graham crackers will it take to make one S'more?

28. How many S'mores can you make with the 2 graham crackers you were given?

The chocolate bar can be divided in half. One half will fit into one S'more.

29. How many S'mores can you make with the one chocolate bar?

30. If you make a S'more with one marshmallow in it, how many S'mores can you make with 2 marshmallows?

You are so full from a great supper. It is time to go to sleep. You look up in the sky and see a full moon. You remembered that the last full moon was 30 days ago. It is the 16th of July now.

31. What date in June was the last full moon? (Remember that June has 30 days.)

The camping trip was great. Next year maybe you will invite your teachers along. They would sure love to go!

Appendix C: Resources

Assessment

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