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CONTENT AREA READING PREPARATION: EFFECTIVENESS OF FOUR METHODS OF INSTRUCTION

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The belief that secondary content teachers should have content reading as a course in their pre-service education is an idea that is gaining increasing acceptance. Surveys examining certification requirements show that an increasing number of states mandate a course in reading for secondary certification (Bader, 1975; Lamberg, 1978). This trend is also reflected in increased numbers of teacher training institutions that are now offering a content area reading course for their undergraduate secondary education majors, as compared to ten years ago.

This increased emphasis on content area reading as a course for undergraduate secondary education majors has occurred during a period of time that has also witnessed increased criticism of traditional teacher education programs (Goodlad and Klein, 1970; Silberman, 1970). Various alternatives have been put forward as ways to improve the quality of teacher education programs generally and of education courses in particular.

One of the options put forward has been the recommendation to increase the field experiences of prospective teachers through increased teaching contact in conjunction with courses in method (Joyce, Yarger, and Howey, 1977; Ross, Raines, Cervetti, and Dellow 1980). The integration of teaching contract with reading methods courses has also been recommended for pre-service teachers (Manning and Moe, 1974; Morrison and Austin, 1977; Wylie, 1971).

Another alternative that has been put forward as a viable way to improve the quality of teacher training has been Competency Based Teacher Education (CBTE) (Houston and Howsam, 1972). CBTE has been discussed, and in some instances recommended, as a means of offering realistic alternatives to traditional reading methods courses (Blair, 1979; Burnett and Schnell, 1975; James, 1975).

Content area reading courses for undergraduate secondary education majors can be designed in different ways, but various programmatic questions exist concerning the design of these courses. Should content reading be offered as a traditional methods course? Should a field based course be offered instead of the traditional course? Would a CBTE modular based course be better? Who should teach the course? When should the course be offered to secondary

majors? Should a common pool of materials be used or should professors be free to develop their own materials? These are but a few of the considerations that exist when one faces designing the program of a content reading course for pre-service teachers.

Questions such as the above have led to this study, which examined the effectiveness of four different methods of content area reading preparation for undergraduate secondary education majors. Conflicting viewpoints regarding factors such as mode of instruction, location, and time prompted this study at a large midwestern university. The effectiveness of the four methods was determined through an evaluation of appropriate and correct use of content area reading strategies made during participants' term of student teaching.

The first method of preparing pre-service secondary teachers in content area reading was designated as the On-Campus Method (I). Instruction in this method was given to a group of secondary teacher candidates before their student teaching assignments. Instruction in this method was given by a faculty member whose specialization included both secondary and content area reading. This method of instruction most closely approximated the traditional methods course.

The second method was designated as Field Method A (II). Here, instruction was given to a group of secondary ed majors during their term of student teaching. Instruction was given by student teaching professors, who were given instruction in content area reading and furnished with materials for use in instruction by the professor who instructed the Method I group.

The third method of instruction was designated Field Method B (III). This method was similar to Field Method A, but attempted to control for instructor expertise. The instruction in this method was given by a field consultant with a secondary reading background. This consultant had also previously been given extensive preparation in content area reading by the Method I instructor. Materials for use in content area instruction in this third method of instruction were the same materials used in the other methods.

The fourth method of instruction was part of a Competency Based Teacher Education program (CBTE) (IV). Instruction in content area reading was provided in CBTE materials prepared by the On-Campus Method instructor, with the aid of two graduate students. Support for these materials was given by CBTE teacher education faculty and field associates. This program extended over two terms with instruction occurring before and during student teaching.

Method. The population included secondary education majors who were to be engaged in spring term student teaching, except those assigned to physical education, music, and art. Students were placed when possible in one of eight geographic areas of their choice, thus determining the method of instruction in which they participated. An examination of student grade-point averages showed the groups to be equal. Table 1 summarizes the number of students assigned to the various centers (methods) of instruction.

Table 1
Number of Student Teachers Assigned to Centers

Stu. Tchg Ctr	Instruc- tional Method	Areas Exclud. fr Study	Number Eligible Students	Number in Study	Propor- tion
A	I	1,2	9	5	.56
B	II	1,2,3	14	7	.50
C	I	2	16	14	.88
D	II	1,2,3	13	12	.92
E	II	1,2,3	14	6	.43
F	II	1,2,3	5	4	.80
G	III	1,2,3	11	10	.91
H	IV	1,2,3	21	15	.71
Total			103	73	.71

Areas Exclud. = 1 Phys Educ, 2 Music, and 3 Art

Objectives were selected prior to the experiment for evaluation during the students' term of student teaching. These included the following categories: (1) estimation of readability level, (2) construction and interpretation of an open book reading test, (3) construction and use of a multi-structure reading guide, (4) construction and use of a margin guide, (5) demonstration of guided reading and vocabulary instruction, and (6) providing instruction for non-readers (those below the fourth-grade reading level). Instructors in all four methods of instruction approved the evaluation instrument and were provided with copies of it prior to their instruction of the students.

During the seventh through ninth weeks of the term of student teaching, two advanced graduate students in reading, who had served intensive supervised internships in evaluating the teaching of content area reading, visited the eight student teaching centers which participated in the study. They met with each student teacher to determine which of the six major competency areas had been mastered. Mastery was determined through classroom observation of guided reading lessons and instruction of non-readers and examination, as appropriate, of the plans and products developed by the student teachers. Each meeting took about fifteen to thirty minutes. More than one visit was made, as necessary.

For the purpose of this study, 80% or more of the specific objectives listed under each of the six categories needed to be mastered for a student to receive credit for the ability. The dependent measure used to evaluate the comparative merits of the four methods of instruction was the percent of the six competencies mastered by each student.

Findings. An independent evaluator used an ANOVA to compare

the percent of skills mastered for each method of instruction. The mean square error terms was 512.52 with 69j.F. The estimate of variance was 13, 367.07, J.F. = 3. The ratio of these variance estimates yielded an F-value of 26.08 which was found to be significant at $p .001$. It was concluded that the various methods of instruction were not equally effective in producing competence in teaching content area reading on the secondary level, when such abilities are assessed in the student teaching environment.

The Post-Hoc Schiffe procedure at the .01 level indicated that Method I was significantly superior to the remaining methods, that Methods II and III were significantly superior to Method IV, and that Methods II and III did not differ in results. Table 2 summarizes the findings of the study.

Table 2
Means and S.D. of Percent of Mastered
Teaching Abilities for Each Method

Method	N	Mean	S. D.
I. On Campus Method	26	64.77	32.34
II. Field Method A	22	28.23	18.75
III. Field Method B	10	31.60	12.14
IV. C B T E Method	15	2.27	5.98

Discussion

The results of this study indicate that content area reading was most effectively presented to undergraduate secondary education majors by the On-Campus Method. The quantitative superiority for the On-Campus Method was also supported by an examination of the demonstrated levels of mastery exhibited by the student teachers in each of the four methods of instruction. Six categories of content area reading had been evaluated for this study. More of the student teachers in the On-Campus Method exhibited mastery of at least five of the six categories evaluated than in any of the other methods. Of the twenty-six teachers who participated in the On-Campus Method, ten were credited with mastery of five of the six content reading categories. None of the student teachers in any of the other three methods exhibited mastery in five of the six categories in their student teaching. Table 3 presents the number of student teachers in each method of instruction and their records of mastery in each category.

Table 3
Students Showing 80% Mastery in Each Category

Method Used	Number Students	Obj. (1)	Obj. (2)	Obj. (3)	Obj. (4)	Obj. (5)	Obj. (6)
	26	18	20	17	16	18	12
II	22	18	3	4	4	4	3
III	10	10	1	0	0	6	2
IV	14	0	0	0	2	0	0

While for the purposes of this study, demonstrated mastery for the categories assessed was defined as successful completion of 80% of the objectives listed under each category, the reports of the two on-sight evaluators concurred with the quantitative findings of this study. Based on their on-sight evaluations and on their discussions with the student teachers, both evaluators reported that the majority of those student teachers prepared by the On-Campus Method exhibited an understanding of content reading. Even where the undergraduates had failed to receive credit for demonstrating mastery of a category, these student teachers, for the most part, seemed receptive toward content reading strategies and felt that the instruction they received was valuable.

The evaluators' reports on those student teachers that participated in Field Method A and Field Method B, while generally positive, also relayed some concerns. Many of the student teachers appeared to understand the worth of content reading strategies, however, they were uncertain in how to implement the strategies. An opinion frequently expressed by the student teachers in the two field methods was that they were too pressed with the demands of classroom management and the assorted problems associated with student teaching to acquire a full understanding of the strategies and implement those strategies in their instruction. Many of these student teachers expressed the thought that their content reading instruction would have been more valuable if it had not been concurrent with student teaching.

The student teachers in the CBTE program had the least favorable attitude toward content area reading, the evaluators reported. Not only had the CBTE student teachers failed to demonstrate mastery in implementing the six categories of content reading into their instruction, the conceptual understanding of content reading that they exhibited was less than that of the other student teachers. The CBTE teachers showed more confusion over implementing the strategies than the other teachers. Perhaps most importantly, the CBTE student teachers' showed a less favorable attitude than the others. One may hypothesize that these student teachers, while exposed to the specifics of content reading strategies, had not been adequately exposed to the rationale and philosophy of content area reading. Consequently, the importance they placed on integrating content reading strategies into their instruction was minimal.

The results, limited to the conditions of the study, indicate that content area reading needs to be taught by faculty who are specialists in the field, that instruction should not be initiated at a time when students are pressed with the demands of classroom management, mastery of highly specific subject matter, and other elements present in the student teaching experience. Faculty teaching content reading courses need to have preparation in both academic and classroom teaching experience in which they have been employed—content area reading as part of instruction. In other words, this is an academic specialization that should not be "trivialized" into isolated skills or competencies that "anyone can teach." Students of education need to understand the theoretical base of the procedures they are using; they need to understand how the language processes apply to the subject area of their

specializations, and they need to create their own applications for the students they teach. On the affective level, faculty who are experienced and confident project an aura of the importance, desirability, usefulness, and practicability of content area reading.

The four methods of instruction examined in this study do not exhaust the possible variation for content reading instruction. Another variation is suggested on the basis of the authors' experience. The authors have provided content area reading instruction before, during, and after student teaching. Student enthusiasm for the course was highest after student teaching. Although this time placement was not included in this study for obvious reasons, it is suggested as another option. Possibly, increased field experiences prior to content area reading instruction would help to sensitize undergraduates to the importance of content reading. Another variation of this option is that student teaching need not be considered as the final experience in the preparation of a teacher. Faculty in other institutions may wish to conduct further action research to determine which method of instruction appears to be the most desirable in their particular setting. This study helped to resolve some important questions for those holding various viewpoints.

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