

period, of the idea that "man is born free and equal." Man-in-bondage created this idea, and the idea in turn helped create and shape the free man.

May this new volume, following in a proud tradition, be created by inspired and responsible persons who, in turn, will be created by the great and worthy ideas

that will be expressed and discussed in the forthcoming issues. This is the hope and the challenge of a new beginning. This is the only hope that can make us worthy of the forum that is still our heritage at the dawning of the space age.

—ROBERT R. LEEPER, *Editor*, EDUCATIONAL LEADERSHIP.

## A Creative Climate

WITH today's tremendous impetus toward creating new products, new ideas, and new and frequently bizarre approaches to problems and solutions, the school faces a most formidable problem. It is a problem not only of keeping pace with these new accomplishments, but also of helping pupils develop into adults who can contribute to further explorations in the creating of ideas. For, the creativity of the future will be found in tomorrow's adults—and these are today's pupils.

Creativity, psychologically defined, is the idiosyncratic perception of new intellectual relationships never before experienced by the individual between two or more stimuli. In lay terms this means that when a pupil gets insight into a relationship of facts which he never knew before, and he does this all by himself, he has been creative. This is true even though this relationship is quite well known to the teacher or to the whole adult world. Further, it is true for mathematics, science, and history as well as music, art, and drama.

For instance, when, in the process of adding two objects and two objects making four objects, Johnny perceives all by himself that if he removes two of these objects from the total of four he will have two left, he is indeed being creative. He

has perceived a new relationship between the objects (subtraction) by his own intellectual efforts. He had not read it; teacher had not taught it to him or put it on the blackboard; mother had not told him. He just figured it out for himself. Here is the kernel of creativity.

Recent experiments and researches have demonstrated that all students, even mental retardates, can be creative. True, some of these creations were not world-shaking; yet, each pupil produced it himself, a notable achievement. However, some bright students, creating quickly and profusely, attract our attention with their insights, thus leading to the erroneous conclusion that this type of student is the only one who can be creative. Oftentimes, however, the bright student is not creative, indicating that other factors than just high mental ability lead to creativity.

Indeed, to be creative, the student must *want* to be creative. He not only must be curious, but also must be unfettered by anxieties concerning exploration, thinking ahead, thinking differently, and deriving new and strange conclusions. The pupil who is nagged by anxieties and fear of punishment for having thoughts or ideas different from those the parent or teacher can give him can hardly be creative. Imitating rather than

thinking, he limits himself to nice, safe thoughts and ideas supplied by them which will win their approval. The creative pupil, on the other hand, feels free to try new ideas, conclusions and answers. He has few anxieties concerning new relationships; rather, it is exhilarating and rewarding.

Since the teacher sets the emotional climate of the classroom, his personality is also an important element in implementing creativity. Can he feel free to encourage his pupils to attack problems creatively or is he restrained by anxieties over what will happen unless the class members keep together and do exactly as he tells them? To establish an emotional climate conducive to creativity, the teacher himself must feel free to encourage exploration, curiosity, varied approaches to problems, and, above all, trial and error experiences by his pupils. Supposing a teacher wanted to help his pupils learn this freedom of inquiry and become creative. How would he effect it?

*First*, recognizing individual differences, he would encourage pupils to progress at their own pace. Mary does not have to keep up with the class, just as Billy does not have to be tied down to the class. The lockstep method of keeping everyone on the same thought and page stifles creativity.

*Second*, he would feel free, himself, to permit varying approaches by his pupils to the subject matter. Nancy can approach decimals by reducing cooking recipes, her real interest; David can compute basketball standings and percentages of baskets made, his main interest; Joe can make a scale model of a hot-rod, his true love; meanwhile, Phyllis is still on fractions, not yet ready to undertake decimals. If it is threatening to the teacher that each is doing something dif-

ferent, his reaction may lead him to impose rigidity and conformity on his pupils, throttling creativity.

*Third*, he would permit students to struggle with a problem, try different resources and tentative solutions or conclusions, and experience the final exhilaration of solving it themselves. Everyone is familiar with the child's frequent assurance, "I can do it by myself." Children love to do puzzles and conundrums. Here is the very essence of creativity: the practice and experience of pupils' bringing facts into new relationships on their own. Their doing this, in spite of any unpleasantness of the struggle, leads to feelings of security for exploring and satisfying curiosity. The pupils learn that it is all right to create their own conclusions.

*Fourth*, the teacher would deemphasize any need for immediately giving the one and only "right" answer but would encourage many trial answers. This does not mean that a correct answer is unimportant or that any answer is correct. Rather, it means that the teacher would refrain from rushing in with the correct answers until his pupils have had freedom to explore the facts and try tentative answers. Thus, by emphasizing learning rather than being right, by encouraging responses rather than limiting them to the one correct response, this teacher would be providing the experiences necessary to produce creative thinking.

*Fifth*, the teacher would refrain from giving punishment in any form for each attempted incorrect response. Inappropriate or incorrect responses, of course, should not be allowed to stand; but, neither should such responses be rejected by use of emotional punishment. Correction of incorrect responses comes most

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the study of children's thinking or of their social values. We may, if our techniques are well sharpened, assist in the identification of new problems to be studied and the setting up of hypotheses and research design.

The invitation is everywhere to renew ourselves, to build new skills, to find new interests, to test out new ways of working and living. And in this renewing, we may grow in our understanding of the bewilderment that attends the effort to learn. We may appreciate the encouragement that comes from the support of others who know the way.

—PRUDENCE BOSTWICK, *Professor of Education, San Fernando Valley State College, Northridge, California.*

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### Creative Climate

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advantageously through the intellectual reexamination of the problem and the trying of new solutions. The freedom from anxiety over being wrong without fear of social or emotional punishment leads to further attempts to solve the problem creatively.

*Sixth*, the teacher would not consider rote memorization or imitation of textbook thinking as good learning. This teacher, along with the text material, his own explanations, and all other resources merely supplies the facts from which each student will derive his own insights and arrive at his own possible conclusions. Some pupils may give some very naive and simple applications; others may supply quite thoughtful insights. Requiring that pupils confine their thoughts to what the textbook says or what

teacher said is a certain way for producing conforming, non-thinking adults who may welcome anyone who will do their thinking for them.

*Seventh*, the teacher will provide procedures by which he can evaluate progress in learning that is commensurate with ability to progress. Instead of using every trial response by a pupil as a test of his knowledge, the teacher limits such testing to a specific time which culminates a learning period so that each pupil can try out many responses. The test consists of problem type questions to which each pupil can bring both the facts and, more important, his interpretation and evaluation of the facts. The teacher knows a mere listing of facts from memory is not a good evaluative device. Frequently, he will provide the facts and let the pupils solve problems of application or interpretation. But he does not limit himself to this. He uses oral reports, projects, acting out, debates, essays, and many other types of responses to provide for a wide range of creative abilities and understandings. By providing time for discussion and trial responses and certain specific times for interpretive types of testing, this teacher provides a beneficial climate for aiding creative efforts.

We need creative adults and democratic citizens who can think and feel free to think for themselves. The only way we can develop such citizens is to provide plenty of practice in a classroom where the climate is emotionally supportive rather than punitive. Give each child the freedom to learn by himself, with supportive guidance from the teacher, and you will have an adult who can think for and create by himself.

—ROBERT W. SCOFIELD, *Associate Professor of Educational Psychology, Oklahoma State University, Stillwater.*

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