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Planning Pyramid: A framework for planning for diverse student needs during content area instruction

When it's time to teach social studies or science, you may be working with a varied group of students. The Planning Pyramid helps teachers prioritize content and choose appropriate instructional methods to meet all students' needs. A science example here shows how it works.

In elementary classrooms the range of student diversity is often broadest during content area lessons. Those of Natalie's fifth-grade students who are assigned to special pull-out programs are back in her class for social studies and science. In her words,

Social studies and science are always my biggest challenge. I need to orchestrate the learning of gifted, limited English proficient, Chapter 1, and special education youngsters, as well as students who do not receive special services.

Natalie's problem, as well as that of many other teachers, is that one-size-fits-all textbooks do not meet the needs of the spectrum of learners in her classroom.

The textbook is the primary resource teachers have for science and social studies instruction. As critics have observed, texts are often conceptually dense, inconsiderate to the reader, and uninteresting; they provide the teacher with few suggestions for accommodating individual differences. Although a variety of adaptations for the textbook (e.g., study guides or taping textbook content) and for instruction (e.g., cooperative learning groups or peer tutoring) have been offered in the professional literature (for a review, see



In elementary classrooms the range of student diversity is often broadened during content area lessons. Photo by Laima Druskis

Schumm & Strickler, 1991), our research on teacher planning indicates that while such adaptations are viewed by teachers as beneficial in promoting student learning, they are often time consuming to prepare and do not fit classroom conditions (Schumm & Vaughn, 1991; Schumm, Vaughn, & Saumell, 1992a).

Consequently, there is a gulf between what content area reading specialists recommend and what actually occurs in the classroom. Wood and Muth (1991) have identified this dilemma as a contrast between “preferred and prevailing” practice. Further evidence from students of varying achievement levels (Schumm, Vaughn, & Saumell, 1992b) suggests that they do not feel they are receiving the textbook adaptations they need to be successful learners.

How, then, do teachers promote learning of content area material? During the past 3 years we have been working collaboratively with teachers and students to find answers to this question. Through classroom observations, interviews, and surveys, we have found that many teachers use undifferentiated, whole class instruction, applying the traditional “read the chapter, answer the ques-

tions” routine for all students. Others employ a variety of instructional adaptations to promote content learning, some effective, some not. It appears that instructional adaptations are a necessary but insufficient means for planning for diverse student needs.

We have also discovered that even at the elementary school level, most teachers expect all students to cover the same content at the same pace. Teachers, pressured by state or district mandates to complete designated curricular objectives for the school year, tend to use a lock step approach to content area instruction even though they realize that some students “don’t get it at all” and other students are “not getting enough.” One unresolved dilemma in planning for inclusionary instruction is the appropriateness of academic content for students with special academic needs (Pugach & Warger, 1993).

This article presents the Planning Pyramid, a framework for planning in content area classrooms. The framework is designed to help teachers plan for inclusionary instruction and to meet the challenge of content coverage in general education classrooms for students with a broad range of academic needs.

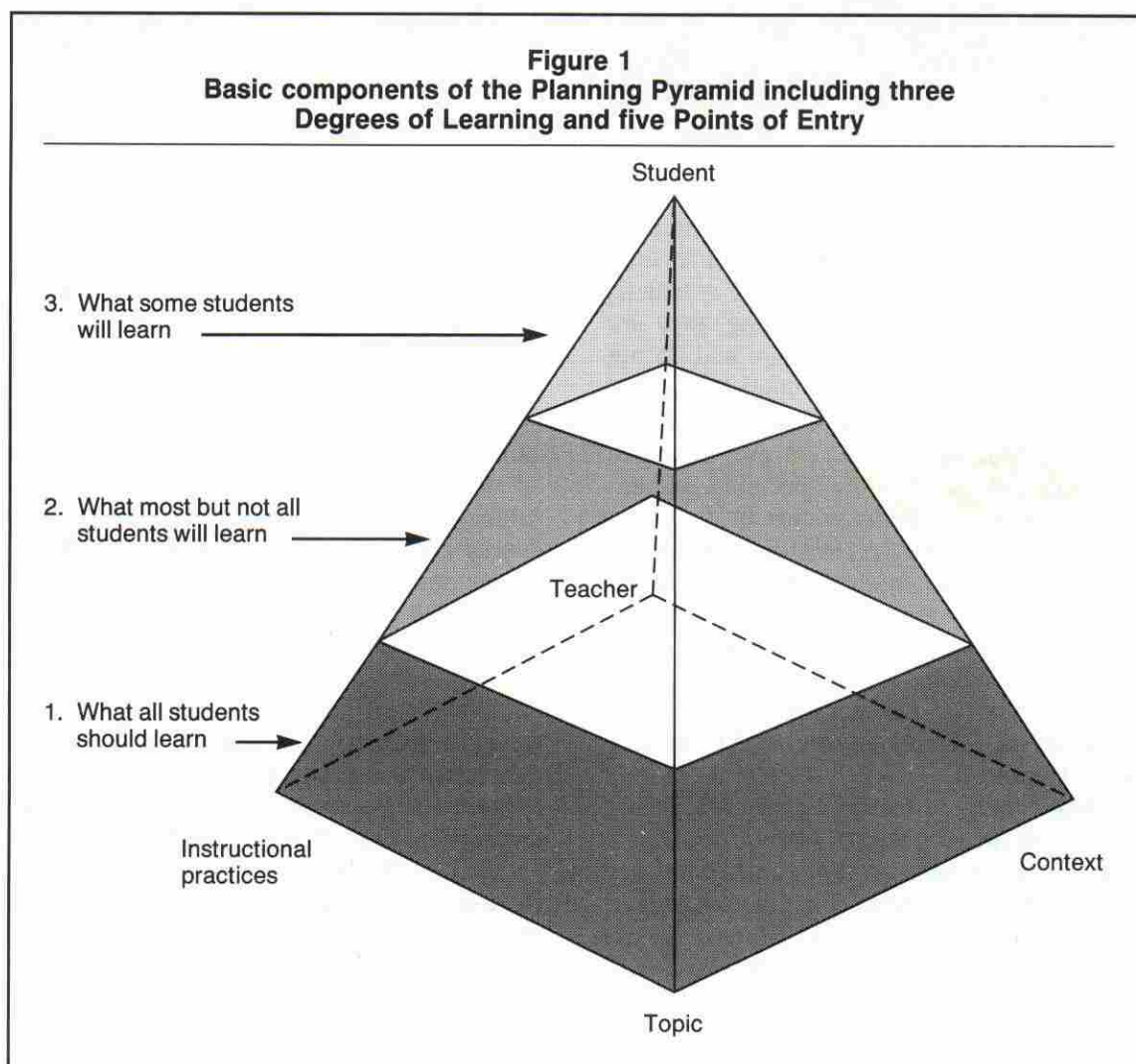
After providing a description of the framework, we will continue with an example of how one teacher, Natalie, used the Pyramid in planning a science lesson for her fifth-grade students.

Description

We like to think of the Planning Pyramid not as a method but as a mental template for planning. Research indicates that much of teacher planning is not necessarily reflected in written lesson plans (McCutcheon, 1980; Morine-Dershimer, 1977). Written lesson plans are often sketchy and focus primarily on content outlines, activity flow, methods, materials, assignments, and evaluation (Brown, 1988). However, the teacher's vision of what to teach and how to teach it can be

quite elaborate. The vision may also include reflection about how individual student differences may impact learning of the material and how to best accommodate individual needs (Schumm et al., in press).

The classroom teachers who collaborated with us in field testing the Planning Pyramid considered it a way of thinking about planning instruction for all learners. They have convinced us that the Pyramid must not be interpreted as a rigid formula for instructional planning. Rather, we see it as a flexible tool strongly influenced by individual teacher thinking. Teacher beliefs, theories of learning, teaching experiences, interest and prior knowledge of the topic, and willingness to adhere to state and district curricular guidelines can and should influence how teachers



use the Planning Pyramid. Use and interpretation of it will not be the same for all teachers.

The Planning Pyramid consists of two major components: degrees of learning and points of entry (see Figure 1). Since the Planning Pyramid provides a mental template for teachers to plan learning for all students, it is highly interactive and dynamic. For the purposes of describing the Planning Pyramid, we have isolated the components; however, teachers do not actually separate the components when planning.

The degrees of learning

The degrees of learning, the body of the pyramid, helps teachers consider the relative importance of the concepts to be taught (Buehl, 1991). The degrees of learning is based on the premise that all students can learn. It is realistic, however, to assume that not all students should be expected to learn everything. Content area textbooks are notoriously dense in presentation of concepts and technical vocabulary. Textbooks assault students with a bewildering array of new ideas and concepts, often not providing extensive coverage of any of them. Thus, students have a difficult time deciding what is important. By considering the degrees of learning, teachers prioritize concepts contained within a lesson or unit.

The degrees of learning is divided into three parts. The base of the Planning Pyramid represents the most important concepts in the lesson that teachers want youngsters to understand. Information at this part may be broader conceptually and more general than in succeeding parts. Information in this base part is not limited to the literal level. Selected higher order concepts are likely to be essential for every student in the class to understand. The base of the Pyramid is most aptly described as the information that is most important for *all* students to learn.

The goal is for teachers to think about the most important ideas or concepts and to develop instructional procedures that provide opportunities for all students to extend their knowledge of these ideas and concepts. To ensure learning, these concepts should be made explicit to students. Ample opportunities can then be provided for engaging students in the acquisition of the new ideas and

concepts, and teachers should plan ways to monitor students' understanding of these concepts on an ongoing, informal basis. Thus, the guiding question for the Pyramid's base is "What do I want *all* students to learn?"

The medial part of the Pyramid represents the information considered to be next in importance for the understanding of the content/concepts of the lesson. It can include additional facts, extensions of base concepts, related concepts, or more complex concepts. The majority of students should be able to grasp and retain the information included in this segment. The guiding question for the medial part is "What do I want *most* students to learn?"

The last part of the Pyramid represents the information considered by the teacher to be incidental to the content or concepts to be presented in the lesson. This information is

The Planning Pyramid is a way of thinking about planning instruction for all learners.

probably more complex or detailed and will be acquired by the fewest number of students in the classroom. Students might acquire this information in a number of ways. It may only be mentioned in passing or learned through student-directed learning experiences which may or may not occur during class. The last part of the Pyramid is guided by the question "What information may *some* students learn?"

Several important points need to be made in respect to equity issues. First, whether a student masters concepts at the base, medial, or top levels is not determined by ability. Specifically, students with learning difficulties are not locked into the base part of concept learning. A student's interest and prior

knowledge will vary by topic; thus the amount learned will vary by topic. All students should have access to information from the three parts. Students who demonstrate knowledge of or interest in the concepts from the base of the Pyramid should also know where to go for additional information if they want to access more. Finally, although a great deal of repetition may be necessary for some students to master base concepts, it should be noted that we do not associate drudgery and worksheets with base concepts and fun or special projects with top concepts.

The points of entry

Each axis of the Pyramid represents a point of entry for content area planning. They are called points of entry because no instructional episode should be entered upon without considering these factors. The five points of entry include teacher, topic, context, student, and instructional practices. Following a brief description of each point of entry, we will offer some questions that can guide teacher reflection. It is unlikely that the answers to the questions will be part of written lesson plans. These questions are merely examples, and individual teachers can modify our questions as needed.

Teacher. Teacher perceptions of teaching and learning strongly influence instructional decision making (Clark & Peterson, 1981). When planning for instruction, teachers certainly consider state and local curricular requirements. They also consider their own knowledge, beliefs, skills and interests when deciding what will be taught and how it will be taught. They think about prior experiences in teaching the topic as well as their personal interest and prior knowledge in the area. When teachers consider the planning of a lesson or a unit, these questions can guide their reflection:

- Have I taught this material before?
- What prior knowledge do I have of this topic?
- How interesting is the topic to me?
- How much time do I have to plan for the lesson or unit?
- What resources do I have available for this lesson or unit?

Topic. During planning, topic is the point of entry most frequently considered by teach-

ers. When teachers consider topic, they reflect on the subject matter to be learned, prior knowledge of students, and student interest. The following questions can guide teacher thinking about topic:

- Is the material new or review?
- What prior knowledge do students have of this topic?
- How interesting is the topic to individual students?
- How many new concepts are introduced?
- How complex are the new concepts?
- How clearly are concepts presented in the textbook?
- When considering the overall curriculum, how important is this topic?

Context. Context (or the learning environment) is another point of entry for teachers to consider. We think of context as the classroom climate. It includes social aspects of the classroom, how the classroom is organized for instruction, and school factors that affect the classroom environment. Most classrooms have a classroom climate that is fairly stable and characterizes that class. However, the "weather" within that climate can change from day to day and even between or within lessons depending on student interest and motivation, as well as external distractions. Thus, context is a point of entry that is likely to be somewhat predictable, but often fluctuating, depending on what happens on a given day. Questions that can guide reflection about context include:

- Are there any holidays or special events that are likely to distract students or alter instructional time?
- How will the class size affect my teaching of this concept?
- How well do my students work in small groups or pairs? Which students need to work together?
- What access to materials do I have for teaching this topic?

Student. The student is at the apex of the Pyramid. It is unlikely that teachers will have the time to consider each student individually in constructing lesson plans. Nonetheless, teachers can draw on a bank of knowledge about individual students when planning for the class as a whole. The academic, cultural,

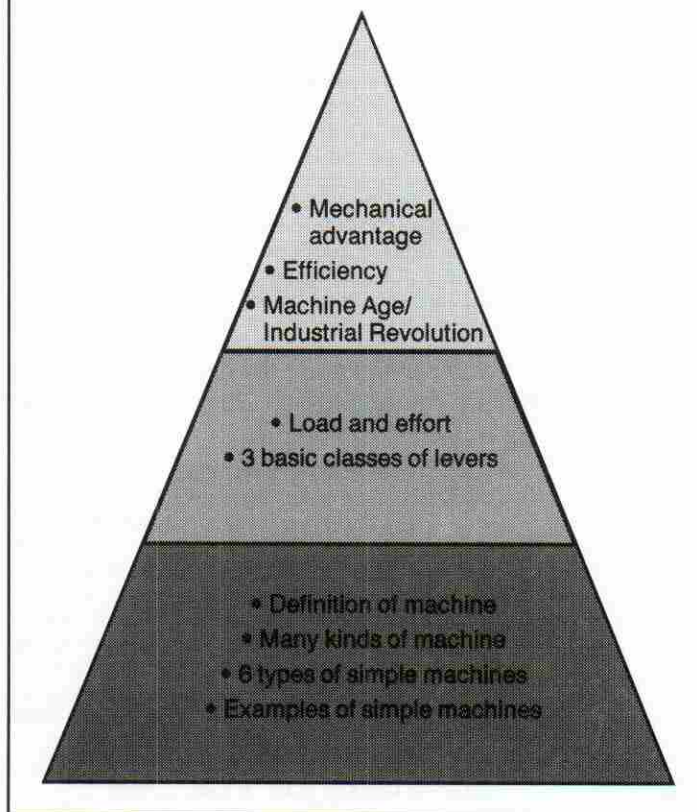
and linguistic background of students should be considered. The following questions can be used to reflect about students in the planning process:

- Will a language difference make comprehension of a particular concept difficult for a student?
- Will students with reading difficulties be able to function independently in learning the concepts from text?
- Will a student with behavior or attention problems be able to concentrate on the lesson?
- Are there likely to be students with high interest or prior knowledge of these concepts who would be anxious to explore the topic in greater breadth or depth or share their knowledge with classmates?
- Do my students have the vocabulary they need to understand the concepts to be taught?

Instructional practices. Most teachers' written lesson plans are actually action plans—a listing of activities that will form the instructional agenda. In considering how to promote learning for all students within each part of the degrees of learning, implemented instructional practices play a critical role. In some cases the instructional practices will remain the same from one part of the degrees of learning to another. In other cases the instructional practices will change.

- What methods will I use to motivate students and to set a purpose for learning?
- What grouping pattern is most appropriate?
- What instructional strategies can I implement to promote learning for all students?
- What textbook adaptations can I implement to assist individuals or subgroups of students?
- What literacy processes must I teach to promote learning of content?
- What learning strategies do my students know or need to learn that will help them master these concepts?
- How will I monitor student learning on an ongoing, informal basis?
- How will I assess student learning at the end of the lesson or unit?

Figure 2
Natalie's unit plan using the Planning Pyramid to identify Degrees of Learning for simple machines



Natalie's planning

Natalie was involved in our research project that included 14 weekly meetings with elementary teachers designed to help them understand and develop practices that would improve their knowledge, skills, and confidence in planning for diverse learners in content area classrooms. Participants were asked to use the Planning Pyramid to plan several lessons for their science or social studies classes. Natalie used the framework to guide her planning for a unit on simple machines for her fifth graders. Note how the components of the Pyramid interact during Natalie's decision making.

I began by considering the topic, simple machines. I knew that the unit on machines was difficult, with many new and complex concepts for my students. The previous unit introduced the concepts of force, work, and energy so my students had some vocabulary that would help them with the unit.

Although the textbook explanation of topics was clear and would be helpful for most students, this topic cried out for concrete examples, so I did not want to rely solely on the textbook.

After reflecting about the topic, Natalie concentrated on identifying the degrees of learning (see Figure 2):

I wanted all of the children to learn a definition of "machine," develop a basic understanding of the six types of simple machines, and be able to give examples of various uses of different simple machines in real life. It is less important that they're able to describe the three basic classes of levers and the relationship of load and effort. I wanted to cover this information in some way with all students. Mechanical advantage, efficiency, and historical information about machines—such as the Industrial Revolution—are of least importance so I put them at the top of the pyramid.

After pinpointing the degrees of learning, Natalie considered her learning environment, the context:

I tried out learning centers in the last science unit. With few exceptions, my students were involved and on task during center time. Therefore, much of the information in the two upper parts of the degrees of learning could be presented in centers involving experiments and learning games. I knew a number of parents had access to vehicles such as tow trucks. I thought if the parents could arrange for the drivers to bring the vehicles to school, students could interview the drivers. They could ask the drivers to show them examples of simple machines on their vehicles. That would give the children lots of novel repetition of concepts presented in the base of the degrees of learning.

Thus, in considering the context for this unit Natalie also thought of ways to involve parents in organizing a Vehicles Day to bring a dimension of reality to this unit. Natalie then began reflecting about individual students and how they would fit into this emerging picture.

The vocabulary was going to be new for my four kids who were in the LEP [limited English proficient] program. I decided to include hands-on materials and pictures—more than the sketchy diagrams included in the textbook—and a bulletin board to help them out. Also, I thought I needed to ask them if they knew the words in their first language. It would be fun for them to tell the class how to say it another way. Some of the terminology and density of new ideas in the textbook would probably make the reading somewhat difficult for the students with decoding and comprehension problems—I imagined that Curtis, Beverly, and Randy might get frustrated. In the past I tried having students work in mixed ability groups of three to complete chapter study guides. I wanted to use the textbook at the beginning of this lesson, so I decided to try study guides and small groups again. Several of the children were interested in anything mechanical—I could certainly tell by the books

and magazines they checked out from the library. I planned to ask them to share some of their experiences.

After thinking about the context and her students, Natalie reflected about the degrees of learning again and decided that concepts identified for each part were realistic and could be covered in the allotted time—2 weeks. She had already started thinking about some of the instructional practices she would employ. She knew that it would be particularly important to provide frequent reinforcement of base concepts in a variety of ways. She also planned to monitor student understanding of those concepts by asking students individual questions while they were working in their study groups, through whole class discussions, and by having students complete reaction sheets after individual lessons.

Next steps in planning for Natalie included refinement of her instructional agenda, organizing materials, and preparing a unit test which would focus primarily on base concepts.

A final word

We have field tested the Planning Pyramid with general education teachers at the elementary, middle school, and high school levels. While we still consider the framework to be under construction, teachers involved in our initial professional development efforts in planning for students with special needs have provided encouraging reports.

One elementary teacher reported, "I found the simplicity of the Pyramid to be one of its greatest strengths. It is the type of graphic organizer that becomes a third eye as I begin the planning process."

A middle school teacher commented, "I now make my plans to include students with learning disabilities without sacrificing the other students' progress and in some cases enhancing it. I write my tests and prepare make-up assignments on the base information. I spell out and show them alternate ways to learn the absolute necessities to get through the class. It reminds me of what is important and to place my efforts and evaluation in that priority."

Perhaps our greatest fear was the potential misuse of the Planning Pyramid: using it

to structure in-class tracking. We were concerned that teachers would compartmentalize children and limit their access to content knowledge. Thus far our fears have been unfounded. As our previous research has suggested, teachers in general education classrooms tend to provide the same content at the same pace to all students. Our classroom observations of teachers implementing lessons based on Pyramid planning indicate that that scenario does not change.

What does change, however, is teacher explicitness and clarity about what students must learn. The end product is that all students are less likely to become overwhelmed with an avalanche of information and are liberated from the sometimes impossible task of determining what the teacher thinks is important.

Natalie's critique of the Pyramid was as follows:

One must not assume that the Planning Pyramid in and by itself will cure all the ills of today's complex educational system. For the motivated, challenged educator who continuously assesses the instructional climate, the instructor who questions, probes and seeks to improve his or her own skills, the instructional Pyramid will provide alternatives and possibilities for meeting the needs of special education, ESL [English as a Second Language], and indeed all students!

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