In response to the concern that the reading needs of students at Mt. San Antonio College (California) were not being met, this study reviewed the research on reading in three areas: (1) the connection between instruction of both reading and writing; (2) the preferred instrument for the assessment of reading for placement; and (3) the recommended response for reading coursework. The results of the research suggest that reading instruction is an important instructional component in the college environment, that Degrees of Reading Power (DRP) best meets the requirements for a reading placement instrument, and that a reading program of three courses to be taught in the Learning Assistance Center is the preferred response to meeting the coursework demands. The study is divided into three major sections: (1) the reading-writing connection; (2) reading assessment, particularly regarding standardized, multiple choice, cloze and vocabulary tests, including current standardized tests on the market and recommendations; and (3) reading course response, with recommendations. Included are names of tests and their attributes, as well as figures on reading placement instruments used at various other California community colleges. (Contains 40 references.) (AS)
A Report on Reading and Its Place in the Community College Environment: A Study of the Reading/Writing Connection, Reading Assessment, and Reading Course Response for Mt. San Antonio College

by Patricia Bower and Barbara Gonzales
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ABSTRACT

Because of the combined effects of a recent change in the assessment process at MtSAC and a campus study of Content Review, a concern arose that the reading needs of the students at MtSAC were not being met. In order to address this concern, a proposal to review the research in reading was requested. In response, this study reviewed the research in three areas: The connection between instruction of both reading and writing, the preferred instrument for the assessment of reading for placement, and the recommended response for reading coursework. The results of the research suggested that reading instruction is an important instructional component in the college environment, that Degrees of Reading Power (DRP) best meets the requirements for a reading placement instrument, and that a reading program of three courses to be taught in the Learning Assistance Center is the preferred response to meeting the coursework demands.
I. INTRODUCTION

In 1997, a sea change took place in assessment at MtSAC with the institution of a writing sample placement test, the Assessment of Written English (AWE). The AWE replaced the Asset, a timed, multiple choice test comprised of reading and writing sections. Several concerns arose when the reading element of assessment was eliminated.

Even though the Asset test had a measure of reading, it was never utilized in the placement of students since placement has always been made only into English writing classes whether using the Asset or the AWE. Reading was offered as a default for those not placing into an English class but wishing to improve their language skills and abilities. There has never been a reading placement instrument at MtSAC for placement into a reading course.

A campuswide study of Content Review conducted in 1996 showed that among the courses offered on campus, 62% had a readability requirement based on the texts used in the courses. This emphasis on the requisite reading skills for success is essentially unanswered in the placement process.

Many voices were raised that a reading component was needed. Discussions followed regarding this need. Some suggested that reading would improve as a natural outcome of improving writing. Others questioned whether a reading program should be established to meet the need. If such a reading program was established for the campus community, then what placement should be used? All of these are valid ideas and questions that can be answered.
through research.

At the request of the college and under the aegis of the Title III grant, a research project was undertaken to address the appropriate campus response to the reading issue. Three areas were researched: the connection between writing and reading instruction, assessment instruments for reading, and requirements for a reading course response. The results of the research are contained herein.
II. THE READING-WRITING CONNECTION

Research on the issue of reading and writing goes back seventy years in a quest to determine the effect of one learning on the other (Stotsky, 1983). Today, there is general consensus that the reading and writing processes are interconnected (Eckhoff, 1983; El-Hindi, 1997; Lewis and Carter-Wells, 1987; Pugh and Pawan, 1991; Stotsky, 1983). However, the connectivity between reading and writing continues to be studied.

Several studies show that reading and writing activities utilize similar complex processes (El-Hindi, 1997; Hayes, 1990; Pugh and Pawan, 1991; Smith, 1982; Stotsky, 1983; Wittrock, 1983). Wittrock (1983) believes that both reading and writing involve "generative cognitive processes" that allow the readers as well as the writers to build connections between the text and their knowledge, beliefs and experience. Smith (1982) finds that the layers of prediction in a book reflect directly the layers of intention by a book writer. The work of El-Hindi (1997) suggests that reading and writing involve three recursive phases: planning, drafting, and responding. Generally, the research supports a strong interconnection between both processes used for learning reading and writing.

Stotsky's (1983) study of the research on the reading/writing relationship was made to establish an understanding of whether learning to write impacts reading comprehension and/or, conversely, if learning to read has a commensurate effect on writing ability. She surveyed the educational literature for findings on both correlational and experimental studies.

The correlational studies that Stotsky (1983) reviewed showed overall that better writers tended to be better readers, to read more than poorer writers, and to produce more syntactically mature writing than poorer readers. One study found the converse; poor readers were also poor writers. The findings of the studies, however, did not consider the
traits of those who are good readers/poor writers or poor readers/good writers. There is little or no correlational information on these populations in the literature (Stotsky, 1983).

Experimental studies on teaching writing to improve writing and then measuring the unintended effects on reading did not find significant achievement in reading (Stotsky, 1983). Some studies offer evidence to dispute this finding. A study of preschoolers shows that four- and five-year-old students who are taught to write letters for sounds can generate written words and rudimentary sentences before they have learned to read. Subsequently, they can, without instruction, read their own sentences (Wittrock, 1983). The researcher did not claim that his study demonstrated the effects of writing instruction on reading ability at this basic level. In research from 1976 with ninth grade students in an intensive, year-long language arts program, Bethke (1996) suggests that teaching writing and grammar does improve reading scores but that the reverse was not necessarily true.

In her review of experimental studies, Stotsky (1983) found that almost all the studies that used writing activities or exercises to improve reading comprehension found significant gains in reading and retention. Several of the studies cited utilized summary writing, outlining and/or note-taking to improve reading comprehension. This is echoed by Langer and Applebee (1987) in a study of science and social studies teachers who added writing activities in the learning environment and found increases in learning compared to activities involving only reading and studying. Similarly, in a number of studies explored by Hayes (1990), analytic writing was found to be effective for engaging students in the reading of texts and for reinforcing those processes that engage student learning.

The results are mixed on the effect of reading instruction on the improvement of writing. The experimental studies presented by Stotsky (1983) on improving writing by providing reading experiences in place of studying grammar or practicing writing showed
significant or similar gains compared to experiences involving only grammar study or writing practice. Further, studies that used literary models for reading found significant gains in writing ability as reflected in the organization of the writing. One study that was directed at college level students to improve writing skills through reading instruction found no significant gains in writing even though measured reading comprehension showed improvement (Stotsky, 1983).

There is a body of researchers and theorists who suggest that reading has primacy over writing in learning. Smith (1983) asserts "one learns to write by reading" (p.84) while averring that the act of writing is necessary as a basis for learning to write. He further explains that writing needs reading but that reading does not require writing and uses the analogy that recognizing faces does not require that one must learn to draw first (Smith, 1982). Similarly, it was noted that normally the demand for reading is greater than the demand for writing and that people do not need to write while reading but do need to read while writing (Pugh and Pawan, 1991). Fillion et al (1976) found that the nature of language includes the concept that comprehension always exceeds production. That is, one’s writing ability cannot be judged based on a high level of reading. Eckhoff (1983) offers a study that shows the writing of children contained features that reflected the complexity and style of the reading text they were using.

A correlational study by Lewis and Carter-Wells (1987) tested causal relationships between reading achievement and expository writing in college freshman using path analysis. Path analysis is a statistical tool employed to demonstrate how data collected from many studies fit a proposal of causality to create an interrelationship diagram between several elements. Theoretical support for the analysis was based on the results of studies, many of which are mentioned above and which were the basis for the supposition that reading experience impacts on writing achievement, the model for the analysis. The variables tested were oral language, study methods and attitudes, prior
knowledge and experience, reading, writing, logic and organization facility, vocabulary knowledge and facility, and sentence knowledge and facility. The study discovered that the data supported two assumptions. One assumption is that much of what one understands about writing is learned through reading. The other assumption asserts that reading and writing are linked by vocabulary facility, awareness of sentence components, arrangement of sentence components for clarity of expression, and facility with how ideas are related and organized. The study's conclusion supported by this analysis is that reading instruction improves one's facility with intrasentence relationships and, thereby, improves writing achievement.

While there is growing evidence that reading instruction has a positive impact on writing achievement, it is too early to conclusively state that it is the case. Indeed, some studies suggest that the opposite may be possible. The studies also suggest that instruction in writing has little impact on reading improvement. Nevertheless, the teaching of reading can be facilitated by activities involving writing. That a reading course could have a beneficial effect on writing achievement is a true advantage for the student of reading. However, there is little controversy over the need to teach both reading and writing. Current research supports the idea of establishing a reading program at MtSAC to meet the needs of those students with reading deficits.
III. READING ASSESSMENT

General Overview

A sound assessment instrument is essential for successful placement of the student. The basic question that must be answered in order to make a good assessment is, "What is reading?" This simple question reveals the difficulty of creating an assessment instrument since experts can only agree that reading is a complex learning that is not readily defined (Flippo et al, 1991). Generally, reading is classified as a product or a process. The product model proposes that reading is composed of discrete, separable skills each of which can be measured. However, there is no agreement on what those skills are. Reading as a process is regarded as a global skill that uses information processing while selecting and choosing information (Flippo et al, 1991). Much of the recent research on adult reading reaffirms reading as a process of interrelated skills that involves metacognition and critical thinking; however, current instruments still emphasize individual and discrete skills (Carter-Wells, 1997; Flippo et al, 1991; Stotsky, 1984).

Understanding what a reading assessment instrument can and should do is necessary for making an informed decision on what instrument is to be used either to place students into reading courses or to place them out of the requirement. Stiggins (1995) suggests that the five standards required for sound assessment are that assessments 1) result from clear purposes, 2) arise from clear and appropriate achievement targets, 3) rely on a proper assessment method, 4) measure student achievement appropriately and 5) control for bias and distortion. We need to look at each of these areas in terms of what we hope to achieve in the reading placement of MtSAC students.
1) The campus 1996 study on Content Review on the validation of prerequisites shows that reading level of textbooks is of significant importance to faculty. This has established a need to assess the reading ability level of incoming students to assure placement that will give the student success. Thus, there is a clear purpose to have the student well-matched to the course work offered.

2) The achievement target, therefore, is the demonstrated capacity to read at the level demanded of the text level for a given course.

3) Following recommendations that are based on a careful study of the literature and the instruments available should result in a proper method of assessment. Delineating a proper assessment method is the focus of this paper.

4) and 5) The appropriate measure of student achievement and the controls for bias and distortion will be individual to the instrument chosen and its application on this campus. Follow-up studies will provide both information and validation of these standards.

Any assessment tool has the possibility of three functions: a measure to sort the students, a diagnostic tool for an individual placement, or an evaluation to measure the effectiveness of a program (Simpson, 1992). The first function, the sorting or screening of students, is often twofold, to determine if there is a need for reading intervention and to determine placement in the appropriate course (Flippo et al, 1991). It is this function of determining need and placement that is the goal of the reading instrument at MtSAC.

Another important need of an assessment placement instrument is that it provide meaningful information about the student's current level of preparedness rather than a prediction of the student's future success. Since the predictive quality for a student's success at a given course level is generally not supported by the correlation data on such instruments, caution must be followed when using placement tests. However, matching
the evaluated ability level to the correct course level is considered a reflection of a test's validity (Isonio, 1994).

When selecting a reading assessment instrument, there are three choices: a locally developed test, a standardized test or informal measures (Maxwell, 1991). There are several disadvantages to locally developed instruments: 1) They are expensive and time-consuming to develop; 2) they typically lack testing elements that assure accuracy; and 3) comparative data from other institutions are unavailable (Jacobi, 1987). Maxwell (1991) states that, additionally, it is difficult to get faculty experts to agree on what criteria should be measured by the test. In light of the immense effort of constructing such a locally developed test, and in spite of the drawbacks that a standardized measure can have, it is easier to find a published test to use in placement (Flippo et al, 1991; Maxwell, 1991). Informal measures such as written retellings, reading inventories and metacognitive dialogues are very useful in the diagnosis of college reading problems, but are labor-intensive and do little to sort students by their capabilities (Maxwell, 1991).

**Standardized Tests**

Using standardized tests to measure college reading ability has a long history (Maxwell, 1991). Their use is widespread and often a part of the admissions process (Flippo et al, 1991). It is generally agreed, however, that there are many problems associated with the use of these standardized tests (Flippo et al, 1991; Johnston, 1984; Maxwell, 1991; Stiggins, 1995; Valencia et al, 1992; Winograd, 1991 and Wood, 1988). Given that there are limitations to standardized tests, some liabilities need to be discussed.

A concern arises that standardized tests may not measure what a student has learned, but they are all that are available (Jacobi et al, 1987). Current standardized reading tests only provide a gross measure of reading ability since they simply measure a limited part of a person's reading capacity (Maxwell, 1991). There is discussion that
because the standardized tests sample only a small proportion of the intellectual capability, they actually reward a facility for decontextualized knowledge (Gardner, 1993). A caveat from Wood (1988) states that current testing instruments are not a good measure of what we expect from the student in the college classroom. Carter-Wells (1997) agrees and elaborates that current instruments place emphasis on individual and discrete skills rather than reflecting reading as a process. There is some question of whether available standardized tests can ever give meaningful outcomes for higher education (Jacobi et al., 1987). Agreeing with this outlook, Waters (1980) suggests the "complexity of the reading process makes reading experts loath to depend exclusively on the scores of a reading test to determine level of ability" (p. 96); nevertheless, she admits, it is as of yet the only way to survey large groups.

Speeded or timed readings bring up more questions about what a test is measuring (Maxwell, 1991). Kersteins (1990) defines a speeded instrument as one on which time is imposed so that all participants do not finish the test. Speededness became an element of testing when it was discovered that in controlling the time of a test, more test items could be added to increase the reliability of the test (Maxwell, 1997). One study demonstrated that the speededness of the reading test encouraged random guessing resulting in higher scores and, thereby, higher placement (Jolly et al., 1985). Further studies by Kersteins (1986) concluded that timed tests not only negatively affected the community college developmental students' scores but profoundly affected the students' speed of response, thus disproportionately affecting that student population. He further showed that there was a positive relationship between the scores on untimed tests and student performance. His continued studies of this issue indicated that students do not complete timed tests within the time limit unless they resort to "testwise, score-inflating skimming or random-responding strategies". He questions whether speed reading is the overriding criterion that we want students to achieve (Kersteins, 1990). Finally, a study at
San Diego Community College District, a district with a large, multi-ethnic student body suggests that students with diverse educational backgrounds and language histories need additional time to complete tests (Armstrong et al., 1991).

Prior knowledge affects positively the outcome of a reading comprehension test. This means that the student who scores well has good comprehension skills, a broad knowledge background or both. In any case, such a student will likely be appropriately placed. However, for the low scoring student, there is a question of what the test is actually measuring, reading ability or lack of background knowledge (Johnston, 1984).

Standardized tests are of two kinds, norm-referenced tests and criterion-referenced tests. A norm-referenced test shows how a student compares with others who have taken the test and scores are based on the distribution of scores in a statistically normal curve. These tests are designed not to measure the amount of the subject that the student has mastered but how well the student’s performance compares to others. Criterion-referenced tests are based on the number of items that are answered correctly and are designed to determine whether certain academic objectives have been met (Maxwell, 1991). Maxwell suggests that criterion-referenced tests should be used whenever possible since they yield clearer information about what a student can and cannot do. However, the bulk of commercial tests available today are norm-referenced, a fact that can be balanced by developing local norms based on student performance on the campus using the test (Flippo et al., 1991). Additionally, the use of raw score data may enhance the usefulness of the norm-referenced score (Jacobi et al., 1987).

Typically, test results are expressed in grade equivalencies intended to match the grade level that can be read by the test taker. The problem with the use of grade equivalencies resides in matching the measurement of the reader’s performance to the readability of the text, each of which is based on different theoretical measures. The readability formulas fail to include two essential components of reading comprehension,
processing demands of the text and processing characteristics of the reader (Flippo et al, 1991). This was of such concern to the International Reading Association that in 1981 the Association issued a resolution urging publishers to eliminate grade equivalencies from their tests (International Reading Association, 1981). Typically, for post-secondary testing, the students' reading ability is overestimated in grade equivalencies (Flippo et al, 1991).

Prepackaged, commercial tests for measuring comprehension are in standard formats that most frequently include timed reading of short passages with multiple choice questions, cloze tests or vocabulary tests (Wood, 1988). It is useful to review and understand what each type of test can do and what its limitations are.

**Multiple Choice Tests**

Currently, 70% of reading tests used to measure post-secondary reading comprehension are multiple choice tests that involve a timed reading of a passage followed by multiple choice questions (Wood, 1988). The popularity is thought to be due to the focus on cost, time efficiency, and objectivity that a multiple choice test provides over untimed and/or labor-intensive measures (Stiggins, 1995; Wood, 1988). Additionally, the scores can be determined quickly, and reported in a variety of units of measure (Wood, 1988).

Typical tests such as the Nelson-Denny Reading Test and the Descriptive Test of Language Skills (Reading Comprehension Test) have short passages to read and do not require any sustained reading. Like the other multiple-choice tests, the questions are often limited in scope and do not address many of the strategies for comprehending, evaluating and remembering (Stiggins, 1995; Wood, 1988). Much of the thinking for this mode of testing relies on the concept that any achievement target that does not translate into a multiple choice test item cannot be dependably and scientifically measured and so is not important (Stiggins, 1995). However, a study by the National Assessment of
Educational Progress (NAEP) provides results of a 1990 study that show that “while most students can answer multiple-choice questions about simple texts, a substantial number are unable to read more complex texts or adequately provide a written response to a question” (Valencia et al, 1992, p732).

Research over the last two decades show that reading is a much more complex activity than previously thought and does not readily translate into multiple choice modes (Stiggins, 1995; Winograd et al, 1991). Timed, multiple-choice tests deal solely with reading as a product (Flippo et al, 1991). This creates a discrepancy between the need to measure the process-oriented, complex learning and what the test provides (Curtis and Glaser, 1983). Several specific reasons for a need to change from this method of assessment are proffered by Winograd et al (1991). First, this traditional assessment is based on outdated models of literacy where the focus is on skills in isolation without prior knowledge or motivation as factors. Second, this traditional assessment prohibits the use of learning strategies such as skim and scan. A third reason is the effect of redefining educational goals to fit the instrument rather than the needs of the student. Finally, such assessment instruments are easily misunderstood as accurate measures of a student’s learning rather than a measure of accumulated knowledge, test-taking skills and socioeconomic status. These discrepancies have yet to addressed by the makers of the current multiple-choice tests on the market (Flippo et al, 1991).

The interpretation of a multiple-choice test varies greatly. It could be a measure of the ability to read simple text of the type given and answer related questions, a measure of general reading comprehension or an indicator of overall verbal ability or even a measure of intelligence. Clearly, there are many interpretations which bring the validity of the test into question (Kane, 1992). This, again, may be a result of the mismatch between a product-focused test and a process-focused placement (Flippo et al, 1991).
There are other criticisms of the multiple-choice test as well. In multiple-choice testing, the reader must respond the way the tester wants him/her to respond. Further, the reader’s ability to understand the main idea and organization are not measured in a short passage, multiple-choice environment. Finally, a reader’s ability to answer multiple-choice questions may be what is actually being tested (Wood, 1988).

**Cloze Tests**

After the multiple-choice tests, the most popular standardized format for testing is the cloze test. In this test every fifth or seventh word is omitted and the reader must fill in the blank. Multiple choice versions known as modified cloze provide the word choices in the margin. The cloze process incorporates context and an understanding of writing (Wood, 1988).

Cloze tests focus on the reader’s ability to construct meaning, that is to go beyond the written text. This task includes making evaluative judgements. However, the cloze test is considered to have minimal inferential capacity for comprehension which may not be enough to indicate higher-order cognitive abilities (Burrill et al, 1987).

Some criticisms of the cloze tests include the reliance on the ability to write so that good readers who do not write well may do poorly on the test. A second criticism is the lack of encouragement of the format for the reader to scan to understand the topic and arrangement of ideas before reading. Finally, this type of test falls short of measuring the breadth and variety of the reading task that is often given in instruction (Wood, 1988).

**Vocabulary Tests**

A vocabulary test as the sole measure of reading level is typically used for diagnosis, a measure of sophistication of decoding ability. Thus, vocabulary tests are
additional information for placement, but not usually deemed necessary for placement (Waters, 1980; Wood, 1988).

Summary

Considering the research cited, the ideal placement instrument is untimed, accounts for a student's prior knowledge or lack thereof, is criterion-referenced, is not expressed in grade equivalents, has extended-length reading selections and is not multiple-choice. The challenge becomes finding an instrument that most closely includes all of these elements.

Current Standardized Tests on the Market

There are many instruments for measuring reading that are on the market today. The tests and information about them are found listed in the chart (Figures 1A, B, and C). The information was derived from the publisher-provided information and reviews by Flippo et al (1991). Instruments that currently have approval of the Chancellor's Office are noted.

A study of the chart reveals that three are untimed: ACCUPLACER, COMPASS, and Degrees of Reading Power (DRP). ACCUPLACER and COMPASS are computerized placement tests (CPT). ACCUPLACER is adaptive meaning the levels of comprehension adjust as the test taker responds until there is a consistent level reached. No average completion times are given for either CPT. On the DRP, students are encouraged to stop when the test is no longer comprehensible; guessing is discouraged. The majority of students complete the test in less than an hour (Flippo et al, 1991).

Only ACT's COMPASS, the computerized placement test, claims to account for a student's prior knowledge. This is accomplished by adding on six questions to each passage and is recommended for those who score poorly on the reading comprehension
items. Most of the tests claim a broad base of readings which may be assumed to compensate for prior knowledge advantage although no studies are provided to verify this assumption.

Of the tests reviewed only two are criterion-referenced, Degrees of Reading Power and Reading Progress Scale. Every other measure is norm-referenced.

A grade-equivalent measure or related measure is offered on every test except Degrees of Reading Power which offers raw scores and reading levels based on a 0-100 scale and Reading Progress Scale which offers pass/fail reading level scores. Percentile, scaled scores and stanines are other typical available measures.

None of the reading tests reviewed offers extended reading passages. Possibly the mechanics of testing are not conducive to offering long reading passages. Longer passages would limit the variety of readings offered impacting the balance of information provided to account for prior knowledge.

Only two of the measures reviewed are not multiple-choice, Degrees of Reading Power and Reading Progress Scale. Both of these are modified cloze tests, that is tests which have a list of options provided for each word deleted from a passage. These options are matched for part of speech and are all common words. This eliminates the effect of test-taking strategies (Flippo et al, 1991).

Of the tests reviewed, only the Degrees of Reading Power and the Reading Progress Scale are considered measures of reading as a process. These instruments utilize the process of selecting and choosing from available information while interpreting the written word (Flippo et al, 1991).

Studies reported by Flippo et al (1991) found that the most widely used test for reading in the United States is the Nelson-Denny Reading Test (NDRT) with the Stanford Diagnostic Reading Test the next most popular. A survey conducted by California’s Chancellor’s Office of the fully approved instruments used by the 116 community colleges
in California show that Asset, ACCUPLACER, and DTLS are each used by about nine percent of the colleges. An additional 54 percent are using the College Board Assessment and Placement Services (APS), an instrument that will not be replaced by College Board when it expires in 1999 (Hallberg and Bojoquerz, 1997). Several of the schools that are currently using APS were surveyed via e-mail on replacement instruments for APS. All the responses indicated that final decisions were still pending based on their continuing inquiries into instruments available.

Recommendations

Based on the cited research and the recommendations contained therein and reviewing the placement instruments on the market, it is recommended that MtSAC adopt the Degrees of Reading Power as a reading placement instrument. This instrument is criterion-referenced and untimed, is of a different testing mode than multiple-choice, and provides results in reading levels. The other instrument that met the criteria for a good reading instrument is the Reading Progress Scale; however, this instrument is intended only as a brief (seven minute test time) survey of approximate reading level and not intended for placement (Flippo et al, 1991).

Based on the evidence that good readers and writers share many of the same abilities, the determination of use of the DRP should be used in conjunction with placement into writing by the AWE. Based on the research, those students placing into English 1A would be considered to have the necessary reading ability. Those placing into English 68 or below would be assessed for their reading levels and placed accordingly based on those studies that suggest that reading and writing are not necessarily commensurate in ability level. Using the reading level scale that is reported by the DRP measure, students would be placed into the appropriate reading course or placed out of the requirement.
An advantage of the DRP is the parallel readability measure that provides reading levels of texts on the same 0-100 scale. Use of a readability measure that aligns with a reading placement instrument will allow MtSAC a means of utilizing the readability demands measured in the Content Review study. Certainly, a drawback of the DRP is the element of an untimed instrument. This aspect could make scheduling of the tests more difficult. Additionally, management of the test would be impacted by students completing their tests at different times. An open entry/open-exit testing area could be a response to the untimed testing.
IV. READING COURSE RESPONSE

Reading as a college level discipline has gained credibility nationally over the past five to ten years. This understanding of the role of reading in a college environment is driven by workplace expectations, professional accreditation agencies, and government reports such as SCANS on required workplace communication skills. College reading seen in the context of a complex process and credible college student outcome is recognized in the National Education Goals as an outcome competency which like writing is a valid academic pursuit (Carter-Wells, 1997).

The critical issue for the students in a reading classroom is to be armed with strategies and awareness that will be utile throughout their educational, professional and personal lives. The college reading course must respond not only to academic requirements, but to current demands of the workplace, as well as meet government recommendations (Carter-Wells, 1997).

What methodologies a reading course should encompass is open to some debate. Flippo et al (1991) delineated the fundamental differences in approach, product versus process. Product or skills-based instruction conceptualizes reading as the sum of discrete subskills. The process or holistic approach to instruction views reading more globally as a network of interrelated skills. Research studies since the 1980s support viewing college reading as a process although many practitioners still utilize the product methodologies (Flippo et al, 1991). Nevertheless, research generally supports the expectation that even a skills-based classroom must have some process instruction (Caverly, 1997; Malena and Coker, 1987).

Cognitive and metacognitive instruction is essential to the college reading classroom. Cognitive skills need to be taught directly including guided and independent
practice. Additionally, metacognition, learning about how one learns, needs to be taught so that students can monitor their own learning (Malena and Coker, 1987). While there are many variations on how this instruction should be presented, the incorporation of cognitive and metacognitive elements of instruction are recognized as necessary (Carter-Wells, 1997; Caverly, 1997; Malena and Coker, 1987; Pugh and Pawan, 1991; Wood, 1988).

Employing this approach in greater detail, Caverly (1997) suggests that college reading courses utilize a reading-learning approach. There are nine principles that form the basis for learning about reading and learning together: 1) The reader's background knowledge has an effect on comprehension; 2) Word recognition is necessary but insufficient for effective reading; 3) Vocabulary development supports reading comprehension; 4) A student's motivation is essential for success in reading; 5) Reading texts have an inherent structure; 6) Relationships within a text can be taught; 7) Reading for information requires its own strategic process; 8) A good reader uses metacognitive strategies, and 9) reading strategies respond variously depending on the task level demanded. Each of these principles applies to either the cognitive or metacognitive element of instruction.

The course response to the needs and expectations of the reading student must be planned to meet the necessary elements of instruction appropriate to the students' levels of preparation. Typically, this need cannot be met with a single reading course. Two or more courses in a reading program are needed to account for wide variations in the reading student population.

Many colleges address the reading needs of their students in widely varying ways offering from as few as a single reading course to more than five from an informal survey of seventeen colleges across the country. Results of a survey requested by this campus of community colleges in California are listed in Figures 2A and 2B. Note that one of the institutions, Solano College, has a reading graduation requirement.
Recommendations

Considering the programs at other schools and the expected needs of this campus, it is proposed that a reading program of three courses be offered at MtSAC in the Learning Assistance Center: a foundation, basic reading course (currently being taught as LERN 76, Improving Reading Comprehension), a textbook-based reading course (currently being taught as LERN 90, Preparing for College Reading), and a critical reading course (a reading and learning course not currently offered). The three courses would offer a wide range of instructional levels. The basic course, LERN 76, would continue to be offered as a pass/fail class taken up to three times for credit. LERN 90, Preparing for College Reading, would be offered as a graded class that could fulfill a general education requirement. A critical reading class to prepare for workplace and lifelong learning would be offered with a reading and learning curriculum that satisfies transferability requirements. Conceivably, a student could take all three classes in the program. However, each class would be available as needed to meet co-requisite/pre-requisite demands. The placement scores for each level would be determined by readability measures of text levels taught and by locally determined cut-offs in pilot and follow-up studies.
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<td>None</td>
<td>45 minutes</td>
<td>None</td>
</tr>
<tr>
<td>Type of Test</td>
<td>Multiple-choice</td>
<td>Multiple-choice, text highlighting, adaptive</td>
<td>Multiple-choice</td>
<td>Multiple-choice, adaptive</td>
</tr>
<tr>
<td>Test format and number of items</td>
<td>Three reading selections of increasing difficulty; 25 questions</td>
<td>Reading passages average 215 words, 27 possible with 11 questions on each passage</td>
<td>Three reading passages; 45 questions</td>
<td>Reading passages of two lengths: 75 and less words, 75 plus words, 20 questions from pool of 333 items</td>
</tr>
<tr>
<td>Types of Scores</td>
<td>Sliding scale</td>
<td>Immediate computer readout</td>
<td>Item analysis</td>
<td>Percentile rank, range, total right base on a 120 question test</td>
</tr>
<tr>
<td>Score Options</td>
<td>Machine scoring</td>
<td>Immediate computer readout</td>
<td>Computer scoring</td>
<td>Immediate computer readout</td>
</tr>
<tr>
<td>Source of reading passages</td>
<td>Prose fiction, humanities, natural sciences, social sciences from first year college level</td>
<td>Arts, human relations, social sciences, natural and physical sciences; level not given</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1A. Approved Commercially Available Tests
<table>
<thead>
<tr>
<th>Attributes</th>
<th>Degrees of Reading Power</th>
<th>Nelson-Denny, Form G, H</th>
<th>Stanford Diagnostic reading Test (Form A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardization</td>
<td>Criterion-referenced</td>
<td>Norm-referenced</td>
<td>Norm-referenced</td>
</tr>
<tr>
<td>Skills/ Strategies tested</td>
<td>Reading comprehension</td>
<td>Reading comprehension, vocabulary, reading rate</td>
<td>Reading skills including inference, phonetic analysis, scanning and skimming and groupings for text, functional and recreational reading; vocabulary</td>
</tr>
<tr>
<td>Testing Time</td>
<td>untimed</td>
<td>Comprehension - 20 minutes</td>
<td>Comprehension - 40 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vocabulary - 15 minutes</td>
<td>Vocabulary - 15 minutes</td>
</tr>
<tr>
<td>Type of Test</td>
<td>modified cloze</td>
<td>multiple-choice</td>
<td>multiple-choice</td>
</tr>
<tr>
<td>Test format and number of items</td>
<td>Reading passages with progressive difficulty; 63 - 72 items depending on form</td>
<td>Seven reading passages with 38 questions; 80 vocabulary items</td>
<td>Reading comprehension has 60 items; vocabulary has 30 items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw scores, reading levels (on a scale of 1 - 100) of independent, instructional, frustration</td>
<td>Percentile, scale, grade equivalent</td>
</tr>
<tr>
<td>Types of Scores</td>
<td></td>
<td>Percentile, scale, grade equivalent</td>
<td>Stanine, percentile, scaled, grade equivalents</td>
</tr>
<tr>
<td>Score Options</td>
<td>hand scored, machine scored</td>
<td>hand scored, machine scored</td>
<td>hand scored, machine scored</td>
</tr>
<tr>
<td>Source of reading passages</td>
<td>Non-fiction on variety of topics</td>
<td>Two passages at high school level, others at college level (13th and 17th) and from textbooks in humanities, social science and science.</td>
<td>Passages from fiction and non-fiction sources written at ninth to thirteenth grade readability</td>
</tr>
</tbody>
</table>

Figure 1B. Locally Approved Commercially Available Tests
<table>
<thead>
<tr>
<th>NAME OF TEST</th>
<th>ATTRIBUTES</th>
<th>Standardization</th>
<th>Skills/ Strategies tested</th>
<th>Testing Time</th>
<th>Type of Test</th>
<th>Test format and number of items</th>
<th>Types of Scores</th>
<th>Score Options</th>
<th>Source of reading passages</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Achievement Test (CAT)</td>
<td><strong>Norm-referenced and criterion-referenced</strong></td>
<td>Norm-referenced</td>
<td>Reading comprehension, vocabulary</td>
<td>Reading comprehension 50 minutes, vocabulary 20 minutes</td>
<td>Vocabulary is multiple-choice and modified cloze, reading comprehension is multiple choice</td>
<td>Ten reading passages with 55 questions, vocabulary is 55 questions</td>
<td>grade-equivalents, scale scores, percentiles, stanines</td>
<td>Machine scoring, hand scoring</td>
<td>Narratives, poetry, reviews, textbook</td>
</tr>
<tr>
<td>Iowa Silent Reading Tests (ISRT)</td>
<td><strong>Norm-referenced</strong></td>
<td>Norm-referenced</td>
<td>Reading comprehension 39 minutes, vocabulary 15 minutes, directed reading 26 minutes, reading efficiency 4 minutes</td>
<td>Reading and retention 15 minutes, vocabulary 10 minutes, paragraph comprehension 15 minutes</td>
<td>Vocabulary is single word synonym choices, reading comprehension and directed reading are multiple-choice, reading efficiency is modified cloze</td>
<td>Six short and one longer reading passages with 50 questions, vocabulary is 50 questions, 44 questions in directed reading, 40 questions in reading efficiency</td>
<td>raw scores, standard scores, percentiles, stanines, Reading Efficiency Index</td>
<td>Machine scoring, hand scoring</td>
<td>Reading passages not taken from classroom materials or texts</td>
</tr>
<tr>
<td>Minnesota Reading Assessment (MRA)</td>
<td><strong>Norm-referenced</strong></td>
<td>Norm-referenced</td>
<td><strong>Reading and retention, vocabulary, paragraph comprehension</strong></td>
<td><strong>Reading and retention 15 minutes, vocabulary 10 minutes, paragraph comprehension 15 minutes</strong></td>
<td><strong>Multiple-choice</strong></td>
<td><strong>Four progressively more difficult passages, 20 questions per passage</strong></td>
<td><strong>percentiles</strong></td>
<td><strong>Hand scoring, self scoring</strong></td>
<td><strong>Textbook reading including social studies, technical, business, social studies/civics, meteorology, geology</strong></td>
</tr>
<tr>
<td>Reading Progress Scale, College Version</td>
<td><strong>Criterion-referenced</strong></td>
<td>Criterion-referenced</td>
<td>Decoding of meaning with passages</td>
<td>7 minutes</td>
<td>Modified cloze</td>
<td>Pass/fail reading level scores</td>
<td></td>
<td>Hand scoring, self scoring</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1C. Non-rated Commercially Available Tests**
<table>
<thead>
<tr>
<th>College</th>
<th>Courses</th>
<th>Pre Req</th>
<th>Test for Placement</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerritos</td>
<td>Read 52</td>
<td>none</td>
<td></td>
<td>APS</td>
</tr>
<tr>
<td></td>
<td>Read 53</td>
<td>none</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Read 54</td>
<td>Successful completion of 53 or placement test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Camino</td>
<td>Eng R</td>
<td>placement test</td>
<td>Accuplacer</td>
<td></td>
</tr>
<tr>
<td>Fullerton</td>
<td>Read 36ABC</td>
<td>placement test</td>
<td>APS</td>
<td>Used longitudinal research method to develop cut-off scores.</td>
</tr>
<tr>
<td></td>
<td>Read 56A</td>
<td>36ABC or placement test</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Read 56B</td>
<td>56A or placement test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA Trade Tech</td>
<td>Dev Com 35</td>
<td>6&lt;sup&gt;th&lt;/sup&gt; vocabulary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dev Com 23</td>
<td>7-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dev Com 36</td>
<td>?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>La Sierra University</td>
<td>RDNG 001</td>
<td>&gt;41 percentile</td>
<td>Nelson-Denny</td>
<td>Exit with Nelson-Denny</td>
</tr>
<tr>
<td>Monterey Peninsula</td>
<td>reading course, two levels</td>
<td></td>
<td>APS (to be replaced with Accuplacer)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>offers Lindamood Spelling/Reading program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porterville College</td>
<td>Eng 82 Basic</td>
<td>N/A</td>
<td>ASSIST</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eng 71 Effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eng 52 Adv</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2A  Reading Placement Instruments
<table>
<thead>
<tr>
<th>College</th>
<th>Courses</th>
<th>Pre Req</th>
<th>Test for Placement</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rio Hondo</td>
<td>Reading 20/21</td>
<td>0-41</td>
<td></td>
<td>Nelson-Denny</td>
</tr>
<tr>
<td>PSA= Profile of Student Assessment</td>
<td>Reading 22</td>
<td>40-41/ low score on PSA or 42-60</td>
<td>(optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reading 23</td>
<td>59-60 / low on PSA or 61-89</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reading 101</td>
<td>88-89 / low on PSA or 90-151</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saddleback College</td>
<td></td>
<td>rec.</td>
<td></td>
<td>Nelson-Denny H</td>
</tr>
<tr>
<td>Shasta College</td>
<td>ENGL 248AD</td>
<td>&lt;4th</td>
<td></td>
<td>APS?</td>
</tr>
<tr>
<td></td>
<td>ENGL 250</td>
<td>5th</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Seem to be ESL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solano College</td>
<td>Eng 353</td>
<td></td>
<td></td>
<td>APS-R</td>
</tr>
<tr>
<td></td>
<td>Eng 320</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eng 62 (T)</td>
<td>min. Eng. Req.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eng 305</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taft College</td>
<td>Eng 63 ABCD</td>
<td>0-14 (raw)</td>
<td></td>
<td>APS -Form A</td>
</tr>
<tr>
<td></td>
<td>Eng 56</td>
<td>15-24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eng 54</td>
<td>25-31 or successful completion of Eng 56</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eng 6</td>
<td>32-35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2B Reading Placement Instruments Contd.
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Author(s): Patricia Bower, Barbara Gonzalez

Date: April 1998

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