

# Extending Talents Unlimited to Secondary Schools

School districts in Alabama, Arkansas, and New Mexico are finding Talents Unlimited an effective model for teaching thinking in secondary classrooms.

**T**alents Unlimited—a research-based model for teaching thinking that has proven effective at the elementary level for 14 years—is now being used with success in secondary schools. The backbone of the model is instruction in 19 thinking skills in the five “talent” areas of productive thinking, decision making, planning, forecasting, and communication, in addition to the basic academic skills (see fig. 1). A detailed staff development model guides implementation of the instructional program. The program emphasizes specific strategies that help classroom teachers integrate practice in thinking skills with the academic content of the disciplines they teach (Schlichter 1986). Underlying this approach to thinking skills instruction are the following assumptions:

1. People have talents (strengths or preferences) for different thinking processes.

2. Training in the use of these thinking processes can enhance one’s potential in various areas of talent and at the same time foster positive feelings about oneself.

3. Training in particular thinking processes can be integrated with knowledge or content in any subject area and can enhance academic achievement.

**“A detailed staff development model guides implementation of the instructional program.”**

4. The various thinking processes are also linked to success in the world of work (Taylor 1967).

Here we describe successful implementation of Talents Unlimited at the secondary level in three locations throughout the country. (See “Talents Unlimited: One School’s Success Story,” Edmund Barbieri, p. 35, for a description of Talents Unlimited in elementary school.)

### **In Las Cruces, New Mexico**

One of the first districts to recognize the importance of Talents Unlimited as a model for thinking skills instruction in secondary classrooms was the Las Cruces, New Mexico, school system. The district had used the model successfully in several elementary schools for three years. As students from these schools moved to junior high, their teachers began to notice that the Talents-trained students more frequently raised questions in class discussions, more often suggested other ways of looking at issues, and more consistently exhibited self-initiated learning than did other students. Impressed by these students, secondary teachers re-

quested and received training in Talents Unlimited. The following thinking skills lessons illustrate teachers' use of the Talents model in extending students' academic knowledge.

An English teacher used a hypothetical planning activity to help 9th graders studying *Romeo and Juliet* to be more aware of the subtlety and complexity of relationships between the feuding families. After reading the play and discussing central issues, the students were asked to design a plan to convince Juliet's parents that Romeo was a suitable mate. The teacher conducted the planning activity orally so that discussion could flow continually during the process. Half the class did the actual planning aloud and recorded the process on the chalkboard for all to see. The other half of the class, who had heard the interaction as the plan developed, evaluated the plan. Their comments served as take-off points for discussion and sometimes as the basis for modifying the plan when the planners determined that the changes were an improvement. The teacher found this planning exercise to be a highly stimulating way to engage students in using their own ideas to elaborate the finer points of a piece of literature.

Instruction based on the Talents model was evident in other subject areas, too.

- Students used productive thinking to apply academic concepts when their calculus teacher asked them to generate a variety of problems in which someone might want to find maximum or minimum quantities.

- In a remedial language lab, a canned exercise on using prepositional phrases was replaced by students' own inventive phrases to complete such sentences as, "A busy squirrel could scamper \_\_\_\_\_." Sample responses generated through productive thinking included: *around an oak tree, under a pile of grass clippings, between the legs of a passing jogger, and into a discarded Nike.*

- In a 7th grade life science class, students used communication skills to produce separate lists of single words to describe various biomes. They then

used the lists to compare and contrast the biomes under study.

- In social studies classes, students practiced their forecasting skills, for example, by predicting causes for the growth of the labor movement and for the legislation of child labor laws. They also considered the consequences if czars had not been abolished in Russia and if advertisers were not restricted by truth-in-advertising laws. Forecasting questions help students avoid simplistic, pigeonholed thinking and examine the connections among historic events that result from students' inferential thinking.

These and other innovative lessons that integrate thinking skills instruction directly with academic content are available in *Talents Unlimited for Secondary Classrooms* (Votaw and Wyszowski 1984).

#### **In Benton, Arkansas**

In Benton, Arkansas, a project funded through the Winthrop Rockefeller Foundation during 1985-88 provides for the training of all secondary teachers in the Talents Unlimited model. Teachers are learning to develop activities to integrate all 19 thinking skills with academic units of instruction in all subject areas.

Initially, teachers found that some thinking skills are more easily integrated into certain subject areas than others. For example, 12th grade English teachers readily developed the following decision-making activity for a literature class that had just completed study of *Oedipus* and was beginning *Canterbury Tales*:

Think about the characteristics of the tragic hero we discussed in our study of *Oedipus*, and apply those concepts to the *Canterbury Pilgrims*. Decide which member of the pilgrimage would make the best tragic hero if the circumstances were right. (Possible clues: Does the description of the characters in the Prologue suggest a tragic situation? Is this character admirable to the other characters? Is there something about this character that suggests the possibility of a fall?) Defend your decision with many, varied reasons.

An 8th grade science teacher also easily identified a target question for forecasting to help astronomy students distinguish the earth's rotation from its

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Talent Areas	Definition	Sample Activity
Productive Thinking	To generate many varied and unusual ideas or solutions and to add detail to the ideas to improve or make them more interesting.	In a composition class, students generate a variety of clever ways the element of surprise could be used to create interest in a given story situation.
Decision Making	To outline, weigh, make final judgments, and defend a decision on the many alternatives to a problem.	On the basis of research on various American presidents, students present cases for “the ideal president” using such criteria as education, experience, magnitude of events during presidency, impact of media, handling of crises, etc.
Planning	To design a means for implementing an idea by describing what is to be done, identifying the resources needed, outlining a sequence of steps to take, and pinpointing possible problems in the plan.	Students who are studying the unusual characteristics of slime mold are asked to design experiments to answer questions they have generated about the behavior of the mold.
Forecasting	To make a variety of predictions about the possible causes and/or effects of various phenomena.	Students in a business math class are asked to predict the possible consequences if a company did not prepare departmental margin statements.
Communication	To use and interpret both verbal and nonverbal forms of communication to express ideas, feelings, and needs to others.	Students in a biology lab are given practice in writing reports of experiments by expressing in varied and interesting ways all the statements that could be made on the basis of a completed chart of data on traits observed in sets of cell specimens.
Academic	To develop a base of knowledge and/or skill about a topic or an issue through acquisition of information and concepts.	Students read from a variety of resources to gain information about the Impressionist period and then share the information in a discussion of a painting by Monet.

**Fig. 1. The Talents Unlimited Model**

revolution and to consider the importance of each phenomenon to life on earth:

What are all the possible effects upon life on earth if our planet suddenly stopped spinning on its axis but continued to revolve around the sun?

The mathematics curriculum often proves to be the most challenging content for employing all the thinking skills, but even this more structured discipline did not elude the teachers of Benton. Consider the following decision-making lesson on factoring in an algebra class. Students are given a polynomial to factor and asked to decide which factoring method would be best. Students weigh the various methods they have learned in previous classwork and any variations they may develop through discussion of criteria questions they generate: How many terms does the polynomial have? What is the degree of the polynomial? Does the polynomial contain terms that are perfect squares? Is the constant positive or negative? Decisions are defended, and the application of solutions to the problem begins. This use of evaluative thinking is only one of the strategies teachers believe can help students be more reflective in their mathematics problem solving.

Another important component of the Benton project is a strategy for follow-through on implementation that takes into account the turnover in school faculties. Several teachers, representing each major discipline, volunteered to become local Talents Unlimited trainers. They received additional inservice training in order to work with new faculty members, and they will assist in the continuing development of instructional materials to integrate thinking skills into the curriculum.

#### **In Vestavia Hills, Alabama**

A K-12 adoption of the Talents Unlimited model was the response of the Vestavia Hills, Alabama, schools to a state plan for excellence which calls for the teaching of creative and critical thinking skills to all students, not just to academically gifted students. Grades

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6–12 were part of a special two-year study, since prior research on the model was limited primarily to the elementary grades. Training was provided to regular classroom teachers, special education teachers, librarians, counselors, and administrative staff. The aspects of the training that teachers found most helpful were: the concrete examples of ways to implement Talents training in various subject areas; the emphasis on the need for creative ideas which need not be evaluated as right or wrong; phrasing questions specifically to elicit different kinds of thinking from students; guidance in developing specific thinking skills lessons; and extending concepts beyond the textbook. Teachers consistently expressed a desire for more scheduled time to work with other teachers in developing and writing thinking skills activities. This need was addressed, to some extent, by coaching sessions, which are a part of the comprehensive Talents Unlimited staff development model.

Middle school teams (all teachers at a grade level) used some of their planning periods to work out strategies for ensuring that students received regular guided practice in all thinking skills. At the high school

level, a Talents trainer provided direction, sometimes during departmental planning sessions at which teachers brainstormed questions and activities that would target specific thinking skills in a particular academic discipline. The planning task shown in Figure 2 illustrates the creativity of teachers in using thinking skills instruction.

Teachers kept monthly logs documenting planned, guided practice for students in the thinking skills. At regular intervals, they compiled their lesson ideas and shared them with colleagues. Results from careful analysis of the logs indicated that middle school and high school teachers averaged approximately one planned thinking skills lesson per week in a specific course. Thus, in the middle school, where students are clustered by grade level for their academic classes, each student had three to four opportunities a week to engage in thinking skills activities. In the high school, where individual student

Your group task is to design a reelection campaign for Theodore Roosevelt in 1912, which will be the basis for a class presentation. Your campaign plan must include the use of a slogan/song, posters/campaign literature, and a nominating speech to be given to the Progressive Party convention. This worksheet is to assist your group in identifying all the tasks and resources, including a timeline for development, needed for the presentation of your campaign in class on \_\_\_\_\_ (date)

1. State the major theme/platform/strategy for the reelection campaign.  
\_\_\_\_\_
2. Identify all the resources you will need in the development and presentation of your campaign.  
\_\_\_\_\_  
\_\_\_\_\_
3. List a sequence of steps for the development and presentation of your campaign, including a timeline and the identification of specific group member responsibility for each step.  
\_\_\_\_\_  
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4. Identify problems you may encounter with the development and presentation of your campaign plan.  
\_\_\_\_\_  
\_\_\_\_\_

**Fig. 2. Planning a Campaign (Worksheet)**

**“The [Talents Unlimited] program emphasizes specific strategies that help classroom teachers integrate practice in thinking skills with the academic content of the disciplines they teach.”**

## An Overview of Talents Unlimited

Edmund L. Barbieri

In 1927, C. Spearman proposed that intelligence is essentially defined by a general or "g" factor that permeates performance on all tasks of intelligence. L. L. Thurstone, who broke away from Spearman's "g" theory, hypothesized that the intellect is made up of a number of diverse "primary mental abilities." Using factor analysis, he proposed that intelligence comprises roughly seven abilities: verbal comprehension, verbal fluency, number, spatial visualization, memory, reasoning, and perceptual speed. Continuing in Thurstone's tradition, J. P. Guilford developed his three-dimensional "structure of the intellect." Guilford at first posited 120 mental factors and more recently increased these factors to 150.

Calvin Taylor, working with Thurstone, completed his dissertation, *Fluency in Writing*, in 1947. His was the first factor analytic study to go beyond answer sheet-only responses. He introduced two new factors: ideational fluency and expressional fluency. Later Taylor isolated nearly 40 verbal communication abilities.

Unlike Guilford, Taylor shied away from complexity and looked for a simpler model of intelligence. Taylor chose to focus on five major abilities, or talents, in addition to academic ability. The five talents—productive thinking, communication, forecasting, decision making, and planning—are viewed as vehicles to assist students in using knowledge (i.e., academic talent) to create new solutions to problems.

In 1971, Taylor's theories were put into practice by a group of teachers headed by Carol Schlichter in the Mobile (Alabama) County Public Schools. The Talents Unlimited program was developed in Mobile with funds from the Elementary and Secondary Education Act (ESEA) and field-tested from June 1971–June 1974. The project was nationally validated and is now one of the most widely disseminated programs within the U.S. Government's National Diffusion Network. The Talents Unlimited national headquarters is located in Mobile, now under the direction of Deborah Hobbs.

Talents Unlimited proponents believe that by nurturing students' abilities in the five Talent areas, their academic proficiencies will improve along with chances for future success. Brief explanations of the Talents follow:

1. *Productive thinking* is the ability to generate many, varied, and unusual ideas and then to add on to those ideas to improve them.
2. *Communication* is the ability to convey needs, feelings, and ideas effectively to others. The related skills of communication are: description, comparison, empathy, nonverbal communication, and the networking of ideas.
3. *Forecasting* is looking into the future to predict things that might happen or looking into the past to consider what might have happened. Forecasting involves predicting both cause and effect relationships.
4. *Decision making* is a factor in everyone's life. Some decisions are of a split-second nature, while others are long range. Four steps are helpful in training students to make good decisions:
  - Have them think of many possible things they could do.
  - Ask them to think more carefully about each of these things.
  - Let them choose one.
  - Have them give many, varied reasons for their choices.
5. *Effective planning* involves:
  - deciding what is going to be planned,
  - listing all the resources needed,
  - telling, in order, the steps taken to complete the plan,
  - describing any problems that might come up during implementation.

Currently, there are over 20,000 trained Talents teachers in the 1,500 adoption sites throughout 49 states. Additional adoption sites can be found in Canada, Mexico, Columbia, Greece, Thailand, Hong Kong, and Egypt. Over a million students have had Talents teaching for at least one year, and there are approximately 80 nationally certified Talents trainers.

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schedules vary widely, the frequency and regularity of planned thinking skills activities also varied widely. For both middle school and high school teachers, however, integrating thinking skills into the curriculum fostered better student performance.

Pre- and post-test scores of middle and high school students on the *Criterion Referenced Tests of Talents* (1974) yielded statistically significant increases on 11 of the 14 comparisons. These results document the substantial impact of the Talents Unlimited program on improving higher-order thinking skills among middle school and high school students.

### Success in Secondary Schools

After more than a decade of success at the elementary level, Talents Unlimited is proving itself at the secondary level as well. Successful implementation of the model in school districts in Las Cruces, Benton, and Vestavia Hills now offers convincing evidence that development of thinking skills can be combined with academic content across the secondary curriculum. □

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