During the spring of 1972, the writer accompanied a group of students from the University of Florida's Department of Childhood Education to Lancashire County, England, where they completed student teaching assignments in infant and junior schools under her supervision. While working in English classrooms, to learn how to informalize instruction, the students encountered a number of difficulties. Among the most serious was their inability to teach from children's interests.

Teaching from children's interests means designing learning activities from a topic or theme or question which strikes the child's fancy. The idea is to:

1. Make the curriculum emerge from the child's life rather than impose irrelevancies upon it
2. Integrate the child's studies by making them interdisciplinary rather than unidisciplinary
3. Focus on the development of process skills, those strategies which enable people to make meaning out of their diverse experiences, rather than on the accumulation of information which will be forgotten and become obsolete in time.

Special skills are needed to teach in ways which are consistent with these stated purposes of education, skills which are not usually well developed by teacher education programs.

Guilford's (8) studies of creative thinking suggest that the factors of ideational fluency and spontaneous flexibility may be capabilities required of teachers who are prepared to tap and extend children's interests for instructional purposes.

Ideational fluency refers to the number of ideas per unit of time which an individual can generate from a stimulus item or problem without simultaneous evaluation (16: 295). "A fluent thinker can run through the logical possibilities or logical alternatives in quick fashion" (9: 102). The ideationally fluent person knows how to let his ideas flow without premature editing.

"The divergent production of varied classes of information" is termed spontaneous flexibility (9: 103). It is reflected in the range of human experience which a person's ideas appear to cover. Spontaneous flexibility requires perception of situations from multiple vantage points. The person who demonstrates spontaneous flexibility in his thinking can see and state interrelationships and interactions between and among classes of ideas (1: 129). Guilford has measured spontaneous flexibility by the number of shifts from one class to another which a person makes as he generates ideas for solving a problem (9: 102).

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Our American students discovered that they were not skilled in ideational fluency and spontaneous flexibility. Their abilities to generate many ideas within relatively short periods of time for learning activities which might tap and extend children's interests were limited. Also inadequately developed were the students' abilities to generate ideas for learning activities which covered a variety of classes and which were interrelated or connected in some way, that is, multi- and interdisciplinary in nature and clearly related to interest themes.

One might reasonably ask: Why is an approach to instruction which derives learning activities from children's interests and requires ideationally fluent and flexible teachers important enough to warrant concern over our students' inability to develop such programs for children? One answer is that while children have a remarkable range of interests, it is not uncommon to find disinterested, apathetic—bored—pupils in classrooms. This situation obtains in part because teachers are often too concerned with reaching instructional goals by covering prescribed content, whether or not it is of interest to children.

Children's interests can be used to develop learnings which are considered important educational goals by teachers and parents. One can learn to read, write, and compute through study of very different topics, through exploration of different interest themes of study. If we believe that children also need to learn how to inquire, to solve real problems, to make decisions, and to develop their creative capabilities, then the following assumptions formulated by Barth (2) in his study of open education deserve attention:

Children have both the competence and the right to make significant decisions concerning their own learning.

Children will be likely to learn if they are given considerable choice in the selection of the materials they wish to work with and in the choice of questions they wish to pursue with respect to those materials.

Given the opportunity, children will choose to engage in activities which will be of high interest to them.

If one accepts the assumptions as reasonable, one must conclude that children's involvement in school studies will be enhanced by the use of their interests for instruction and that such involvement will result in learning. Yet it is not unusual to find that children's interests are bypassed as themes through which skills and knowledge can be developed and involvement in studies sustained, in favor of teacher-determined themes of work. In many cases, this happens because teachers do not know how to use children's interests for instructional purposes. They are fearful of being unable to generate ideas for learning activities at those moments when children suggest the germ of an interest. They prefer to work almost exclusively from ideas for teaching which are prescribed by a teacher's manual or have "worked" during some former teaching episode.

These teachers probably have not had the educational experiences necessary to develop their abilities to generate ideas quickly and easily. One result is that the children they teach are offered insufficient opportunities to tap and extend their interests for learning. Children's classroom tasks often require the completion of unimaginative worksheets or boardwork which is dull and has no apparent purpose other than to keep children occupied. Further, many children in our schools are offered few alternatives from which to select or generate their own learning tasks and questions for study.

Consider these questions relative to the teacher's performance in the following situation: A child becomes engrossed in making and launching paper airplanes. If the teacher does not crumple the airplane or ban it from the classroom, is it possible for that item of interest to be tapped for legitimate and worthwhile learnings? May the child be motivated to explore the subject of airplanes—perhaps, even aerodynamics—but be unaware of how to do so? Might it become the teacher's responsibility to offer suggestions for ways to use the interest and help the child raise questions which may lead to, for instance,
number, language, investigative studies and activities which promote creative expression? As the teacher does so, he increases the alternatives for study available to the child and thereby offers the child opportunities to make some decisions about directions the interest may offer for learning. To work effectively in this way with children, the teacher must be prepared to quickly and easily generate ideas and questions to promote interest-based learning activities for all children in his class.

Creative problem-solving courses, workshops, and institutes have been an important component of the development of human resources in business and industry. Osborn's (11) early work on the use of brainstorming techniques, among others, for solving problems in imaginative ways is often cited in the business literature. For the education of children, Torrance (16) has designed and tested programs which develop the same factors of divergent thinking. Williams (18) has attempted to provide teachers with ideas from which to draw for developing children's creative thinking. But, as Torrance and Myers point out, though much has been written about creative teaching, “little attention has been given to the kind of teacher-education program necessary to develop the insights, abilities, and skills to become a creative learner and teacher. The emphasis has been on doing rather than becoming” (17: 320).

Compton's (4) study of brainstorming activities for the development of teachers' creative thinking abilities is a notable exception. Recognizing the need to improve teachers' divergent thought production before they might be expected to promote children's thinking, Compton tested in-service teachers on Guilford's divergent thinking batteries before and after their participation in a series of brainstorming sessions. She found significant growth differences between experimental and control groups for the factors of spontaneous flexibility and originality. Although Compton did not attempt to examine the classroom interaction patterns of these teachers, she indicated the importance of studies which include such assessments.

Gallagher and Aschner (7) studied the relationship between teachers' questions which solicited divergent thinking during interaction with children and the nature of children's responses. They found a high degree of correspondence between the number of divergent thinking questions asked and the number of responses which reflected divergent thinking by the respondents.

To date, studies of the effectiveness of informal teaching methods have been focused on children's achievement test scores. The English teachers, county advisors, college tutors, and HMIs (Her Majesty's Inspectors) with whom the writer spoke while working in Lancashire County schools and during seminars held at the University of Manchester indicated that the testing emphasis has been misplaced. They called for assessments of process skills including communicating, decision making, problem solving, and creative thinking as well as reading, writing, and math achievement. In short, process skills, such as those defined by Berman (3), Frazier (6), Simon and Boyer (14), and Williams (18), are gaining recognition among educators as important educational products for which teachers might be held accountable.

Soar (15) has stated that the assessment of teacher effectiveness requires the

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establishment of appropriate criteria for teacher behaviors which are assumed to be important for promoting children's learning. If we value productive divergent thinking as an educational goal, we must prepare teachers to provide children with opportunities to think creatively. The best preparation would seem to include the development of the teacher's creative thinking abilities, with specific application to their instructional behaviors during interaction with children. Programs to accomplish these goals need to be developed for preservice and in-service teachers.

Overview of a Program To Develop Creative Thinking Skills for Teaching from Children's Interests

The writer is field testing a program which provides the student with: experiences in creative thinking, followed by reflection and analysis regarding those experiences and consideration of applications to teaching.

The basic components of the program include:

1. **Awakening and Broadening Imagery.** Activities are designed to heighten sensory awareness and understanding of the intellectual and feeling impact of sensory stimuli which are thematically interrelated. Exposure to multimedia presentations is important to this component of the program. Free association exercises are used to help students realize their idea generation capabilities.

2. **Generating Ideas To Develop a Theme.** Group and individual creation of multimedia presentations comprises activities to help students become ideationally fluent. Personal interests are explored as themes of the presentations. Audio-slide presentations for children are prepared, critiqued, and field tested.

3. **Generating Ideas for Multi- and Interdisciplinary Studies from Interest Themes.** In this component of the program, students are asked to define a personal interest which may be used as the source of material for language, mathematics, and art activities as well as investigative studies. By doing so, the students experience the process of working from their interests as learners.

4. **Generating and Developing Ideas for Teaching from Children's Interests.** Having experienced a self-developed, personal interest-based curriculum for themselves, students are taught brainstorming techniques for generating ideas within and across classes of curriculum content for children. They are acquainted with questions and checklists to assist them in thinking fluently and flexibly. Students are then asked to develop a set of questions to serve as guides for helping children use their interests for varied types of learning activities. Practice in the process of using the questions to teach from interests is offered in simulated and natural classroom situations. Ideas for learning activities which are generated in these practice sessions are evaluated according to quality and quantity standards. Teacher performances during interaction with children for teaching from interests are also assessed.

Satisfactory completion of the program is determined by student demonstration of abilities to ideate fluently and flexibly for teaching from children's interests during interaction with children. Measures include the following:

A measure of ideational fluency in teaching from children's interests is the total number of ideas or relevant questions generated per various time units of teacher-child interaction for each interest theme.

A measure of spontaneous flexibility in teaching from children's interests is the total number of subject areas or disciplines of knowledge represented in ideas for learning activities, and the total number of ideas for learning activities which integrate two or more disciplines of knowledge which the teacher generates per time unit of interaction with children for each interest theme.
Measures of the appeal value of ideas generated are determined by the proportion of the total number of ideas advanced by the teacher which are used by the child to whom they are offered and the amount of time the child continues to explore the idea or carry out the task.

Criteria for success are specified in the assessment instruments for the observation of ideational fluency, spontaneous flexibility, and the appeal value of ideas generated.

The immediate benefit of teaching from children's interests is the provision of a rich, varied, and motivating curriculum for individual children. And the provision of alternatives encourages children's decision making. Beyond that, it is quite possible that a teacher who models ideational fluency and spontaneous flexibility may promote such thinking on the part of his pupils.

Teachers who wish to work with children in informal ways need to develop their creative thinking skills. Programs such as the one outlined can offer the requisite experiences. Designing and testing programs and instruments to assess student growth in teaching from children's interests would seem an important area of study for teacher educators.

References
