

THE CRITICAL FACTOR IN ACHIEVEMENT This article explains many of the factors that affect a student's academic achievement. It examines the factors and gives the reasons, the research and the solutions to most of the problems.

Education research is proliferated with studies that indicate no significant difference in achievement. Programs, techniques, materials, books, facilities, organizations, etc., have been tested and retested and the results are the same - they make no significant difference in achievement. Unfortunately, most of the studies stop with the preliminary findings (no significant difference) rather than continuing the investigation to determine why these results were obtained. It is not to be inferred that there is no interest or even that most of the researchers believe that all of the various programs, materials, techniques are of equal value in effectuating learning. Logical analysis makes any such proposition untenable. In general there appears to be two major factors involved with the lack of follow up studies. (1) Many researchers lack the resources, research know-how, time and specific motivation necessary for the type of research needed. (2) The most logical factor for the lack of difference in achievement is so complex and controversial that most researchers do not want to or are afraid to get involved. A great many studies have alluded to it and some have categorically stated that the teacher is the critical element in educational improvements. Strong in his study of reading programs and reading achievement concluded after a three year carefully formulated and controlled experimental study of the effects of various reading programs that it was the teacher not the program that made the difference in a child's

learning to read. He further stated that to improve reading performance in a class it was necessary to improve the teacher and if this is not possible replace her with a more competent person. Marconi, in his study of the non-graded schools found that teachers in general utilized basically the same materials and teaching techniques that they had used in the traditional self-contained classrooms or departmentalized schools. The biggest change was in the name of the school rather than in its operation. Strong found in his study that even a substantial reduction in the number of pupils in a self-contained classroom did not materially affect teaching techniques or the materials used. Teachers with 18 to 20 pupils continued to use the same basic pattern that they had used with 30 or more pupils. The evidence strongly indicates that the teacher is a critical factor in the learning process. Achievement, while affected by many factors, appears to be dominated by the teacher. This was illustrated in the Pygmalion study. Pupils, regardless of ability, tended to perform according to the expectations of the teacher. This is not to imply that a teacher, no matter how competent, can be successful with all pupils or that all pupils will learn equally well. However, the attitude and professional competency of the teacher will largely determine the level of achievement, within the capabilities of the pupils, an individual will obtain.

Basic Problem At the present time few people are satisfied with achievement progress exhibited in most of the public schools. This is being reflected in the public criticism of the educational program; the search for alternative systems - e.g. contract plans, voucher systems, etc; the failure of voters to approve school tax levies and bond issues; and in

educational systems' frantic search for more effective programs. Billions of dollars have been spent in the last decade on education. Yet despite this vast outlay there has been little improvement in the overall improvement of pupils. This is especially true of the great number of educationally disadvantaged youngsters - both in the urban and rural areas. One only has to read the U.S. Office's report Crisis in Reading or the research reports on the effects of Head start and Title I projects to see that the progress in improving learning, as measured by achievement tests, has been extremely slow and limited.

Goodlad and others in their study of innovation in the classroom reveal just how little change has taken place. The best available research indicates that merely changing books, materials, programs or even new educational technology and facilities will not materially improve achievement. It does indicate that changing the teacher can effect achievement. The logical assumption, therefore, is that as the attitude and competency of the teacher increases so will the achievement level of her pupils. Evidence at this time is sufficient to warrant the acceptance of this assumption as an operational hypothesis for educational change and improvement in achievement. Increased achievement will depend to a great extent upon the degree to which we are able to change attitudes of teachers and improve their competency. Immediately one may ask: (1) Aren't most of our teachers well trained and (2) Haven't schools and colleges been engaged in an almost continuous in-service educational program? These are pertinent questions and are relevant to the topic. Take question number (1). "Aren't most of

our teachers well trained?" Answering this question one would probably have to say that most of the teachers have been well trained, but this is part of the problem. They were trained or educated (in this paper the terms are used synonymously) to function in an educational program that was designed for a different era and population. They were taught to think and function in terms of group techniques. This may be illustrated by almost any phase of the typical education program. Let's analyze the approach by raising questions. (1) How are basic instructional materials such as text books selected for a class? (2) How is a child graded? (3) What are the dominant teaching strategies? An examination of almost any school in the country will reveal that the answer to any of these questions is based upon groups rather than individuals. Walk into a classroom of a given grade (1 through 12) and one finds that all pupils have been issued and are using the same text book. If it is a fifth grade every pupil will have a fifth grade level text. Exceptions might be found in the reading class. In these classes some recognition of differences in academic achievement is acknowledged. The pupils are usually divided into three groups with each group reading from a different level text. One group might be reading from a third grade reader, another group from a fourth level and the third group from a fifth level. It looks very impressive, but in actuality it is just another group technique as youngsters are grouped according to a general reading level which is a compromise as there still is a considerable variation in their reading levels. This type of grouping generally is not related to the youngster's reading skill development as the total group proceeds through the text book

and skills presented in the text regardless of whether the youngster needs them or not. Too often the youngster is deficient in critical reading skills which must be known before he can proceed on to more advanced skills, therefore, he falls further and further behind. Frustration and failure become an integral part of his life. Working with small groups utilizing group procedure rather than individualized procedures further restricts the time a teacher has to work with individuals.

Assume the teacher spends 120 minutes a day in reading and has three reading groups. This means she will spend 40 minutes with each group which, counting time to shift from one group to the other and allow the children to get organized; will allow the teacher just about enough time to go through the text-book exercise with the group. Little time is available for individual help in the group and the other children are on their own for 80 minutes or two-thirds of the time. Even if one were to forget the disadvantages grouping within the classroom for reading and accept the fact that it is necessary to select reading material that youngsters can read if you want them to read. If this reasoning is sound then one must question the rationale and procedure that dictates that in all subjects other' than reading the youngster must use the same text books. In reading the youngster is only able to read at the third grade level but the same youngster in geography, a much more difficult and technical subject, and is expected to read independently it the fifth grade level. Teachers tell you this is asinine but state they have no other choice as they must use the books that are assigned. Unfortunately teachers have little say about what materials and books that are selected for the pupils. Generally

the decisions about what materials and books to be used in the educational program are made by district administrative personnel or in some cases by state boards of education. Teachers are often on text-book selection committees but the task is impossible as they are asked to select books and materials to be used by all students. They have to assume that they are dealing with a homogeneous population which they know isn't true. Most of the time the materials selected is good and effective if matched with needs and achievement of the child. This is not what happens as little consideration is given to individual differences in selecting materials and books that will be used in a class.

Grading No area in education has a greater impact upon a child than the grading process. There is considerable evidence that continuous negative evaluation has serious deleterious effects upon the child's emotional wellbeing, achievement, and self-concept. In spite of this knowledge the individual is seldom considered as an individual in the grading process. He is just one of a group evaluated not in terms of his progress towards an objective but how he compared with other members of the group. Regardless of the merits of the procedure or its effects upon individuals it is consistent with the instructional program which is group oriented and one that teachers know and follow.

Let's examine the current teaching strategy, the system, materials, facilities, and training. These are elements that to a great extent dictate the pedagogical strategy. First the system has structured its organization for easy administration. It has developed into an efficient organization but based upon educational objectives and purposes of the past. It is well

structured to work with a select and homogeneous population but is ill prepared to cope with the demands of a highly diverse population which requires extreme flexibility in programs and materials. At the present time everything is geared to large group operations. Schools are operated as a group rather than recognizing that each serves a particular population and that the populations may be completely different. As long as they are a part of the system and the decisions are made without regards to these differences little progress will be made in making the educational instruction and program more relevant to the population served. The curriculum, heart of an educational program, has become so standardized that it is meaningless to over half of the pupils in an average urban school district. Somewhere along the line the concept of the function of curriculum became distorted. Originally curriculum was considered as a means to achieve the specific educational objectives. After much work and refinement it was developed into an efficient instrument. What had started out as a means to achieve a desired end became the end. Society and the times changed creating new problems and demands upon education. Unfortunately education was involved with introspection and failed to adjust to these changes. Instead of developing new objectives to meet the new demands educators continued, as Benjamin Fine indicated in his book *The Saber tooth Curriculum* that the people continued to teach the art of fishing long after the rivers had disappeared and there were no longer any fish. However since it had been important in the past it still must be taught. Somewhere along the line objectives and curriculum became to mean the same. Curriculum committees were

established to write curriculum guides which in turn became the heart of the instructional program. These committees in general acted upon the assumption that they were developing a curriculum to achieve the objectives for a given population. Volumes of material were developed and distributed. Instead of being used as guides they were often considered as Bibles by teachers, principals and supervisors. Thus rigor mortis began to set in as the system became circular in its thinking and operation. When confronted with a high rate of failure the educational system tended to look towards its curriculum for the answers instead of how relevant its objectives and curriculum were in terms of the students served. As in the case of educational materials and textbooks, the curriculum is based upon group norms and little freedom or encouragement is given to teachers to deviate from the prescribed program. It makes no difference if the curriculum is appropriate or not. Teachers faced with large classes, limited materials and security in following the prescribed program have little reason or incentive to attempt new programs even though they know they are needed. So, instead of the curriculum fitting the child the child must fit the curriculum or forever remain out of the mainstream of learning. Improving Achievement in public schools is not going to improve unless educators are willing to recognize the basic problem and then make the necessary changes to rectify the situation. First step is to recognize and accept the fact that the school is a social institution designed to perform a particular function for society and these functions are never static in a dynamic and evolving society. Populations are constantly changing and therefore objectives and programs

must be evaluated in terms of how effective they are with the new populations. These populations must be considered as groups of individuals and the school is responsible for each individual. Since individuals are different and society accepts and allows for these differences then so must the schools. The group criteria that have been used in the past for school organization, the selection and utilization of instructional materials, the adoption of text books, class organization, instructional procedures, teacher and administrative functions, grading, etc. are no longer adequate or acceptable if achievement is to be improved and all boys and girls have a fair chance for an education. The task is formidable but certainly not impossible. As Confucius said, "A trip of a thousand miles begins with the first step. Success or failure is contingent upon our willingness to take the necessary steps to achieve our objectives. The apparent magnitude of the problem is frightening but the resources available to solve the problem are limitless. It is just a matter of committing our energy and resources toward solving the problem. An analysis of the problem indicates the critical element is the teacher. The teacher is the key so if improvement is to be made it will be through the teacher. Teachers have usually been the recipients of the action rather than the initiators of action. Lip service has been paid to the importance of the teacher but this is as far as it has gone. Until the teachers changes there will be little change in the programs. So the questions are what changes are needed and how to bring about the changes? Question one; "What are the changes teachers need to make?" will be discussed first. As has been discussed previously, the average

teacher is well trained and fairly proficient in the use of group techniques and these techniques are effective for approximately 40 to 60 per cent of the youngsters under her tutelage. Unless the teacher has the necessary knowledge for individual diagnosis and a repertoire of knowledge and skills to develop and implement individual programs about 40 to 60 per cent of her students will fail to learn and achieve the expected objectives. This may or may not be reflected by the student's grade or report card. Evidence indicates few teachers know how to make individual diagnosis; have the knowledge of materials necessary to develop individual programs; or have the propensity to utilize the individualized approach.

Improvement in achievement will depend upon how well colleges and schools are able to help teachers to reconceptualize their role and gain competency in the following areas: 1. See themselves as facilitators of learning. 2. To accept the responsibility for the achievement of each child under her supervision. 3. To consider themselves and act as professionals. 4. To be competent in educational diagnosis. 5. To know the basic skills and content of subject being taught.

6. To be able to develop individual programs based upon diagnostic results. 7. To recognize their limitations and know when and how to complement and supplement their talents with other resources. 8. To have a broad knowledge of educational materials and programs so they are able to develop and utilize alternative strategies. 9. To know how to relate and communicate with a child. 10. To see potential in each child and to help the child see and realize this potential. 11. To be able to accept each child the way he is and be willing to provide

the love, understanding, and guidance necessary for him to grow and improve.

Achievement will only improve as the students improve; and the students will only improve as the teachers that guide them through the academic jungle develop the necessary skills and understandings to be effective guides or facilitators of learning. Re-conceptualization of roles and the development of new pedagogical skills are difficult tasks. Failures after failure have been the general results of most programs attempting it.

Strong, in his study of many of these programs, found the following elements to be major factors in the failure of the programs to effectuate any real and lasting change in teachers.

1. Programs tended to stress content
2. Programs tended to stress methodology
3. Programs were usually restricted to a small group of teachers or administrators with no provision for follow-up.
4. Programs tended to use traditional classroom methods.
5. Workshop types of programs were generally restricted in scope and lacked follow-up.
6. Teachers in workshops and institutes found little support from colleagues or administrators when they returned to school. In fact, they often found hostility.
7. Administrators were often insecure and afraid of change.
8. The amount of time that teachers had to spend in learning situations most often was too short to develop the degree of mastery of skills or content necessary for proficient utilization.
9. Most programs were not planned or structured for developing change in teachers' behavior; therefore, little change occurred.

This has been the reaction to the article in 2008 and 8020. . . Most of this article was written in the 70'based on some basic

research and programs that were developed and tested. Today there appears to be little change or improvement in the public and private school systems. Yes the schools are using laptop computers and other technical devices which is good but has done little to improve the performance of the individuals. In fact it probably has made them more dependent on these devices. As stated in the 70's unless there is an improvement in the training of teachers and in the education systems which will allow teachers the freedom and resources to use their expertise student achievement will not improve. All the evidence indicates that there has been little improvement in student achievement. The need for an effective educated population today is more critical as we are in a world- wide industrial competition and only our technological advantage is keeping us in the race. Our future success is going to depend upon our ability to maintain our technological superiority and this can only be done by having the best educated population. Examining the achievement of our student with those of other industrial nations indicate that we are losing the race in critical areas and will continue unless we make some drastic changes in our public education