What do students need to achieve in reading? Students need to master phonics elements as needed. Ten cautions in teaching phonics are outlined, which also offer a framework for reading across the curriculum. Reflective thinking in reading is important, and students should be taught to ponder and probe ideas gleaned during and after reading instruction. Ten things that reflective thinking might stress are listed. Computer technology can be used in the reading curriculum when providing for individual differences of students. In interpersonal reading, students may learn from each other when working together, and may benefit in other ways. Intrapersonal reading emphasizes students achieving well on an individual basis. Ten ideas are listed for individuals who prefer to work by themselves. Portfolios and reading achievement are discussed, and 10 entries are listed which may become part of a student reading portfolio. Finally, state mandated testing is discussed. Ten weaknesses of such tests are listed, when they depend too much on test results to indicate student achievement. (Contains 20 references.) (SR)
Reading and the Curriculum.

by Marlow Ediger
READING AND THE CURRICULUM

Being a good reader is a must in all curriculum areas. Not only is society pushing for higher reading test scores, but also the learner is expected to perform at a higher level at the future workplace. Now is the time for students to put forth optimal effort in achieving objectives in reading instruction. Time which is wasted cannot be made up, but takes momentum away from achieving future goals in reading achievement. The present represents the ideal to accomplish, learn, and grow. Continuously, the student needs to reach out and learn as much as individual differences permit.

What Do Students Need to Achieve in Reading?

The author believes strongly that students need to master phonics elements as needed. For most, systematic phonics instruction is not necessary. Why? Phonics study is quite abstract in nature. Abstractions tend to be more difficult to learn as compared to concrete situations. Then too, systematic phonics may provide more learnings to students than are needed and at an inopportune sequence in reading. Thus, when phonics are taught as needed, then practical use may be made of what has been studied. Cautions in teaching phonics include the following:

1. a teacher should not go overboard on teaching grapheme/phoneme relationships due to inconsistencies involved, such as seventeen ways of spelling the “oo” sound, e.g. moon, through, two, to, too, blue, and rheumatism. However, there are numerous consonants which do possess consistency between symbol and sound such as the letters b, d, f, two sounds for the letter g, h, j, k, l, m, n, p, r, s, t, v, w, y, an z.

2. teachers need to emphasize students use context clues to identify unknown words. Meaning theory is involved here in that the unknown word is attempted by filling in with a word which makes sense in that sentence. Sometimes, more than one sentence is read to provide the context for identification of the unknown word.

3. context clues may not always provide the correct word identified for the unknown. Thus with the help of phonics, the student may identify the initial consonant together with the context clue and thus identifies the unknown.

4. selected teachers have also been successful with teaching students to use picture clues, structural analysis, and configuration clues to identify unknown words.

5. students with increased literacy skills should become familiar with and use voice inflection such as stress, pitch, and juncture when reading aloud with interpretation and expression (Ediger and Rao, 2000, Chapter Seven).

6. teachers need to emphasize semantics (meanings of sentences) and syntax (word order) in sentences.

7. students need to understand and use sentence patterns when reading and composing sentences. These include the following patterns:
a) subject / predicate pattern.
b) subject/ predicate/ direct object pattern.
c) subject/ predicate/ predicate adjective pattern.
d) subject/ predicate/ predicate nominative pattern.
e) subject/ predicate/ indirect object/ direct object pattern (Ediger, 1999, 109-115).

8. learners with teacher guidance need to develop skills in higher levels of complexity when engaged in thinking about what has been read including
   a) reading to acquire facts and recall information.
   b) reading to comprehend and attach meaning to subject matter achieved.
   c) reading to use information in a practical way.
   d) reading for a sequence of ideas.
   e) reading for directions to be followed.
   f) reading for purposes of analyzing subject matter in order to divide into component parts such as in separating the factual from that which is reality based knowledge.
   g) reading to relate ideas to each other.
   h) reading to compare and contrast information.
   i) reading to solve identified problems.

9. students practicing and refining reading skills by reading in thought units, reading silently and orally in a fluent manner, as well as reading with appropriate enunciation and expression (Ediger and Rao, 2000, Chapter Fifteen).

10. students working effectively individually as well as in group situations when discussing ideas read in the ongoing reading curriculum (Vygotsky, 1978).

The above named concepts and generalizations provide a framework for reading across the curriculum. It is essential that each student possess the necessary ingredients to read well in each academic discipline.

Reflective Thinking in Reading

Students should be guided to become proficient in reflective thinking. With reflection, the student is better able to recall and rehearse information acquired through reading. Content may soon be forgotten unless the reader thinks about that which has been read. Thus, retention is a salient factor when reflective thinking becomes a major objective of instruction. Questions in class raised by the teacher or a student need to emphasize pondering and probing of ideas gleaned during and after reading instruction. Prejudices and biases may be examined in the reflective process. The salient from the non salient in ideas may also be weighed and given proper weighting. Reflective thinking may also stress the following:
1. separating what is known from what is not known in reading. These gaps may be filled with additional learning opportunities.
2. changing from what is done to something which is more ideal in nature, such as doing more reading.
3. moving from factual ideas in reading to more of creativity in life's endeavors.
4. engaging students to think upon perviously acquired knowledge to build upon this framework nd encounter the new in the reading curriculum.
5. reflecting upon what is to what should be in the cleanliness of the environment.
6. being able to do divergent thinking in reading rather than convergent thinking largely/ only.
7. using divergent thinking in reading rather than focusing only upon one's store of ideas.
8. doing exploratory thinking instead of holding to absolutes (See Ediger, 1996, 5-7).
9. asking questions of the self such as how to do things differently to improve the self in relating to others.
10. wanting to look at beauty rather than the routine and the negative

The educational experiences of students then should become those which involve thinking about what has been learned in order to do something with these learnings, not to merely store ideas read in terms of absolutes carved in stone (Ediger, 1995, 33-34).

Using Technology in the Reading Curriculum

Technology is used freely in society. Changes occur so frequently in technology use that it is difficult to keep up with all the changes occurring (talk given by Dr. Marlow Ediger at the Science Teachers of Missouri Fall Convention, October 18, 1997, Jefferson City, Missouri). The author's first personal computer was purchased in 1989 which processed information eight times faster than the 1988 model of the same name computer. In 1997, a new personal computer was purchased for $900 less, with the same brand name, and had the following additional capabilities:
1. fax which was never used. It had internet and e- mail. The latter two caused many problems.
2. a voice secretary which did not work.
3. a printer which did a much clearer, better job of printing final copies.
4. faster work done in word processing.
5. two computer crashes in 2001 in which a plethora of typed manuscripts in the hardware drive were lost. A new computer was then purchased.
Computer technology needs to be improved upon. There would be no argument against that statement. Computer and software use needs to be implemented in the reading curriculum. This provides another avenue of teaching reading when providing for individual differences among students. Students differ from each other in a plethora of ways, and how reading skills/knowledge are developed is another problem area and computer innovations and use may well provide selected answers (Ediger, 1998, 24-30). Tutorial programs tend to emphasize a step by step process in learning to read and achieve in reading. Stimulus > Response (S>R) theory is in the offing. Here, the student reads and studies a small amount of information from the monitor. A response by the learner is then made based on what was read. The response to the Stimulus is presented in multiple choice form. If the learner was correct in responding, he/she is rewarded, perhaps with a smiley face shown on the monitor. If the response was incorrect, the student sees the correct response, also, on the monitor and is ready for the next sequential programmed item presented on the monitor (Ediger, 1999, 146-147).

The same sequence in providing a Stimulus is provided with a small amount of information to be read, followed by the Response by the student consisting of a multiple choice test item. Next, the student checks his/her answer with that given on the monitor. This sequence is followed again and again. Good tutorial programs in reading instruction, if adequately pilot tested, may provide for a 95% success rate in reading achievement by students. Success is vital for students to experience (Ediger, no date, 17-20).

In addition to tutorial programs, there are also drill and practice, diagnosis and remediation, gaming, and simulation in programmed reading (Ediger, 1994, 1-3

Interpersonal Reading

There are numerous programs in reading instruction emphasizing the importance of interpersonal or collaborative reading experiences. In working together, students may learn from each other. With interactions among individuals in the group, students may learn to work together using tenets of democracy as a way of life. Respect and tolerance for others become important. Acceptance of cultural differences is also a vital goal. Biases and prejudices are to be left behind. With a revised perception, students should be able to work more effectively within a collaborative setting. Which additional ways may benefit learners when working interpersonally?

1. assisting members of the group in word recognition problems.
2. helping a learner develop feelings of belonging to the group.
3. building improved self concepts within the collaborative group.
4. working together to achieve the stated objectives of reading instruction.
5. challenging group members to engage in critical and creative thinking, as well as problem solving endeavors in reading.
6. emphasizing increased time in reading when library books are used in ongoing instruction.
7. reading across the curriculum with stress placed upon perceiving relationships among the different academic disciplines.
8. desiring to do more reading and thus increase reading proficiency.
9. doing and making of diverse art and construction projects to show comprehension in reading.
10. using knowledge acquired through reading from ongoing lessons and units of study.

Interpersonal reading and learning appear to be a learning style (See Searson and Dunn, 2001, 22-26). Those students who can achieve more optimally in a collaborative setting should have ample opportunities to do so. The overall objective of reading instruction should be for each to achieve as optimally as possible. Teachers, administrators, and support personnel should work collectively to help implement a philosophy of helping each learner to learn as much as possible in the reading curriculum as it permeates across all academic disciplines.

Intrapersonal Reading

Intrapersonal reading emphasizes students achieving well on an individual basis. Why? Learning as much as possible individually may be a learning style for selected learners. These students learn more in reading on an individual basis as compared to a collaborative setting. In addition to being a style of learnings, those who prefer to work by the self may do the following (See Ediger, 1996, 300-304):

1. sequence their very own individual rate of learning to achieve as optimally as possible such as in individualized reading (See Ediger, 1993, 15).
2. reflect individually on and clarify what has been acquired in terms of major facts, concepts, and generalizations.
3. compete with the self in becoming a better reader.
4. lean upon the self for motivation and inspiration (See Ediger, 1995, 16-17).
5. trust one's own ideas and thoughts in moving forward to achieve optimally in the reading curriculum.
6. look within the self for ideas, purposes, and goals to strengthen personal reading skills.
7. work with others periodically to be able to work harmoniously in a social setting and yet receive ideas for personally improving in reading.
8. tranquility in thinking about efforts toward self improvement in the reading curriculum.
9. use of the KWL method of learning in determining what is known, what is left to learn, and how to obtain what is left to learn.

10. assess continuously one's very own reading achievement (Ediger, 1997, 88-89).

Technology harmonizes well with individual endeavors in reading. Thus on an individual basis, the learner may select and go through at an optimal manner programmed software materials involving tutorials, as well as simulations, diagnosis/remediation, gaming, and drill/practice (Ediger, 1996, 33-42).

Portfolios and Reading Achievement

Portfolios represent students looking within to notice personal achievement in reading. Standards for achievement then do not come from without such as in state mandated testing. But the learner selects that which should go into a reading portfolio. Within a month, a semester, a full school year, a plethora of products/processes might well accumulate to indicate what a student has learned and achieved in reading. Not everything may become a part of the portfolio. The portfolio would then become to voluminous! Rather, choices and decisions need to be made by the learner with teacher guidance as to what might comprise the personal portfolio. Subjective judgments will be made. Objectivity is not possible, nor is it possible in state mandated testing since the writers of the test choose what should be be tested upon and which kind of test items to write. Entries which may become a part of the student reading portfolio might well include the following:

1. cassette recording(s) of oral reading of the involved learner.
2. evaluated work sheets pertaining to purposeful learnings in reading.
3. summaries, outlines, and diary entries of reading activities participated in.
4. journal writing of acquired impressions of content learned in the reading curriculum as well as across the curriculum.
5. video-tapes of pantomimes, dramatizations and committee work of the student involving what was read in the reading curriculum
6. snapshots of completed projects pertaining to subject matter read in ongoing reading experiences.
7. art work, murals, and bulletin board displays made to indicate comprehension in reading.
8. self appraisal of achievement in reading.
9. rubrics developed to assess products/processes in reading.
10. diverse types/forms of poetry written to reveal understanding of what has been read (Ediger, 1993, 17-20).
State Mandated Testing

State mandated testing is quite important to the lay public in attempting to ascertain student achievement in reading. High expectations are in evidence here. In Putnam, Massachusetts, 94% failed the English test, whereas 95% failed in mathematics, and 91% in science (Education Week, April 18, 2001). Selected punishments of schools have been proposed/worked out in some states to motivate teachers and students to achieve at a higher level on mandated tests. These motivators include states taking over failing schools involving educational bankruptcy laws, pay teachers salaries based on student test results, reward teachers in a lump sum for high student achievement on tests, rewarding well performing schools, and removing tenure for teachers clause. State mandated tests have the following weaknesses when depending too much on test results indicating student achievement:

1. they lack validity and do not cover what has been taught.
2. they lack reliability and may have a large standard of error, indicating a lack of measuring consistently be it test/retest, alternate forms, and/or split half reliability.
3. they tend to incorporate multiple choice test items largely/only which can be mass scored by computers. These kinds of test items largely measure factual recall of information and not critical and creative thinking, as well as problem solving.
4. they have multiple choice test items which are unrelated to each other so that no clues are provided in sequential test items responded to by students. However, in teaching and learning situations, it is recommended that knowledge be taught as being related.
5. they contain a sampling of information and skills which teachers should have taught and students to have learned.
6. they are closed to the parents of the student having taken the test. Parents then may not evaluate the specifics on how well their student is achieving in the reading curriculum.
7. they provide a numerical score on student achievement such as a percentile, a standard deviation, a stanine, and/or a grade equivalent. Generally, a percentile is provided since this numerical value is the easiest for parents to understand. But, how well a student is doing in word recognition skills or in comprehension may not be known by parents.
8. they do no analyze and diagnose difficulties faced by students in reading.
Diagnosis and remediation are salient factors in a quality reading program.
9. they tend to lack evaluation items on how well students write, speak, and listen. Test items on grammar is not equivalent to the actual writing of business and friendly letters, essays, notices, invitations, and other forms of writing, necessary to function well in society.
10. they are written by test specialists who are far removed from the local school setting. These test specialists have no knowledge of students in the local classroom setting.
It is important to have much knowledge of students and their interests, capabilities, culture, and motivation so that individual differences may be provided for (Ediger, 1997, 339-343).

Each of the above enumerated items provide information for test developers to analyze and modify what is done in state mandated testing. Weaknesses need to be diagnosed and remediated.

It is vital that each student achieves as optimally as possible in reading across the curriculum. Reading is the first of the 3rs and should receive much attention in the curriculum so that students individually learn as much as possible in the curriculum and indicate achievement in a self preferred way (Gardner, 1993).

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