Efficacy and its effects upon student achievement need nourishment. For a student to believe that he/she can and therefore does achieve needs fostering continuously within each student in the curriculum. With the tremendous emphasis being placed on reading instruction and student achievement by legislators and governors of individual states, efficacy skills need to be promoted so that each learner feels confident in high attainment. This paper discusses how teachers can help students develop feelings of self efficacy, finding that they need to develop a curriculum which stresses the success of the learner within the framework of a challenging program of reading. The paper also considers several curriculum areas besides reading, including social studies, mathematics, and science. It notes that each curriculum area has its own contributions to make in developing the feeling of efficacy in the individual. (NKA)

by Marlow Ediger
READING, THE PUPIL; EFFICACY, AND THE CURRICULUM

Efficacy is a valuable trait to possess. The pupil who feels he or she can do what is desired or wanted has much going for the self. The pupil feels and believes he/she can fulfill a goal and then delivers. An inadequate feeling about the self is an unpleasant belief that one cannot accomplish and is left with many doubts about self worth. These feeling leave a void in the pupil when thinking positively about the self. Efficacy and its effects upon pupil achievement need nourishment. To believe that one can and therefore does achieve needs fostering continuously within each pupil in the curriculum.

There are numerous curriculum areas in which pupils may reveal efficacy. With the tremendous emphasis being placed on reading instruction and pupil achievement by legislators and governors of individual states, efficacy skills need to be promoted so that each learner feels confident in high attainment.

Reading Achievement and Efficacy

Self confidence in one's ability to succeed in reading is, no doubt, a major goal of instruction in the curriculum. To develop feelings of self efficacy, pupils and the teacher need to develop a curriculum which builds self confidence in the involved learner. The curriculum throughout needs to stress the success of the learner within the framework of a challenging program of reading.

Sustained silent reading (SSR) may be emphasized as a point of departure here. From a rich variety of titles, genres, and reading levels, the pupil in the classroom may select a library book to read. The teacher needs to observe which sequential library books are read by each pupil. The teacher, after observing pupils over a period of time in SSR, might notice if learners individually are reading increasingly challenging library books. The contents of each book may also be mentioned by learners during discussion time within individual curriculum areas. Perhaps, the teacher can receive more feedback back from pupils within an individualized reading program as compared to its cousin SSR. Individualized reading has an evaluation component added, which SSR does not have. In the evaluation process, after the pupil has completed reading a library book, the teacher may raise questions covering content read by the pupil. Thus, the teacher is able to appraise reading comprehension of the involved learner. The learner might also read aloud a selection to the teacher from the content read previously. The teacher may praise pupil comprehension,
definitely not berate the pupil. The total experience is to help the pupil feel he/she can achieve and accomplish well in the act of reading. With quality feelings, the pupil needs to be challenged to tackle more challenging reading materials. Feeling competent and comfortable in new situations is important. In the reading curricula, pupils need ample opportunities to
1. be involved in choosing their own curricula
2. select what appears to be interesting and motivating
3. determine what harmonizes with his/her optimal achievement levels. Thus, the gap between where the learner is presently achieving and the highest level of possible attainment needs filling
4. be responsible for their deeds and actions
5. make decisions and choices in the curriculum.

Social Studies Achievement and Efficacy

Each curriculum area has its own contributions to make in developing the individual with feelings of efficacy. In the social studies, the pupil may experience learning centers which provide opportunities in developing social skills. Thus, with a learning centers approach, a pupil may choose sequential centers to work at. Each center has concrete, semi-concrete, and abstract materials of instruction. Approximately five tasks per center with five centers in the classroom provide ample opportunities for a pupil to select which center and which tasks to select from sequentially. The pupil then is responsible in choosing learning experiences which truly challenge optimally. He/she is responsible for doing the best possible when completing each task. Cooperatively with the classroom teacher, the pupil may evaluate the quality of each product and process completed. The learner may choose to work by the self or within a cooperative endeavor. The task may stress cognitive, psychomotor, and/or affective endeavors. There are a plethora of choices to be made. The pupil needs to complete as many tasks satisfactorily as possible and maintain/develop high, quality end results. The pupil may appraise the self in terms of desired criteria or the teacher may do the evaluating, depending upon pupil choice. Both might also evaluate the end process or product. Criteria to be evaluated include building self confidence, ego strength, courage to take on challenging tasks, responsibility, and active involvement.

Learning centers philosophy of instruction has much to offer in a curriculum stressing efficacy. The pupil is in control of which ordered tasks to pursue. He/she may choose tasks based
in part on learning styles possessed. Thus, the learner may select abstract subject matter to pursue or eye hand coordination experiences. The choice is up to the learner when choosing learning activities. He/she may work individually or with other pupils in cooperative learning. A highly structured set of activities may be selected or a more open ended set of activities might be in the offing (See Dunn and Dunn, 1979).

Learning centers philosophy might also bring to the pupil's attention a choice among experimentalism, idealism, and realism. Experimentalism emphasizes problem solving with its flexible steps of

1. pupils identifying a problem contextually.
2. pupils gathering information in answer to the problem.
3. pupils developing an answer by relating relevant content gathered in answer to the problem.
4. pupils evaluating the answer (or hypothesis)
5. pupils revising the hypothesis if necessary (Dewey, 1916).

Idealism stresses an idea centered curriculum. An idea centered curriculum stresses pupil's learning abstract vital facts, concepts, and generalizations rather than being involved in a hands on approach in learning. The abstract then is preferred to the concrete as a means of gathering and using information. From literature read, the pupil with teacher guidance develops broad ideas covering subject matter read. Idealists tend to be traditional bound. They are not in any hurry to do away with cultural beliefs, traditional ideas, and systems that have stood the test of time. That which stands the test of time is generally good and beneficial. For example, in the literature curriculum, the classics are classical because they have endured in importance, such as in space and time. What has been recently written may not endure long and then be discarded or forgotten because better literature has come into being (Wahlquist, 1942, Chapter Three).

Realism emphasizes pupils achieving predetermined, measurably stated objectives. The objectives are clearly stated and a pupil does or does not achieve them, individually, as a result of instruction. Learning activities are to be aligned with the intended objective to be achieved by a pupil. Each pupil may work at his/her own optimal rate of speed when achieving behaviorally stated objectives.

Criterion referenced tests (CRTs) are used along with measurably stated objectives. One then obtains a percentile, for example, from pupil test results. Measurability is very important
to a realist. Norm referenced tests also measure achievement, but they spread pupils out in test results. Thus, pupils may reveal test results from the 99th to the first percentile. In comparison the purpose of a CRT is not to spread pupils out in test results. Many pupils could realize the 90th percentile or higher. Why? The learning activities used in teaching are aligned with the stated objectives. Norm referenced tests do not have related objectives for teachers to use in teaching. Thus, it is increasingly more vague as to which questions will appear on their tests.

Self efficacy, when thinking about different philosophies of education, emphasizes the abilities of a pupil to be flexible to indicate what has been and is being learned.

Efficacy in Mathematics Achievement

As is true of other academic areas, the mathematics teacher needs to have adequate knowledge of each pupil's level of attainment. Mathematics tends to be a precise academic area whereby it is more accurate to measure achievement as compared to the language arts, social studies and science. Thus, few would argue with pupils needing to learn, meaningfully, the basic operations of addition, multiplication, subtraction, and division, although it is possible to perform these four operations readily, mechanically, and accurately with the use of the handheld calculator.

To stress optimal pupil achievement, there are teachers who have used an individualized mathematics program. The sky then is the limit in pupil achievement on an individual basis. For example as a model, the basal text being used can provide a basis for mathematics instruction. Each pupil may start on the first page of the basal. The teacher monitors and supervises ongoing pupil work as each progresses as rapidly as possible. Assistance is given by the teacher and by the aide to pupils, as needed. It does not take long before each pupil is working at a different place within the confines of the basal textbook. No pupil then needs to wait on others before moving on to the next sequential page in the basal. Here, pupils, individually, can move forward as rapidly as possible as abilities permit. The teacher and aide check each pupil's work after a lesson has been completed. Explaining why an error was made and indicating the correct way of performing an operation on number is important. Through teacher observation in ongoing activities, the teacher may need to explain so a pupil does not practice the wrong thing. Constant encouragement of each pupil to achieve
optimally is a must!
The teacher could take note of common errors pupils make in individualized mathematics and then the next school day show corrections on the chalkboard in a meaningful way. This activity may be followed by pupils working on their individualized mathematics program.
Pupils in individualized mathematics need to
1. keep working on sequential problems regardless of difficulties faced, realizing that help is available if necessary to hurdle difficulties.
2. realize that high achievement and accomplishments are a product of planning, striving, purposing, and self assessment.
3. feel responsible for their own accomplishments with time spent on task.
4. lean upon the self to overcome difficult situations and tasks.
5. trust their own abilities and thoughts based on rational decision making.

Efficacy in Science

The science curriculum with unit teaching emphasizes a study of the biological, earth, and physical sciences. Each unit taught needs to stress efficacy as a way of learning and of life. For each unit taught, there needs to be quality knowledge, skills, and affective objectives for pupils to achieve. The learning activities need to be
1. motivating for each pupil to achieve in an optimal manner.
2. engaging so each pupil reaches out to learn, grow, and achieve as much as individual abilities possibly can permit.
3. interesting and satisfying to the learner.
4. purposing in that there are reasons for learning, accepted by the pupil.
5. self assessing which provides feedback to the involved learner on progress made.
6. goal centered in that diverse forms of thinking are stressed.
7. incorporating of technology to develop and prepare the learner for living in the information world.
8. varied to provide for individual differences among pupils.
9. providing for individual as well as committee endeavors.
10. concerned about the health, social, and psychological welfare of each person.
There are then a plethora of worthwhile objectives for a pupil to achieve in science, involving efficacy development. The science teacher must be a conscientious being who desires pupils individually to learn as much as possible. Science as a curriculum area has many vital subject matter objectives for pupil academic achievement as well as for personal development. Pupils need to have ample opportunities to attain feelings of belonging to a group. Group membership is highly valuable as well as being able to accomplish much individually. Being able to have esteem needs met and feeling that one is valued for doing well in one or more facets of science is salient. Human beings crave being accepted by others and excelling in selected areas of knowledge, skills, and/or attitudes. There are a plethora of components which make up the concept of efficacy.

The individual talents of pupils need to be identified, fostered, and developed. In an integrated science curriculum, for example, there are a plethora of talents or intelligences which pupils need to develop. Science being at the core of the unit, then, might well integrate art. If a science unit on prehistoric life is taught, pupils individually or collectively may draw scenes or develop a mural of diverse dinosaurs with their prehistoric background of trees and plants from the Triassic, Jurassic, and Cretaceous eras. Major dinosaurs may include the diplodocus, the tyrannosaurs Rex, the brontosaurus, and the stegosaurus. Creativity may be stressed with pupils writing poetry as it relates to the age of dinosaurs. Rhymed verse (couplets, triplets, quatrains limericks), unrhymed poetry (free verse), as well as syllabic verse (haiku, tanka, and septolets) may be written as they zero in on the age of dinosaurs. Use of the gross and finer muscles may become evident in such projects as making models, constructing dioramas, and doing movie sets. Originality in thinking might be emphasized in creative and formal dramatics. Mathematics is a language of science with its weighing, estimating, and measuring. The different aforementioned activities must all be related directly, here, to science subject matter within the ongoing unit of study. Through a variety of learning opportunities, the pupil should achieve more optimally in unit objectives of instruction. Reading and writing as leaning opportunities need to cut across academic disciplines, science included. With the development of multiple intelligences, the learner can increase feelings of efficacy in his personal and social life by discovering and leaning upon one or more of these multiple talents.

Unit teaching in science to emphasize efficacy should stress that pupils
1. develop feelings of accountability.
2. persevere, in spite of difficulties, to complete tasks satisfactorily.
3. achieve intrinsic interests.
4. assess the self through reflection.
5. seek challenge and meaning in life.

References


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