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ABSTRACT

A study investigated the stages of concern and the developmental nature of change as possible explanations for the paradox existing between theory and practice related to content area reading. Subjects, enrolled in either an introductory teacher education class, a content reading class, or a student teaching class, were administered a variety of measurement instruments designed to measure their knowledge and concerns about content area reading in secondary education. Results indicated that: (1) the content reading class had an important impact on secondary preservice teachers' knowledge; (2) there were no significant interactions between gender and likelihood of utilization of content reading; (3) growth in both preservice and inservice teachers is developmental in nature; (4) change is a developmental process; and (5) having clear expectations facilitated implementation of content area reading. (Twenty references, three measurement instruments, and a professional development continuum are attached.) (RS)

FROM PRESERVICE TO INSERVICE: DIFFUSING CONTENT READING RESISTANCE

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FROM PRESERVICE TO INSERVICE: DIFFUSING CONTENT READING RESISTANCE

I. Introduction

This project investigated the paradox existing between theory and practice related to content reading. Content reading is perceived as essential enough to warrant its requirement for secondary certification in 36 states (Farrell and Cirrincione, 1984). However, research reveals that while positive attitudes toward content reading can be impacted by a content reading class, attitudes alone do not ensure application of content reading strategies (Ratekin, Simpson, Alvermann, and Dishner, 1985; Christiansen, 1986; Stieglitz, 1983).

Misconceptions or misperceptions about the nature of content reading are likely contributing variables. When asked, "Why do you think the state department of education requires all secondary school teachers to take a reading course?" students entering a content reading course demonstrated potent misconceptions (Stewart and O'Brien, 1989). Thirty-nine percent felt the course was for Personal Remediation as a state mandated quality control project guaranteeing that new teachers would have adequate reading skills. Another thirty-four percent indicated the course dealt with Student Diagnosis and Remediation to correct reading problems of their students. With nearly seventy-five percent displaying such intense misconceptions, one wonders about their receptivity to content reading instruction.

In a related and subsequent study, O'Brien and Stewart (1990) proffered three major assertions regarding preservice teachers' resistance to content reading instruction:

> 1. Resistance to content reading instruction is based in part on global perceptions about secondary schools as workplaces. Content reading is resisted because it is viewed as incompatible with the organization and traditions of secondary schools which themselves are viewed as immutable.
>
> 2. Resistance to content reading instruction is, in part, based on simple misconceptions about reading. Simple misconceptions not specifically tied to a discipline's pedagogical traditions are relatively easy to counter. However, there are also complex misconceptions tied to institutionalized practices that are much more difficult to counter.
>
> 3. Some of what appears to be resistance to content reading is actually one facet of a broader complex of preservice teachers' assumptions about teaching and learning (p. 120).

II.
Background

Given the complexities of teaching and learning to teach it is not surprising that identifying and countering misconceptions related to content reading/writing (literacy) has been so difficult. Initially I was drawn to this project for at least three reasons: 1) the paradox described above, 2) readings related to innovations, the change process, and levels of concern, and 3) potential relationships between the paradox and the change process.

Considerable research by Hall, George, and Rutherford (1979) and Hord et al. (1987) investigated levels of concern toward an innovation and the likely impact of concerns on subsequent implementation of an innovation. The Stages of Concern Questionnaire (SoCQ) (Hall et al., 1979) was a culmination of their research and resulted in verification of a number of assumptions about the change process (Hord et al., 1987).

1) change is a process, not an event.
2) change is accomplished by individuals.
3) change is a highly personal experience.
4) change involves developmental growth.
5) change is best understood in operational terms.
6) the focus of facilitation should be on individuals, innovations, and the context (pp. 5-6).

Stages of concern are distinct, but interrelated. At any given time preservice or inservice teachers are likely to have some degree of concern at all stages measured by SoCQ. Relative intensity or degree of concern will vary as participants in the change process engage in implementation of "the innovation." In addition, stages of concern are identified in three dimensions across seven stages as illustrated below (Hord et al., 1987, p. 31).

DIMENSIONS, STAGES, AND EXPRESSIONS OF CONCERN

	Stages of Concern	Expressions of Concern
SELF	Awareness	I am not concerned about the innovation.
	Informational	I would like to know more about it.
	Personal	How will using it affect me?
TASK	Management	I seem to be spending all my time getting ready.
IMPACT	Consequence	How is implementation affecting my students?
	Collaboration	I am concerned about relating what I am doing with what my colleagues are doing.
	Refocusing	I have ideas that might work even better.

Developmentally, teachers are most likely to have self concerns in the early stages. Task concerns usually become more intense during preparation for or actual implementation of "the innovation." Impact concerns would most likely occur after previous levels of concern had been addressed and a certain comfort level achieved. Concerns usually are manifested in the wave pattern described above.

It is important to remember that concerns are neither inherently good nor bad. However, identification of specific levels and types of concern can be instrumental in facilitating change. Movement through stages of concern cannot be forced, but with appropriate support and assistance, it can be promoted.

Given the history of required content reading classes - many years in existence with little or no implementation in secondary content classrooms - it is important to investigate stages of concern and the developmental nature of change as possible explanations for this paradox.

III.
Research Questions

Because research has documented the impact of misconceptions and attitudes related to content reading and subsequent implementation of content reading techniques, I chose to investigate several related questions. They are categorized below as either quantitative or qualitative.

Quantitative

1. What knowledge is gained from a three-hour, one semester content reading course? (Hereafter referred to as Content Reading Class. Measured by instrument displayed in Appendix A.)

2. What are types and intensity of concerns about incorporating content reading strategies as displayed by students in:
   a. Introductory Teacher Education Course
   b. Content Reading Course
   c. Student Teaching (Experimental or Control group)
(Measured by instruments displayed in Appendices B^1 and B^2.)

3. What difference, if any, does additional instruction/support during student teaching make on levels/types of concern about utilizing content reading techniques as well as implementation of those same techniques? (Measured by instruments displayed in Appendices B^1, B^2 and C and interviews with university supervisors and student teachers.)

4. Does preservice teacher's gender influence the likelihood of incorporating Content Area Literacy/Learning Teaching Strategies (CAL/LTS) or impact the level or type of concerns?

5. Because certain content areas such as English or Social Studies often require more interaction with printed materials, whereas Art, Music, or Physical Education rely primarily on manipulatives or physical activities, the following categories were coded on all response sheets to determine potential influences and interactions of students' projected major/minor and perceived value of a content reading course.

(3) Reading very likely: English, Reading, Social Studies (i.e. History, Geography, Political Science, Economics, etc.), Psychology, Sociology, Health, Sciences (Chemistry, Physics, Earth Science, Biology)

(2) Reading somewhat likely: Business, Foreign Language, Speech, Computer Science, Math, Home Economics

(1) Reading not very likely: Physical Education, Music, Art, Industrial Arts

Qualitative - Student Teachers

1. Which, if any, Content Area Literacy/Learning Teaching Strategies (CAL/LTS) do student teachers report using during their student teaching experience? (Measured by self-report on instrument contained in Appendix C and subsequent interview.)

2. What are student teachers' responses to questions like:
-adequacy of preparation provided by Content Reading Class to enable use of CAL/LTS?
-why they chose to use certain CAL/LTS and not others?
-how effective was use of CAL/LTS in improving students' understanding of content material?

Qualitative - University Coordinators

3. To what extent did university coordinators' observations coincide with student teachers' self reports of CAL/LTS usage?

4. What were university coordinators' perceptions of:
-observed effects of Content Reading Class and their expectations regarding use of CAL/LTS?
-level of support by classroom teachers and amount of "experimentation" allowed.

IV. Procedures

Although I was primarily interested in amount of knowledge gained from the one-semester Content Reading Class, the types and intensity of concerns about incorporating CAL/LTS evinced by students in the three classes (Introductory, Content Reading, Student Teaching), and the impact of additional Content Reading support during student teaching, it was first necessary to establish the types of prior

knowledge preservice teachers have at various stages in the teacher education continuum. First, a thorough description of courses and subjects is necessary.

Description of Courses/Subjects

SED 107 - The Introductory Teacher Education Class which introduces students to teaching as a career. Survey of students' behaviors and effective teachers' responsibilities preparatory to guided observation and participation in K-12 school settings are major emphases.

SED 450 - The Content Reading Class in which students study content area reading for adolescents and adults in secondary and post-secondary institutions. Required for secondary teaching certification.

STT 444 - The Control Group of Secondary Student Teachers completed the semester in a traditional format. That is, in addition to a daily, sixteen-week student teaching experience in grades seven through twelve, they also convened in a weekly seminar that provided information, discussion, and reflection time on a variety of topics (e.g. classroom management, lesson planning, building a professional portfolio and resume, etc.) but implementation of content reading strategies was not emphasized.

STT 430 - The Experimental Group of Secondary Student Teachers also engaged in a daily, sixteen-week experience in grades seven through twelve. Although all student teachers (both experimental and control) met with their university supervisor for a weekly seminar similar to the one described above, the Experimental Group received additional content area reading support during seminar and observation time. Dates and intervention topics are delineated below.

January 10, 1990	- Review of content reading, Pre-Tests (Appendices A and B^1 or B^2)
January 29, 1990	- Panel of Cooperating Teachers/Expectations
February 5, 1990	- Methodologies and Strategies/Lesson Planning and CAL/LTS (Content Area Literacy/Learning Teaching Strategies)
March 19, 1990	- Writing to Learn/Questioning and Discussion Techniques
April 23, 1990	- Concept Mapping/Post-Tests (Same as Pre-Tests)

Although actual additional instruction was minimal, I was trying to determine the effect of supplementary support and expectations on the student teachers' use of CAL/LTS. Next, instruments used to measure various knowledge and concerns are described.

Description of Measurement Instruments (Pre and Post)

Appendix A - Content Area Reading Knowledge and Experience Inventory - had previously been administered as a pre-test in the Content Reading Class to help instructors custom-design the curriculum

each semester. It was given in January 1990 to: one section of the Introductory Teacher Education Class, one section of the Content Reading Class, and two groups of student teachers to establish both continuum baseline data and pre-data for comparison of these groups at semester's end when it was administered again.

Appendices B^1 (given to SED 107, the Introductory Teacher Education Class) and B^2 (given to the Content Reading Class and both groups of Student Teachers) - Content Area Literacy/Learning Teaching Strategies Concerns Questionnaire (hereafter referred to as SoCQ - Stages of Concern Questionnaire) represents an adaptation of a validated instrument designed by Hall, George, and Rutherford (1979) to measure levels of concern toward an innovation (in this case, the use of content area reading teaching techniques). All groups responded to SoCQ in both January and late April.

This preliminary data was expected to establish that:

a) students beginning the Introductory Teacher Education Class, the Content Reading Class, and Student Teaching do have varying degrees of content area reading knowledge and,
b) these same students would also have varying levels of concern regarding the implementation of such strategies during student teaching.

Appendix C - Checklist of Content Area Literacy/Learning Teaching Strategies (CAL/LTS) to Support Reading, Writing, and Thinking for Learning in Content Area Classrooms was modeled after a checklist created by Memory and Simbol (1983) to determine which techniques were employed by student teachers BEFORE, DURING, or AFTER instruction. In addition to input from university field coordinators, student teachers were interviewed for their reaction to this checklist and to determine their perceived level of preparedness to use these strategies as a result of the Content Reading Class.

Interview questions for student teachers who completed the self-report of CAL/LTS as delineated by Appendix C included:

1. What did SED 450 (Content Reading Class) prepare you to do related to using reading, writing, thinking strategies in your student teaching experience?

2. What else might SED 450 (Content Reading Class) have done to better prepare you to plan for and use content learning strategies for improving reading, writing, thinking in your lessons?

3. From the attached checklist (Appendix C), identify techniques that you have used (+) or plan to use (*) in your student teaching BEFORE, DURING, or AFTER a lesson or assignment. In your opinion, how effective were these strategies in improving students' understanding of the material?

4. Why did you choose these particular strategies and not others?

5. How do you think your cooperating teacher would REACT to your use of these strategies? Have you discussed their implementation or proposed implementation with him/her? What was the reaction?

Data analysis and results of both pre-test and post-test instruments are included in the following section.

V. A. Data Analysis and Results (Pre-Test Data, January 1990)

Appendix A - Content Area Reading Knowledge and Experience Inventory was analyzed for reliability on SPSS-X, Alpha = .94. Baseline continuum data verified an expected significant difference between total score on this inventory and enrollment in either SED 107, SED 450, or STT. Post hoc analysis (Tukey's Studentized Range-HSD) detected significant differences ($p < .05$) between the following:

SED 430 (Exp. STT) and SED 450 (Content Reading Class)
SED 430 (Exp. STT) and SED 107 (Introductory Class)
SED 444 (Cont. STT) and SED 450 (Content Reading Class)
SED 444 (Cont. STT) and SED 107 (Introductory Class)

Means for Total Score on Content Area Reading Knowledge and Experience Inventory (Highest Possible: 96) Pre-Test

SED 107	44.7	(Introductory Education Class)
SED 450	48.5	(Content Reading Class)
SED 430	66.8	(Experimental STT)
SED 444	65.7	(Control STT)

The lack of significant difference between experimental and control Student Teaching groups lends confidence that these two groups were comparable initially. No significant difference between SED 107, the Introductory Teacher Education Class and SED 450, the Content Reading Class, was surprising, however, especially when considering that several semesters of preservice education coursework normally occurs in the interim. This unexpected finding seems to support my proposed model that concepts related to content area reading need to be introduced and supported throughout a professional development sequence for secondary education majors. Such a model has been proposed and discussed at length in Rafferty (1990a) and Rafferty (1990b). See Appendix D (A Psychological, Professional, and Career Cycle Professional Development Continuum) and Appendix E (Promoting Content Area Literacy - A Professional Development Continuum) for an overview.

Appendices B[1] and B[2] Stages of Concern Questionnaire (SoCQ) for the Introductory Teacher Education Class (SED 107), the Content Reading Class (SED 450), and both Experimental and Control Student Teaching Groups (SED 430 and 444 respectively) were compared using SAS - ANOVA, which detected a significant difference in the level of intensity of awareness concerns*. When one considers that a higher number equals greater degree of concern, this particular difference could be explained by the fact that the experimental group received information prior to administration of the instrument which reduced their anxiety or level of concern about "the innovation." Because the only significant differences were between Experimental STT (SED 430) and 107, 450, and Control STT (SED 444), this hypothesis seems logical.

Stages of Concern Questionnaire Means (SoCQ) - Pre-Test
(See bottom of page 2 for brief explanation of these stages.)

	SED 107	SED 450	SED 430	SED 444
Awareness	78.2*	84.7*	50.4*	86.2*
Information	70.9	81.9	84.0	77.2
Personal	68.4	80.9	78.1	77.0
Management	54.8	60.7	68.3	71.1
Consequence	37.7	53.5	59.9	46.9
Collaboration	32.8	50.8	57.5	43.0
Refocusing	27.1	46.5	47.8	48.1

Although significant differences were not detected for other areas of concern measured by SoCQ, in every instance the two STT groups had higher concern levels than did 107 students. In most cases both STT groups also evinced higher levels of concern than did 450 students. Conventional wisdom would support this result. Students in the introductory class have yet to ponder potential ramifications and impacts. As students move through the teacher education program, they become increasingly aware of their future roles and are more attuned to related concerns.

Gender and Likelihood of Reading Influences - Pre-Test

Analyses were also conducted to determine if gender or likelihood of reading in major/minor would be contributing factors. Neither variable contributed to performance on Content Area Reading Knowledge and Experience Inventory or levels of concern as measured by SoCQ. The latter result was particularly interesting to me because it seems to support that content area reading is an important, viable course for all secondary education majors.

V. B.
Data Analysis and Results (Quantitative Post-Test Data)

In April near the end of Winter semester 1990 identical quantitative instruments were administered to students in SED 107 (Introductory Teacher Education Class), 450 (Content Reading Class), 430 (Experimental Student Teaching Group), and 444 (Control Student Teaching Group). Significant differences were once again detected on the Content Area Reading Knowledge and Experience Inventory (Appendix A).

SED 450 and SED 107
SED 444 and SED 107
SED 430 and SED 107

These results are identical with findings from the Pre-Test except that SED 450 (Content Reading Class) students now perceive themselves as having requisite knowledge with those Student Teachers (both Experimental and Control) who had previously completed SED 450 (Content Reading Class). This finding was expected because the purpose of SED 450 is to build knowledge and skills related to the items on this inventory. In fact, when comparing Pre-Post scores on this instrument, although all groups recorded higher degrees of familiarity in May than January, the difference on SED 450 Pre-Post was the only difference significant at $p < .05$.

Means for Total Score on Content Area Reading Knowledge and Experience Inventory (Highest Possible: 96) Post-Test

SED 107	54.1
SED 450	79.9
SED 430	74.2
SED 444	76.1

I was particularly interested in Post-Test data gathered on the SoCQ because it was one of the instruments designed to tap concerns and potential resistive tendencies from students in the four groups. The following table shows changes from Pre-Test data and more significant differences*, all between SED 107 (Introductory Teacher Education Class) and either SED 450 (Content Reading Class), SED 430 (Experimental STT), and/or SED 444 (Control STT).

Stages of Concern Questionnaire Means (SoCQ)

	SED 107	SED 450	SED 430	SED 444
Awareness	90.6*	69.0	60.2*	59.5*
Information	77.0	81.3	83.4	71.8
Personal	63.9*	79.8*	84.1*	71.8
Management	57.4	61.9	68.3	69.8
Consequence	31.3*	63.3*	70.2*	50.3
Collaboration	35.5	61.5	59.5	60.8
Refocusing	29.1*	62.6*	68.9*	49.0

Awareness

The significant difference detected between SED 107 (Introductory Education Class) and both student teaching groups was expected. Student teachers were heavily involved in designing and delivering content lessons. Because of their involvement, "the innovation" (use of CAL/LTS - Content Area Literacy/Learning Teaching Strategies) while of moderate concern, was not as significant a factor as for the neophytes in SED 107.

Information

No significant differences emerged here, possibly indicating that all preservice students felt a need for additional information regarding CAL/LTS. It was interesting to note that SED 444 (Control STT) had lowest levels of concern related to both awareness and information. Perhaps this is attributable to low demands for the incorporation of CAL/LTS made by their university supervisor whereas for SED 430 (Experimental STT) it was a requirement.

Personal

Perhaps SED 450 (Content Reading Class) and 430 (Experimental STT) students had significantly higher concerns in this area because both groups were being exhorted to utilize CAL/LTS during student teaching and beyond. Naturally this could be manifested by personal concerns such as, "How will use of CAL/LTS affect me." Most likely the concern is related to planning, organizing, and delivering instruction, especially as it related to time management.

Management

The lack of significant differences here is puzzling. I would have predicted the same groups with personal concerns (SED 450 and 430) would have corresponding management concerns. Perhaps all prospective teachers, regardless of number of professional education courses completed, have significant management concerns. A perusal of the SoCQ questions related to management (Appendix B^1 or B^2; questions 4, 8, 16, 25, 34) seems to confirm this explanation as tenable.

Consequence

How will use of CAL/LTS affect the kids in my classroom? The same pattern of significant differences emerged here as under Personal concerns probably for the same reasons. Because these preservice students were being encouraged to diversify traditional teaching techniques, they were most likely to ponder potential consequences.

SED 430 (Experimental STT) students, many of whom were actively engaged in use of CAL/LTS did have the highest levels of concern. This is consistent with the developmental "wave" description on bottom of page 2.

Collaboration

Although not statistically significant, students in upper level classes (SED 450, 430, 444) at least had higher concerns about sharing their knowledge and communicating with their colleagues. Even SED 107 (Introductory Teacher Education Class) students seem aware (have some concern) that collaboration has a place in education.

Refocusing

As with Personal and Consequence concerns, both SED 450 (Content Reading Class) and 430 (Experimental STT) were significantly different than SED 107. The explanation offered previously seems plausible here as well.

Gender and Likelihood of Reading Influences - Post-Test

Pre and Post-Test analyses of Content Area Reading Knowledge and Experience Inventory produced the same results; there was no significant difference between performance by either gender although scores did increase for both genders from Pre-Test to Post-Test.

The only Post-Test difference between genders on SoCQ was related to Information concerns. Males had significantly higher concerns regarding the need for information than did females. These two findings seem contradictory. Both genders report similar levels of knowledge but males have higher information concerns. One can merely speculate on viable explanations.

Likelihood of using reading as an instructional tool was not a factor on either Pre-Test or Post-Test analyses. Again, this result supports Michigan's requirement of a content reading course for all secondary education majors.

V. C.
Data Analysis and Results (Qualitative Post-Test Data)
SED 430 (Experimental STT) Self-Report

Appendix C - Checklist of Content Area Literacy/Learning Teaching Strategies (CAL/LTS) to Support Reading, Writing, and Thinking for Learning in Content Area Classrooms was distributed to both coordinators and student teachers involved in the study. Due to unforeseen circumstances, data included herein were available only from SED 430 (Experimental STT) students and their coordinator.

Approximately two-thirds of the way through their student teaching experience, SED 430 (Experimental Student Teaching Group) students were asked to rate their usage of items listed in Appendix C

in two categories: 1) those teaching techniques they had already used during student teaching, and 2) those they planned to use prior to semester's end. Following is a synopsis of their responses.

Before Reading

Of the nine strategies listed, only two were cited as having been used already by the majority of student teachers; the use of **advanced organizers** and **activation of students' prior knowledge.** When both categories are combined (already used and plan to use) all except one were selected by the majority of student teachers. Only **teaching or reminding students to use a study system** was not identified as at least a potentially viable Before Reading strategy.

During Reading

Five strategies were listed. **Use of cooperative learning** and **directed reading - thinking activities** were reportedly used by the majority of student teachers. Combination of both categories once again projected usage of all but one of these techniques by student teachers (**construction and use of reading guides.**)

After Reading

Perhaps because one of the choices was not "uses questions at end of chapter to check comprehension" there was not overwhelming support for many of these strategies. Only **providing adequate wait time** had been used by the majority at time of administration of this instrument. However, most indicated that they intended to utilize all of the remaining techniques except **modeling various notetaking strategies** and **reminding students to use a study system.**

Of course, I realize that reported usage and projected usage may or may not reflect reality, but I felt that it was important for these student teachers to have the opportunity to analyze previous lessons for implementation of techniques highlighted in SED 450 and our seminar sessions. Hopefully it also served as a reminder to incorporate methodologies not previously utilized.

In addition to the checklist (Appendix C) SED 430 (Experimental) student teachers were asked to respond to a series of questions regarding perceptions about their SED 450 (Content Reading Class) preparation. What follows is a synthesis of responses to the five interview questions. Majors and minors are identified in parentheses. (For Question 1 all comments are displayed to allow comparison across various majors and minors.)

1. What did SED 450 prepare you to do related to using reading, writing, thinking strategies in your student teaching experience?

-SED 450 taught me to question the learner in a manner to both find out what they know and start them thinking. (Music)

-It gave me many ideas (strategies) to use in the classroom. Doing lesson plans was beneficial. (Earth Science/Psychology)

-In all honesty, it didn't do much at all. I had it several years ago from someone who did not know how to teach. (English/Spanish)

-It prepared me more than any other SED class because it gave many before, during, and after strategies. Most of all it helped me to realize the importance of facilitating the reading process for all students in all content areas. (History/English)

-It made me aware of activities to be considered and how to apply them. (Business Education)

-Various instructional strategies were discussed. Through things like pretesting, notetaking, directed reading lessons we learned about different teaching methods that could be implemented during student teaching. (History/English)

-It helped me learn to help the students focus on their reading. and understand content better. It gave me creative ideas for incorporating writing into assignments and units. (English/Music)

-It gave me ideas for useful teaching strategies. (Physics/Chemistry/Math)

-It showed me some different methods of how to make study guides. (PE/Industrial Ed.)

2. What else might SED 450 (Content Reading Class) have done to better prepare you to plan for and use content learning strategies for improving reading, writing, thinking in your lessons?

-Comments from all students were very similar. Most wanted more hands-on, practical experience. In addition to creating lesson plans most felt that micro-teaching or actually delivering the lesson to students in the public schools would have made it more meaningful.

3. From the attached checklist, identify techniques that you have used (+) or plan to use (*) in your student teaching BEFORE, DURING, or AFTER a lesson or assignment. In your opinion, how effective were these strategies in improving students' understanding of the material?

-Most student teachers felt that the strategies they tried had been effective. Perhaps this is attributable to their choosing strategies with which they felt comfortable or had previous experience. Several also indicated that they need to do more experimentation and polishing of techniques previously selected.

4. Why did you choose these particular strategies and not others?

The most frequent responses were:

-I thought they would work or were more specifically geared toward my students' needs.

-They seemed most appropriate in my content area.

-I was more familiar with what I used and found it easier to tie these into my lessons.

5. How do you think your cooperating teacher would REACT to your use of these strategies? Have you discussed their implementation or proposed implementation with him/her? What was the reaction?

Responses here fell into three general categories:
-Cooperating teacher being positive, supportive, open to new ideas. (This was the response in the majority of cases.)
-Cooperating teacher willing to discuss, but wary of new ideas.
-Cooperating teacher probably would not care but I have not discussed these ideas with him/her.

V. D.
Qualitative Results - SED 430 Coordinator's Observations

Observation checklists from the university coordinator generally supported self-reporting analyses by SED 430 (Experimental STT) students. Student teachers usually had some type of Before Reading activity like **Brainstorming** or **Making Predictions/Asking Questions** and During Reading techniques such as **Directed Reading - Thinking Activity** or **Various Textbook Discussion Strategies.** A missing element from the coordinator's observations, however, was evidence of After Reading activities. On several occasions the coordinator commented that the lesson was not completed during the observation time slot. This clarification is the most likely explanation for "missing" After Reading activities.

Although the university coordinator's observations seem to verify self-reporting completed by student teachers, the coordinator did indicate that most student teachers would benefit from additional instruction and practice with various CAL/LTS (Content Area Literacy/Learning Teaching Strategies). It is interesting to note that a number of student teachers made similar observations during their interviews.

VI. C.
Qualitative Results - Interviews with University Coordinators

Several times during the semester I interviewed university field coordinators not directly involved with this research project. Topics were: a) the effects of SED 450 (Content Reading Class), b)coordinators' expectations regarding utilization of CAL/LTS, and c) their perception of level of support and receptivity to "experimentation" on the part of student teachers by their supervising classroom teachers. There was general consensus in responses to these topics.

Effects of SED 450 and Expectations regarding use of CAL/LTS

Most coordinators interviewed admitted that they themselves were not as knowledgeable about various content reading strategies as they would like to be. As a result, they have fewer explicit expectations regarding use of CAL/LTS. Coordinators report that some secondary

student teachers automatically utilize different content reading techniques, but do it spontaneously as opposed to being "required." Several coordinators indicated that professional development related to content reading would enable them to better support usage of CAL/LTS.

Receptivity of "experimentation" by student teachers

Equally problematic is lack of knowledge by classroom teachers. Because the Content Reading Class requirement has existed only since 1983, the majority of Michigan's secondary teachers probably have not been exposed to content reading techniques. As a result, some may not be receptive to student teacher's use of Before, During, After activities, many of which differ significantly from their own preferred teaching modes. Whether overt or covert, classroom teachers can send strong messages about expectations and protocol. Previous research has produced similar findings.

> "Apparently student teachers employ instruction strategies emphasized in university courses variably, at best....Student teachers attempting to survive a rather hectic and emotionally trying period use familiar instructional strategies and ones modeled by cooperating teachers in order to reduce the shock of their new surroundings and responsibilities" (Brown and Hoover, 1990, pp. 22-23).

Most of the coordinators interviewed agreed that student teachers often adopt the teaching style of their supervising classroom teacher. Even some student teachers who wish to "experiment" by incorporating various CAL/LTS into their lessons may feel too intimidated to try. Several coordinators agreed, however, that if student teachers were expected to utilize content reading strategies and these expectations were clearly communicated to supervising classroom teachers, the likelihood of their use would increase significantly .

VI. Conclusions

Knowledge gained from content reading course

1. From both quantitative and qualitative data it appears that SED 450 (Content Reading Class) does have an important impact on secondary preservice students. Clearly there was growth in knowledge related to topics addressed in the course, but as previous studies have shown, knowledge is only a precursor to implementation.

2. Lack of significant interactions between gender and likelihood of utilization of reading both attest that the course is viable for all secondary education majors at this particular university.

Levels of concern toward content reading

3. The patterns detected by Post-Test analyses of SoCQ support earlier hypotheses about the developmental nature of growth in both preservice and inservice teachers (Appendices D and E provide additional information) and that change is a developmental process.

Impact of additional instruction during student teaching

4. Although I was unable to establish clear differences between implementation of CAL/LTS through overt vs. covert expectations and requirements, at least it has been documented that having clear expectations does facilitate implementation of CAL/LTS. One Outcome Based Education maxim, "you get what you expect" is particularly relevant here.

Related observation

5. Finally, at least some of the university coordinators at this institution would be receptive to "training" related to content area reading. As we move toward a reorganized approach to teacher education at numerous institutions, perhaps the following recommendations are viable.

VII. Recommendations

1. A follow-up study should be conducted to verify data presented herein. Due to small numbers, conclusions may not be generalizable. An expanded study would further enrich our knowledge base.

2. Further research using SoCQ with preservice teachers is necessary. In this pilot study the concept of using content literacy strategies was addressed. It would be useful to gather data on use of individual strategies or categories of strategies such as those techniques used BEFORE, DURING, or AFTER instruction in early field experience as well as student teaching. As noted by O'Brien and Stewart (1990):

> "It may be necessary to radically restructure content reading education by including field experiences in which students engage in focused descriptive and interpretive observations in content classrooms, engage in discussions with teachers about their instructional practices, and talk to students about their reading habits inside and outside of school" (p. 126).

3. Hopefully, new NCATE guidelines which require discipline-specific student teaching observations will facilitate more dialogue opportunities between Colleges of Education, Arts and Sciences, etc. Because future secondary teachers take most of their courses from content area professors who too often equate teaching with lecturing and in light of Lortie's seminal study (1975) which indicated that "teachers teach the way they were taught," it is vital that preservice candidates be provided with alternative ways to think about teaching and learning. Otherwise, content area reading instruction is difficult for them to conceptualize (Stover, 1990). Part of this process could be professional development "training" in content area

reading techniques for content area professors because it is likely that the discipline-specialists who will be involved in supervision have misconceptions about the nature of content reading similar to those held by preservice and classroom teachers.

4. Finally, because research has documented that teachers are involved in a developmental process moving from novice teachers' concern with survival and self-adequacy to experienced teachers' concern for students and student progress (Fuller, 1969; Goodman, 1985), use of an instrument like SoCQ could identify related concerns thus providing university supervisors and cooperating classroom teachers with intervention opportunities and tactics. A widely used strategy has been use of reflective journals.

Field experience researchers have found that reflective statements gathered through journals support the idea of a developmental progression of teachers' concerns. In addition, other researchers have documented the difficulties of changing preservice teachers' existing conceptions of teaching and learning (Feiman-Nemser, et al., 1989; Mc Diarmid, 1990). As a result, teacher educators may need to become more sensitive to the subtle yet powerful force of individual concerns. Reflecting through journaling or dialoguing (Gipe and Richards, 1990; Holt-Reynolds, 1990) may serve as a catalyst to move prospective teachers' concerns from themselves to their students. Student teaching is often the culmination of preservice professional growth and development. Research presented herein provides a foundation for viable and necessary changes to improve that experience, especially as it relates to utilization of content area literacy/learning teaching strategies.

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Preferred Grade Levels_____

Male_____ Female_____

Major_____ Minor_____

CONTENT AREA READING
KNOWLEDGE AND EXPERIENCE INVENTORY

Please rate your knowledge of each item below using the rating scale provided. Circle the number that matches your knowledge.

1 = Never heard of it 2 = Some familiarity 3 = Knowledgeable

1.	Anticipation Guide	1	2	3
2.	Bloom's Taxonomy	1	2	3
3.	Cloze	1	2	3
4.	Cooperative/Collaborative Learning	1	2	3
5.	DRL	1	2	3
6.	DR-TA	1	2	3
7.	ITIP Lesson Planning	1	2	3
8.	K-W-L	1	2	3
9.	Learning Logs	1	2	3
10.	Levels of Comprehension	1	2	3
11.	Metacognitive Awareness	1	2	3
12.	Michigan's Definition of Reading	1	2	3
13.	Modeling as an Instruction Strategy	1	2	3
14.	Narrative vs. Expository Text	1	2	3
15.	Pattern Guides/Organizational Patterns	1	2	3
16.	Prior Knowledge/Schema	1	2	3
17.	Psycholinguistic Theory	1	2	3
18.	QAR/Question-Answer-Relationships	1	2	3
19.	Questioning Levels and Strategies	1	2	3
20.	Radio Reading	1	2	3
21.	Readability	1	2	3
22.	Request	1	2	3
23.	Semantic Maps, Webs, Arrays	1	2	3
24.	SQ3R/PRNR(Q)	1	2	3
25.	Story Structures/Story Grammars	1	2	3
26.	Structured Overviews	1	2	3
27.	TEAM Planning	1	2	3
28.	Textbook Features & Considerateness	1	2	3
29.	Vocabulary/Concepts/Comprehension	1	2	3
30.	Wait Time	1	2	3
31.	Writing to Learn	1	2	3
32.	Writing Process	1	2	3

CONTENT AREA LITERACY/LEARNING TEACHING STRATEGIES CONCERNS QUESTIONNAIRE

Male_____ Semester/year SED 107_____ (OR) ELE 107_____
Female___ Teaching Major_____ Minor_____
Grade Level(s)_____ Date_____

The purpose of this questionnaire is to determine the long-range effect and application of teaching strategies you will learn either in SED 450 (Improving Reading Skills of Adolescents and Adults) or ELE 532 (Content Area Reading). Please note that this survey is administered anonymously. It is our hope that you will give an honest appraisal, thereby assisting us in program development and revision at CMU.

Please respond to the following items in terms of *your present concerns* about your involvement with CONTENT AREA LITERACY/LEARNING TEACHING STRATEGIES in your student teaching assignment. In other words, how do you feel about using content area reading, writing, and thinking for learning teaching strategies?

Please circle the number that represents your level of concern about the innovation: CONTENT AREA LITERACY/LEARNING TEACHING STRATEGIES. Thank you for taking the time to complete this task!

	0	1	2	3	4	5	6	7	
	irrelevant	Not true of me now			Somewhat true of me now			Very true	
1.	I am concerned about students' attitudes toward this innovation.	0	1	2	3	4	5	6	7 (1)
2.	I now know of some other approaches that might work better.	0	1	2	3	4	5	6	7 (2)
3.	I don't even know what the innovation is.	0	1	2	3	4	5	6	7 (3)
4.	I am concerned about not having enough time to organize myself each day.	0	1	2	3	4	5	6	7 (4)
5.	I would like to help other faculty in their use of the innovation.	0	1	2	3	4	5	6	7 (5)
6.	I have a very limited knowledge about the innovation.	0	1	2	3	4	5	6	7 (6)
7.	I would like to know the effect of reorganization on my professional status.	0	1	2	3	4	5	6	7 (7)
8.	I am concerned about conflict between my interests and my responsibilities.	0	1	2	3	4	5	6	7 (8)
9.	I am concerned about revising my use of the innovation.	0	1	2	3	4	5	6	7 (9)
10.	I would like to develop working relationships with both our faculty and outside faculty using this innovation.	0	1	2	3	4	5	6	7 (10)
11.	I am concerned about how the innovation affects students.	0	1	2	3	4	5	6	7 (11)
12.	I am not concerned about this innovation.	0	1	2	3	4	5	6	7 (12)
13.	I would like to know who will make the decisions in the new system.	0	1	2	3	4	5	6	7 (13)
14.	I would like to discuss the possibility of using the innovation.	0	1	2	3	4	5	6	7 (14)
15.	I would like to know what resources are available if we decide to adopt this innovation.	0	1	2	3	4	5	6	7 (15)

16. I am concerned about my inability to manage all the innovation requires.	0	1	2	3	4	5	6	7	(16)
17. I would like to know how my teaching or administration is supposed to change.	0	1	2	3	4	5	6	7	(17)
18. I would like to familiarize other departments with this approach.	0	1	2	3	4	5	6	7	(18)
19. I am concerned about evaluating my impact on students.	0	1	2	3	4	5	6	7	(19)
20. I would like to revise the innovation's instructional approach.	0	1	2	3	4	5	6	7	(20)
21. I am completely occupied with other things.	0	1	2	3	4	5	6	7	(21)
22. I would like to modify use of the innovation based on the experiences of our students.	0	1	2	3	4	5	6	7	(22)
23. I don't know about this innovation, but I am concerned about things in the area.	0	1	2	3	4	5	6	7	(23)
24. I would like to excite my students about their part in this approach.	0	1	2	3	4	5	6	7	(24)
25. I am concerned about time spent working with related nonacademic problems.	0	1	2	3	4	5	6	7	(25)
26. I would like to know what the use of the innovation will require in the immediate future.	0	1	2	3	4	5	6	7	(26)
27. I would like to coordinate my effort with others to maximize the innovation's effects.	0	1	2	3	4	5	6	7	(27)
28. I would like to have more information on time and energy commitments required.	0	1	2	3	4	5	6	7	(28)
29. I would like to know what other faculty are doing in this area.	0	1	2	3	4	5	6	7	(29)
30. At this time, I am not interested in learning about this innovation.	0	1	2	3	4	5	6	7	(30)
31. I would like to determine how to supplement,enhance, or replace the innovation.	0	1	2	3	4	5	6	7	(31)
32. I would like to use feedback from students to change the program.	0	1	2	3	4	5	6	7	(32)
33. I would like to know how my role will change when I am using the innovation.	0	1	2	3	4	5	6	7	(33)
34. Coordination of tasks and people is taking too much of my time.	0	1	2	3	4	5	6	7	(34)
35. I would like to know how this innovation is better than what we have now.	0	1	2	3	4	5	6	7	(35)

CONTENT AREA LITERACY/LEARNING TEACHING STRATEGIES CONCERNS QUESTIONNAIRE

Male_____ Semester/year SED 450_____ (OR) ELE 532_____
Female___ Teaching Major_____ Minor_____
Grade Level(s)_____ Date_____

The purpose of this questionnaire is to determine the long-range effect and application of teaching strategies you learned either in SED 450 (Improving Reading Skills of Adolescents and Adults) or ELE 532 (Content Area Reading). Please note that this survey is administered anonymously. It is our hope that you will give an honest appraisal, thereby assisting us in program development and revision at CMU.

Please respond to the following items in terms of *your present concerns* about your involvement with CONTENT AREA LITERACY/LEARNING TEACHING STRATEGIES in your student teaching assignment. In other words, how do you feel about using content area reading, writing, and thinking for learning teaching strategies?

Please circle the number that represents your level of concern about the innovation: CONTENT AREA LITERACY/LEARNING TEACHING STRATEGIES. Thank you for taking the time to complete this task!

	0 irrelevant	1	2 Not true of me now	3	4 Somewhat true of me now	5	6	7 Very true	
1.	I am concerned about students' attitudes toward this innovation.	0	1	2	3	4	5	6	7 (1)
2.	I now know of some other approaches that might work better.	0	1	2	3	4	5	6	7 (2)
3.	I don't even know what the innovation is.	0	1	2	3	4	5	6	7 (3)
4.	I am concerned about not having enough time to organize myself each day.	0	1	2	3	4	5	6	7 (4)
5.	I would like to help other faculty in their use of the innovation.	0	1	2	3	4	5	6	7 (5)
6.	I have a very limited knowledge about the innovation.	0	1	2	3	4	5	6	7 (6)
7.	I would like to know the effect of reorganization on my professional status.	0	1	2	3	4	5	6	7 (7)
8.	I am concerned about conflict between my interests and my responsibilities.	0	1	2	3	4	5	6	7 (8)
9.	I am concerned about revising my use of the innovation.	0	1	2	3	4	5	6	7 (9)
10.	I would like to develop working relationships with both our faculty and outside faculty using this innovation.	0	1	2	3	4	5	6	7 (10)
11.	I am concerned about how the innovation affects students.	0	1	2	3	4	5	6	7 (11)
12.	I am not concerned about this innovation.	0	1	2	3	4	5	6	7 (12)
13.	I would like to know who will make the decisions in the new system.	0	1	2	3	4	5	6	7 (13)
14.	I would like to discuss the possibility of using the innovation.	0	1	2	3	4	5	6	7 (14)
15.	I would like to know what resources are available if we decide to adopt this innovation.	0	1	2	3	4	5	6	7 (15)

16. I am concerned about my inability to manage all the innovation requires.	0	1	2	3	4	5	6	7	(16)
17. I would like to know how my teaching or administration is supposed to change.	0	1	2	3	4	5	6	7	(17)
18. I would like to familiarize other departments with this approach.	0	1	2	3	4	5	6	7	(18)
19. I am concerned about evaluating my impact on students.	0	1	2	3	4	5	6	7	(19)
20. I would like to revise the innovation's instructional approach.	0	1	2	3	4	5	6	7	(20)
21. I am completely occupied with other things.	0	1	2	3	4	5	6	7	(21)
22. I would like to modify use of the innovation based on the experiences of our students.	0	1	2	3	4	5	6	7	(22)
23. I don't know about this innovation, but I am concerned about things in the area.	0	1	2	3	4	5	6	7	(23)
24. I would like to excite my students about their part in this approach.	0	1	2	3	4	5	6	7	(24)
25. I am concerned about time spent working with related nonacademic problems.	0	1	2	3	4	5	6	7	(25)
26. I would like to know what the use of the innovation will require in the immediate future.	0	1	2	3	4	5	6	7	(26)
27. I would like to coordinate my effort with others to maximize the innovation's effects.	0	1	2	3	4	5	6	7	(27)
28. I would like to have more information on time and energy commitments required.	0	1	2	3	4	5	6	7	(28)
29. I would like to know what other faculty are doing in this area.	0	1	2	3	4	5	6	7	(29)
30. At this time, I am not interested in learning about this innovation.	0	1	2	3	4	5	6	7	(30)
31. I would like to determine how to supplement,enhance, or replace the innovation.	0	1	2	3	4	5	6	7	(31)
32. I would like to use feedback from students to change the program.	0	1	2	3	4	5	6	7	(32)
33. I would like to know how my role will change when I am using the innovation.	0	1	2	3	4	5	6	7	(33)
34. Coordination of tasks and people is taking too much of my time.	0	1	2	3	4	5	6	7	(34)
35. I would like to know how this innovation is better than what we have now.	0	1	2	3	4	5	6	7	(35)

STAGES OF CONCERN QUESTIONNAIRE SCORING
CONTENT AREA LITERACY/LEARNING TEACHING STRATEGIES

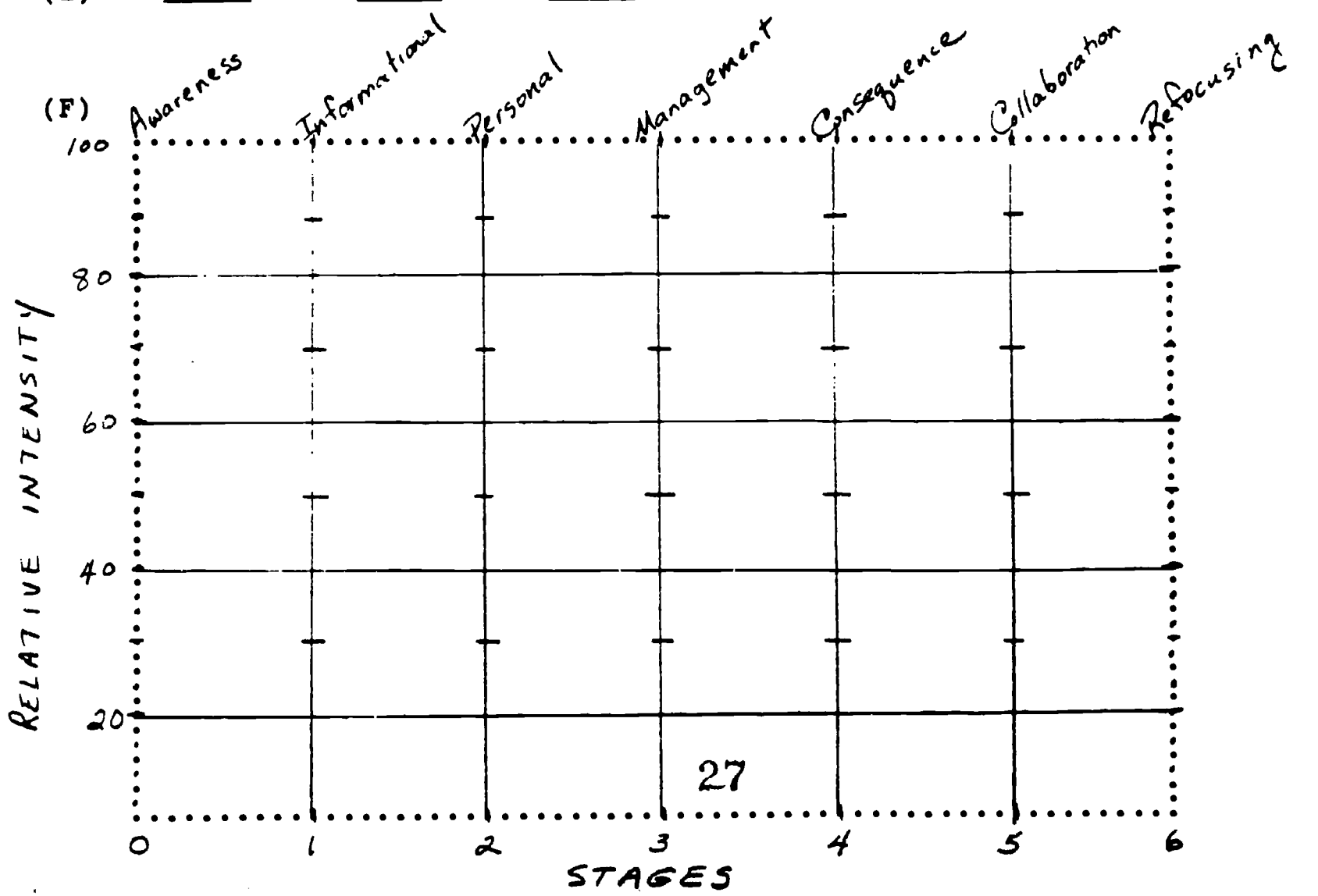
(A)
Male_____ Semester/year SED 450_____ OR ELE 532_____
Female___ Teaching Major_____ Minor_____
Grade Level(s)_____ Date_____

(B)	0	1	2	3	4	5	6
	3_____	6_____	7_____	4_____	1_____	5_____	2_____
	12_____	14_____	13_____	8_____	11_____	10_____	9_____
	21_____	15_____	17_____	16_____	19_____	18_____	20_____
	23_____	26_____	28_____	25_____	24_____	27_____	22_____
	30_____	35_____	33_____	34_____	32_____	29_____	31_____

(C)	_____	_____	_____	_____	_____	_____	_____
	0	1	2	3	4	5	6

(E) _____ _____ _____ _____ _____ _____ _____

(F)



(D)

Five Item Raw Scale Score Total	Percentiles for Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
0	10	5	5	2	1	1	1
1	23	12	12	5	1	2	2
2	29	16	14	7	1	3	3
3	37	19	17	9	2	3	5
4	46	23	21	11	2	4	6
5	53	27	25	15	3	5	9
6	60	30	28	18	3	7	11
7	66	34	31	23	4	9	14
8	72	37	35	27	5	10	17
9	77	40	39	30	5	12	20
10	81	43	41	34	7	14	22
11	84	45	45	39	8	16	26
12	86	48	48	43	9	19	30
13	89	51	52	47	11	22	34
14	91	54	55	52	13	25	38
15	93	57	57	5.	16	28	42
16	94	60	59	60	19	31	47
17	95	63	63	65	21	36	52
18	96	66	67	69	24	40	57
19	97	69	70	73	27	44	60
20	98	72	72	77	30	48	65
21	98	75	76	80	33	52	69
22	99	80	78	83	38	55	73
23	99	84	80	85	43	59	77
24	99	88	83	88	48	64	81
25	99	90	85	88	54	68	84
26	99	91	87	92	59	72	87
27	99	93	89	94	63	76	90
28	99	95	91	95	66	80	92
29	99	96	92	97	71	84	94
30	99	97	94	97	76	88	96
31	99	98	95	98	82	91	97
32	99	99	96	98	86	93	98
33	99	99	96	99	90	95	99
34	99	99	97	99	92	97	99
35	99	99	99	99	96	98	99

Appendix C

Checklist of Content Area Literacy/Learning Teaching Strategies to Support Reading, Writing, and Thinking for Learning in Content Area Classrooms

Content Area Being Observed:_____
Grade Level of Class:_____ Number of Students in Class:_____
Date_____ Male or Female_____

The student teacher uses these activities to prepare the class **BEFORE** reading:

_____determines difficulty or appropriateness of the material (readability, CLOZE, etc.).
_____uses pretests of prior knowledge, attitudes, or interests.
_____uses advanced organizers or structured overviews as framework for the lesson.
_____activates students' prior knowledge (brainstorming, PReP, etc.).
_____helps students set purposes for reading.
_____helps students make predictions or ask questions.
_____preteaches difficult vocabulary.
_____teaches or reminds students to use a study system (SQ3R, etc.).
_____reminds students of their responsibilities as learners (Michigan definition of reading = active, constructive process that involves metacognition, etc.).

The student teacher uses these activities to focus and guide students' attention **DURING** reading:

_____helps students be aware of their own reading/learning strategies and effectiveness (self-monitoring or metacognition).
_____uses teaching techniques to help students learn to focus on key concepts (Directed Reading Lesson, Directed Reading-Thinking Activity, etc.).
_____uses reading guides to help students know how to interact with expository text material (Pattern Guides, Textbook Activity Guides, etc.).
_____uses a variety of textbook discussion strategies to provide for individual, small group, and whole class interaction (Inferential Strategy, Intra-Act, Radio Reading, ReQuest, K-W-L, Guided Reading Procedure, etc.).
_____provides cooperative learning opportunities.

The student teacher uses these activities to consolidate learning **AFTER** reading:

_____models various notetaking strategies.
_____provides alternatives to traditional notetaking (semantic maps, webs, arrays, double-entry, etc.).
_____asks varied questions that involve interpretation, application, synthesis, evaluation, etc. rather than mere factual recall.
_____provides adequate wait time for student response.
_____helps students understand information at literal, interpretive, and applied levels (3-Level Reading Guides or Question-Answer-Relationships, etc.).
_____distinguishes between and appropriately uses both recitation and discussion techniques.
_____uses various Writing to Learn strategies (Journals, Learning Logs, Summarizing, Admit or Exit Slips, etc.).
_____reminds students to use SQ3R or similar strategy to review and practice newly learned information (Michigan definition and metacognition: learning is an active, constructive process.)

A PSYCHOLOGICAL, PROFESSIONAL, AND CAREER CYCLE PROFESSIONAL DEVELOPMENT CONTINUUM

Psychological Development	Development of Professional Expertise	Career Cycle Development
1. Self protective, pre-moral, unilateral dependence	**Developing survival skills**	**Preservice Ed: Confronting Misconceptions**
*Overly simplistic view of world	*Partially developed management skills	*Reality shock concerning discipline
*Strong rules & roles	*Little conscious reflection	*Either "easy" or "painful"
*Rewards conformity and rote learning	*Assessment primarily summative	
2. Conformist, moral, negative independence	**Competent in basic skills of instruction**	**Launching career: Developing Commitment**
*Others' expectations	*Further Developing management skills	*Continuing certification
*"Conventional"	*Skilled in several instructional models	*Induction program/mentor
*Rules must be followed	*Some formative assessment	
3. Conscientious, moral conditional dependence	**Expanding Instructional Flexibility**	**Stabilizing: Continuing Commitment**
*Multiple possibilities	*Automatized Management	*Permanent contract
*Flexible Rules	*Instructional experiments	*Continuing certification
*Future and goal oriented	*Variety for interest	*Increases responsibility
*Interpersonal communic.	*Techniques match purposes	
4. Autonomous/independent, principled, integrated	**Acquiring Instructional Expertise**	**New Challenges and Concerns**
*Inner-directed/social	*Extensive Repertoire	*Possibilities
*Collaborative classroom	*Synthesis of goals, learning styles, student interests	-Diversification
*Meaningful learning, creativity, flexibility		-Administration
		-Reduction
5.	**Contributing to Growth of Colleagues' Expertise**	**Professional Plateau**
	*Experienced and reflective	*Possibilities
	*Mentoring	-Growth
	*Staff development	-Enjoyment
	*Planned learning exper.	-Stagnation
6.	**Participating in Educational Decisions at all Levels**	**Preparing for Retirement**
	*Committed to school improvement	*Possibilities
	*Accepts responsibilities	-Positive
	*Exercises leadership	-Negative
	*Knowledgeable about policies	-Disenchantment

PROMOTING CONTENT AREA LITERACY
A PROFESSIONAL DEVELOPMENT CONTINUUM

Proposed Model	Corresponding SoCO Elements
1. Early field experience with observation of content area literacy techniques	Awareness/Informational
2. Required content reading class with practicum experience employing content literacy	Informational/Personal
3. Major/minor methods class with practicum experience employing content literacy	Informational/Personal
4. Student teaching employing content literacy strategies	Management/Consequence
5. Teacher induction with Mentor/Administrative support	Management/Consequence/ Collaboration
6. Systematic staff development/ Professional growth	Collaboration/Refocusing