Innovation Through Experimentation

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The search for innovative teaching styles has generally proceeded on a philosophical level, including "blue sky ing" among teachers, parents, and university personnel concerned with the education of prospective teachers. Unfortunately, the search often has produced more heat than light. Functioning concrete examples of innovative teaching are still few. Most classrooms still consist of approximately 30 children in 30 identical desks, with 30 identical books in five or six different content areas. Most still move at the direction of a prophet-type teacher with a bent to control and inform.

Variation most often is found in elementary reading, with a class typically being divided into three reading groups, each proceeding through the same materials with one group a chapter or so ahead or behind another group. Variations are more difficult to find at the secondary level, with phase electives getting a lot of attention.

All too often teachers are asking for recall of information that they memorized when in school, such as major products of countries, capitals of states, parts of some insect, ad infinitum. The practice of having students write a misspelled word 10 times or numerals from 1 to 1,000 is still disgustingly common in too many schools.

The picture is worse at the university level, where 500 or more students might be lectured from notes yellowed with age on an insignificant topic which will promptly be forgotten after an examination. Teacher education students are still being predominately lectured about the inappropriateness of lecturing as a predominate teaching style.

Carl R. Rogers (1969) notes that our conventional approach makes significant learning improbable, if not impossible. He quotes Einstein's observation:

... It is in fact nothing short of a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands mainly in need of freedom; without this it goes to rack and ruin without fail (p. iv).

While we probably have always had teachers who were reasonably effective in meeting the needs of individual students, recent analyses by persons such as Charles Silberman (1970), John Holt (1967), Andrew Summers (1970), and scores of parents and children reveal that most teachers are group oriented. There is agreement that effective teaching styles must meet the physical, social, emotional, and cognitive needs of individual students. It is also clear

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that with a class of 30-plus students and one teacher the concept of individualization is simply a myth, unless the teacher extends himself through the use of media, teacher aides, programmed instruction, student tutors, modules, and other instructional materials.

**Definitions of Instruction**

Differences between individualized instruction and independent instruction should be noted; these are not synonymous terms. It is possible for a teacher occasionally to lecture or to discuss with a group of 30 students and still be giving individualized instruction. Charles Schultz’s cartoon and TV show, “Peanuts,” likely meets needs for several million children at one time. It may, therefore, be individualized for millions simultaneously; it is certainly not independent study. Yet, let’s face it; not many of us compare favorably with Charlie Brown and his cronies in reaching children.

There are many definitions of individualized instruction, but hopefully it will suffice at this time to mention three important criteria that will be assumed in discussing individualization as a desirable and innovative teaching style. First, individualized instruction focuses on something that is of interest to the learner. Second, that “something” is cognitively appropriate for the learner. Third, the instruction is self-pacing. Clearly it is possible that independent study might meet only the third criterion.

While choosing instructional materials and content is not in itself a teaching style, it does reflect the philosophy of the teacher and is an integral part of the teaching strategy (for better or worse). For example, it would be difficult to defend teaching about ancient Babylonia to Appalachian children who are finding it difficult merely to survive in the 20th century. The topic lacks relevance to the extent that the first criterion for individualized instruction is greatly lacking and consideration of the second and third criteria seems pointless.

Curriculum revision by tired teachers working after a full day in the classroom is often a farce. It is little wonder that in some districts it is almost impossible to eliminate topics from curricula that have been utilized since the turn of the century. For example, the discovery of America by Columbus, Indians and the first Thanksgiving, George Washington, and Abraham Lincoln are commonly studied by students at least six times during the elementary years. It is hardly surprising that students become skilled escape artists through daydreaming, misbehavior, playing hooky, or dropping out completely. Considering the role of these students in the future of our country, it should be even more disturbing when they settle into conformity and accept instruction that is not individualized.

On the other hand, it is not easy for teachers to make curricular and instructional changes which differ significantly from the norm in their schools, especially without peer, administrative, and parental support. It takes a secure self-image and a strong commitment to experimentation and innovation.

**A Process Approach**

Carl R. Rogers (1969) has described two kinds of learning. The first is analogous to the memorization of nonsense syllables; that is, there is no personal meaning or interest involved. Therefore, it is not easily learned and will quickly be forgotten. A more desirable learning mode he has identified as experiential, in which the student discovers something significant for himself in a way which involves both his thoughts and feelings. Rogers has identified the following five elements in experiential learning: personal involvement, self-initiation, pervasion, evaluation by the learner, and its essence is meaning.

Perhaps, then, one barrier to individualized instruction lies in the way tasks are presented to students. If children are told, “Today we are going to study about how daphnia feed,” the task focuses on specific information for which some children might not be ready or interested. And what flexibility do the students have in pacing? On the other hand, if the teacher says, “Today
we are going to see what we can find out about daphnia," all students are not required to do the same thing, and all students can surely be successful in pursuing something of interest. If the study grows out of student interests, the results are likely to be even better.

Rather than asking young children to memorize and learn to spell the names of several rocks and imposing a classification system for rocks, it would be much more individualized to provide each child with a group of rocks and give him options for activities for using the rocks. Some children might order the rocks, while others might classify them on the basis of some property such as size, or shape, depending on what interests the child and at what cognitive level he is able to operate. Other children might prefer to make a design using the rocks. Given the time and opportunity, they will likely do all of these activities—and more.

In each example presented here, the major focus is developing intellectual processes, though not to the point of excluding other outcomes. Students do learn facts, but they are facts that are acquired painlessly through the pursuit of an interest. More important, students are developing enthusiasm for learning, self-confidence in their ability to achieve, and skills to satisfy their natural curiosity. If indeed an objective of education is to prepare children for life—a rich, full, productive life, both now and in the future—they must develop skills to learn. This need is especially crucial since it is impossible to provide children with all the information they will need through the years, or even all they will need in their young lives.

A rationale for process education was aptly presented by Carl R. Rogers in Freedom To Learn (1969).

Teaching and the imparting of knowledge makes sense in an unchanging environment . . . if there is one truth about modern man, it is that he lives in an environment which is continually changing. . . . the goal in education, if we are to survive, is the facilitation of change and learning. The only man who is educated is the man who has realized that no knowledge is secure, that only the process of seeking knowledge gives a basis for security. Changingness, reliance on process rather than upon static knowledge, is the only thing that makes any sense as a goal for education in the modern world (p. 104).

Whereas facts may be difficult to recall when they have not been used for a long time, and in fact may become obsolete, basic intellectual processes will be useful, regardless of how the world might change. They will be useful whether a person becomes a carpenter, a doctor, a housewife, a scientist, a truck driver, an artist, or whatever. Processes are useful in school, on a job, enjoying the fine arts, solving a puzzle, collecting stamps, providing information about a car accident, and, in general, going about the business of living.

A process approach to education provides an efficient mode for integrating various subject matter areas and facilitates (not guarantees) individualization. It encourages the breakdown of artificial barriers between subject areas.

Materials are currently available which emphasize process, although most are associated with a particular content area. Examples are: Man: A Course of Study; Elementary Science Study; Science—A
Process Approach; the MATCH unit; and the Science Curriculum Improvement Study at the elementary level. The Intermediate Science Curriculum Study and many of the commercial simulation games such as Ghetto and Dangerous Parallel are prime examples at the secondary level.

Willingness To Experiment

Some teacher education programs across the country are developing competency-based programs which focus on the development of teaching skills. However, few programs have advanced to the point of integrating the content areas in methods courses, or of integrating methods courses with courses in human growth and development, and social and philosophical studies in education. Teacher education programs which espouse the virtues of the integrated day (British style) for elementary schools should experiment with it as a relevant and efficient mode for their own program. However, just as Hapgood (1971) cautions teachers to be realistic in their adaptations of the British program, so must teacher educators be willing, even committed, to a developmental period of preparation and experimentation.

In recent years scattered attempts have been made to develop modules or instructional packages of materials which focus on a skill, a concept, or a problem. In such cases, options should be provided for many of the modules to be self-selecting. For example, if modules focus on the processes of gathering, organizing, and interpreting data, or on the concept of aggression, there are many alternate content topics which might be chosen in order to develop these processes and concepts—baboons, ants, the Spanish American War, race riots, or playground conflicts.

All students should not be expected to begin and finish a given module at the same time or perhaps be expected to complete the same activities within a module. Some modules may simply consist of a mimeographed sheet or two of suggested activities, while others might be complex, requiring considerable time. Some might be very directive and structured for those students who are not independent workers; others might only suggest a problem or give a nudge to students who are more self-directive.

Clearly teachers who have the courage to experiment with new modes of teaching need also to be flexible. They need to continually analyze and evaluate their instruction, be open to the evidence before them, and be willing to make modifications or changes as assessments indicate.

Administrators must be innovative teachers as they provide leadership for their faculties. The type of experimentation recommended here can be effective only as the teacher is also able to experience self-direction, open communication, and freedom to learn. As Rogers suggests, these skills are not conveyed on an intellectual level (1969).

Perhaps, then, the most innovative style of teaching is one in which a teacher is willing to experiment and is willing to share some of the control of his class. Such an experimenter is secure enough to say he does not have all the answers while encouraging his students to become involved in seeking answers to questions they themselves have posed. To become involved to the point that the sound level soars with the students’ enthusiasm, materials overflow the tables to the floor, artificial communication barriers are broken, and strict subject matter lines are ignored, must still be considered experimental and innovative in America today. Is there another road to individualization?

References


