Three approaches to developing creative thinking are suggested.

"YOUR ideas are important! But their value is lost unless you record them—write them down. People have their best ideas at the funniest times and places. In fact, many of the world's greatest inventors and scientific discoverers say that their great ideas occurred to them when they were in the bathtub, in church, or just walking along. It pays to have an 'idea-trap'—a small note pad or something similar to record your ideas when they occur before they are forgotten and lost."

Value of Own Ideas

The above introduction to the third, fourth, fifth, and sixth graders of one elementary school marked the beginning of an exciting six-week experiment in creative writing. We hoped that through this experiment these children would be stimulated to do a great deal of writing on their own and form the habit of recording their ideas, something that children do not do naturally. Above all, we hoped that they would learn that their ideas are important and that others will enjoy them and find them useful, if they are recorded.

Each child was given a large brown envelope. This was to serve as the "bag" for the "trapped ideas." They were urged to write down their ideas for poems, stories, jokes, songs, opinions, inventions, and cartoons. Pupils were instructed: "If you think of an idea in the middle of an arithmetic lesson, you will not be able to write it out just that minute. You can jot down a few words to remind you of your idea later. Then you can pay better attention to your arithmetic work because your idea is safely trapped. Then, the first chance you have, you can write it out in detail."

On Fridays, I visited all classrooms and asked each pupil to select from his envelope the idea he thought others would enjoy most. Selections were then made for a weekly magazine named by the children Ideas of the Week. Every issue had an attractively illustrated colored cover, using drawings submitted by participants in the study. On Thursdays, when the magazine was delivered, the person making the delivery was almost...
mobbed, the children were so eager for copies. There was intense interest among the children, their parents and teachers, and the research staff.

To help evaluate the effects of this experiment, subjects were given a test story to write at the beginning and end of the experiment. Topics such as the following were suggested:

The dog that doesn't bark
The man who cries
The woman who can but won't talk
The doctor who became a carpenter.

A different set of topics was used for the pre- and the post-tests. At the end of the experiment, each subject was interviewed by the editor of the magazine and asked to fill out a brief questionnaire evaluating his experience in writing down his ideas.

The data collected have not yet been analyzed but several important conclusions are obvious. Children in the third through sixth grades can be stimulated to record their ideas on their own. All of this writing was done outside the regular curriculum of the school. No special time was allowed by the teachers, although they could write and illustrate their ideas when they had completed their regular work. Third graders were highest in productivity. Almost all contributed regularly, most of them writing down their ideas when they had finished with other work. The only non-contributors were a few slow learners who “didn’t ever get through with their regular work.” The least productive grade was the fourth. Many of the fourth graders confided to the interviewer that they didn’t have enough time to write down their ideas, because it took all of their spare time to write 500 times, “I will not make noise in German class” or “I will not run in the hall.” Productivity among fifth and sixth graders fluctuated. Some weeks they were just too busy to record their thoughts.

There were many evidences that the subjects learned to value more highly their own ideas and even the nonparticipants showed great enthusiasm for the ideas of their classmates. In fact, they accepted so well the notion that their ideas are important, that they objected rather violently to the small amount of editing done. During the fourth week, there were several irate complaints. The following by a fifth grader is a sample: “I don't think you should change our poems, stories, etc., around. I know you are trying to make them better, but sometimes the way people write things—no matter whether it makes sense or not—is the way people want them. . . . I thought you said our ideas are important but we are beginning to wonder if we are mistaken. Please try and understand the way we feel about it.”

Many of the stories and poems gave us fresh insight into the emotional problems and conflicts of highly creative children. The symbolism contained in the following story of “The Green Pig,” by a creative fifth grade girl describes what appears to be the essential problem of many children in the intermediate grades and causes them to sacrifice their creativity:

Once upon a time in a far-off land, there was a magic farm that no one has ever visited. Many different animals lived there. The odd thing about these animals was that they were different colors from regular animals.

The cows were pink, the horses were purple and hens and chicks were blue! All the pigs were green. That is, all except for one little fellow who was just plain pink. Nobody wanted to be near him because he wasn't green. And this little pig was very, very sad.

One day when he was walking along he saw a great big puddle of mud. He
Third graders like these engage with absorption and intensity in creative activities of almost all kinds. These children taking a creative writing test show their total involvement through motor activities, such as are shown by this unusually creative girl. If forced to sit with their feet flat on the floor and in neat rows, children like these would probably sacrifice much of their creativity.
splashed and rolled in it because he loved the mud. When the little pig came out of the puddle, he was all green! And he stayed green for all of his life. And all the other pigs began to play with him.

Developing Through Creative Activities

The experiment described here represents an attempt to develop creative thinking through more or less self-initiated activities. The subjects were stimulated to write on their own during their “spare time.”

Another experiment conducted in 21 fourth, fifth, and sixth grade classes relied upon creative activities in the language arts as a part of the curriculum. Teachers participating in this study were given a 34-page manual, a collection of ideas for developing the creative thinking abilities through language arts activities. The manual was presented and discussed in a two-hour workshop and the participating teachers agreed to try out in their classes as many of the suggestions as seemed reasonable.

At the beginning and end of the experiment, pupils of the participating teachers and four control teachers were administered the same creative writing tests used in the first experiment. Language arts activities were suggested for developing each of eight abilities thought to be involved in creative thinking. A 60-item check-list was developed to determine the extent to which the suggested activities were applied. The following are sample items from the check-list:

Ideational Fluency

“Brainstorming” as a technique for stimulating ideas, developing fluency of ideas, etc.
Practice in playing word games
Pupil dictation of stories, ideas, etc., on a tape recorder or other electrical recording device
Competition to stimulate fluency of ideas

Associational Fluency

Introduction to Roget’s Thesaurus, some book of synonyms, or other word reference in addition to dictionary
Exercises in recognizing word relationships, words of similar meaning, words of opposite meaning, etc.

Spontaneous Flexibility

Having pupils think of new uses for some device or product
Having pupils think of many alternative solutions to a problem

Adaptive Flexibility

Writing the same message or story in several forms, for different audiences, for different effects, etc.
Rewriting story or other composition in a different setting, with different characters, etc.
Through interviews like this, attempts are being made to learn how children feel about their creative writing and that of their peers. Fourth graders like this boy supply many clues for the decrement found in the creative thinking abilities of most fourth graders.

Originality
Practice in writing unusual titles or captions for cartoons, pictures, news items, etc.
Book reports in an original manner
Writing humorous stories, anecdotes, etc.

Sensitivity
Critical reading of comic books and suggestion of changes to make them more realistic, accurate, etc.
Practice in creative listening, thinking how the speaker really feels about what he says
Expression of ideas and feelings stimulated by music.

Elaboration
Writing original plays
Writing a book or carrying out some other sustained writing project
Pupils tell entire stories through pictures, cartoons, photographs, drawings, etc.

Curiosity
Exercises to improve ability to ask good questions
Exercises to improve ability to make guesses from limited clues.

General
Encouragement of “idea-trap” habit for creative writings
Keeping folders of creative writings
Practice exercises or periods which “don’t count” on grades, etc.
“Writer’s Corner,” a quiet retreat where pupils can go to think and to work out ideas.

Data analysis has not been completed.
Results thus far, however, indicate that teachers using the manual applied a larger number of the activities included in the check-list than the control teachers and that their pupils made greater gains in the quality of their creative
writing as measured by the pre- and post-tests.

**Rewarding Creative Thinking**

Children and adults learn and develop along whatever lines they find rewarding. We reward children for spelling words correctly, dotting i's and crossing t's, and for being neat, polite, clean, cooperative, honest, and punctual. In other words, we reward those who meet "behavioral norms." In a recent study I found that about 60 percent of the language arts objectives for the activities of a particular day were concerned with conformity to behavioral norms. Less than nine percent of the objectives were related to creative thinking.

To help teachers in rewarding creative thinking a manual entitled Rewarding Creative Thinking was developed by the author and his colleagues. A set of six principles were also developed and used in an in-service training program in a field experiment. Briefly stated, these principles are:

1. Treat questions with respect.
2. Treat imaginative, unusual ideas with respect.
3. Show pupils that their ideas have value.
4. Give opportunities for practice or experimentation without evaluation.
5. Encourage and evaluate self-initiated learning.
6. Tie in evaluations with causes and consequences.

Manual users were asked to describe and evaluate specific attempts of their own in applying these principles.

These data have helped us to understand the difficulties most teachers experience in rewarding creative thinking and what happens in successful attempts. It is already clear that many teachers find it quite difficult to apply these principles. Many teachers, however, respond favorably to workshop experiences and suggestions provided by manuals. Skillful application of these principles appears to lead to creative growth.

The following incident described by a first grade teacher illustrates a successful application of the principle of having respect for imaginative ideas:

**Occasion:** I was introducing a poem, "February Twilight," and asked the class what "twilight" meant. One boy said that it meant "Twilight Zone." When asked what that meant he said that it had something to do with the brain.

**Immediate Teacher Reaction:** I asked him how "Twilight Zone" made him feel, and he answered, "Kinda funny—like it's different," and then he seemed confused as to how to express himself. I then said that I liked his idea and maybe we could think better if we knew what "twilight" was. When everyone seemed puzzled, I suggested it was a time of day. Several then suggested "not really light," "almost night," "when the sun is going down," etc.

**Immediate Class Reaction:** Intense interest and desire to contribute their ideas.

**Way Respect Shown:** I was very interested in his ideas and encouraged others to add to them.

**Effects:** Lee told us that he knew it was like imagination. The discussion led to that time between night and day—wakefulness and sleep—daydreaming—real and unreal. It sparked their imagination.

Three experimental approaches have been outlined for developing creative thinking abilities through language arts:

1. Helping youngsters recognize the value of their ideas
2. Providing activities which give practice or exercise in creative thinking
3. Rewarding creative thinking in the classroom.

Although evaluation of these three approaches is incomplete, all appear promising.