DOCUMENT RESUME

ED 293 822   SP 030 152

AUTHOR   Vacca, Richard T.; Gove, Mary K.
TITLE   Teacher Reflections on the Use and Adaptation of
              Instructional Innovations: Improving the Staff
              Development Process. Occasional Paper No. 10.
INSTITUTION   National Staff Development Council, Oxford, OH.
PUB DATE   Feb 84
NOTE   12p.
PUB TYPE   Reports - Research/Technical (143)

EDRS PRICE   MF01/PC01 Plus Postage.
DESCRIPTORS   *Adoption (Ideas); Content Area Reading; *Curriculum
              Development; *Educational Innovation; *Inservice
              Teacher Education; Secondary Education
IDENTIFIERS   *Levels of Use of the Innovation

ABSTRACT
        This study addressed the question of why, to what
extent, and under what conditions teachers fully implement and adapt
instructional innovations. The subjects, a group of 24 ninth grade
content area teachers, were seen to have implemented a particular set
of reading innovations only to a limited degree. Five major themes
were revealed as having an impact on teachers' use and adaptation of
content reading innovations: (1) time and pressures on the teachers;
(2) informal friendship systems within the school which in turn
seemed to be influenced by organizational patterns in the school; (3)
social/political factors in the school; (4) the existence of and the
nature of the inservice support system; and (5) the subject that was
taught by the teachers. Suggestions are made on several factors which
should be taken into account if staff development programs are to
impact on teachers' use and adaptation of innovations. Appendices
include the interview form. (JD)

TEACHER REFLECTIONS ON THE USE AND ADAPTATION

OF INSTRUCTIONAL INNOVATIONS:

IMPROVING THE STAFF DEVELOPMENT PROCESS

by

Richard T. Vacca
Professor of Curriculum and Instruction
Kent State University

Mary K. Gove
Reading Consultant
East Cleveland Public Schools

February, 1984

Occasional Paper No. 10

The implementation of educational innovations is at best a complex and dynamic process. How teachers use, adapt, and incorporate an innovation into instructional routines isn't predictable. Even the most clearly delineated innovation often succumbs to some sort of adaptation and modification when used in an instructional situation.

In this study we attempted to develop our understanding of why, to what extent, and under what conditions a group of ninth grade content area teachers in a large, urban school district implemented a particular set of reading innovations (Vacca, 1981). Content area reading as a curriculum innovation consists of several critical components which are reflected in teacher behaviors, student learning activities, and adjunct materials devised by teachers to complement content learning from textbooks. (See Appendix 1 for a list of these critical components.)

Teachers are encouraged to implement these components in the context of the conceptual and structural demands inherent in their text materials. Since these demands vary from content area to content area and from textbook to textbook, it is unrealistic, if not undesirable, to prepackage a content area reading innovation or to specify highly prescribed procedures for implementation. In fact, variations in how the components can be operation- alized during teaching are often recommended to teachers by staff development leaders.
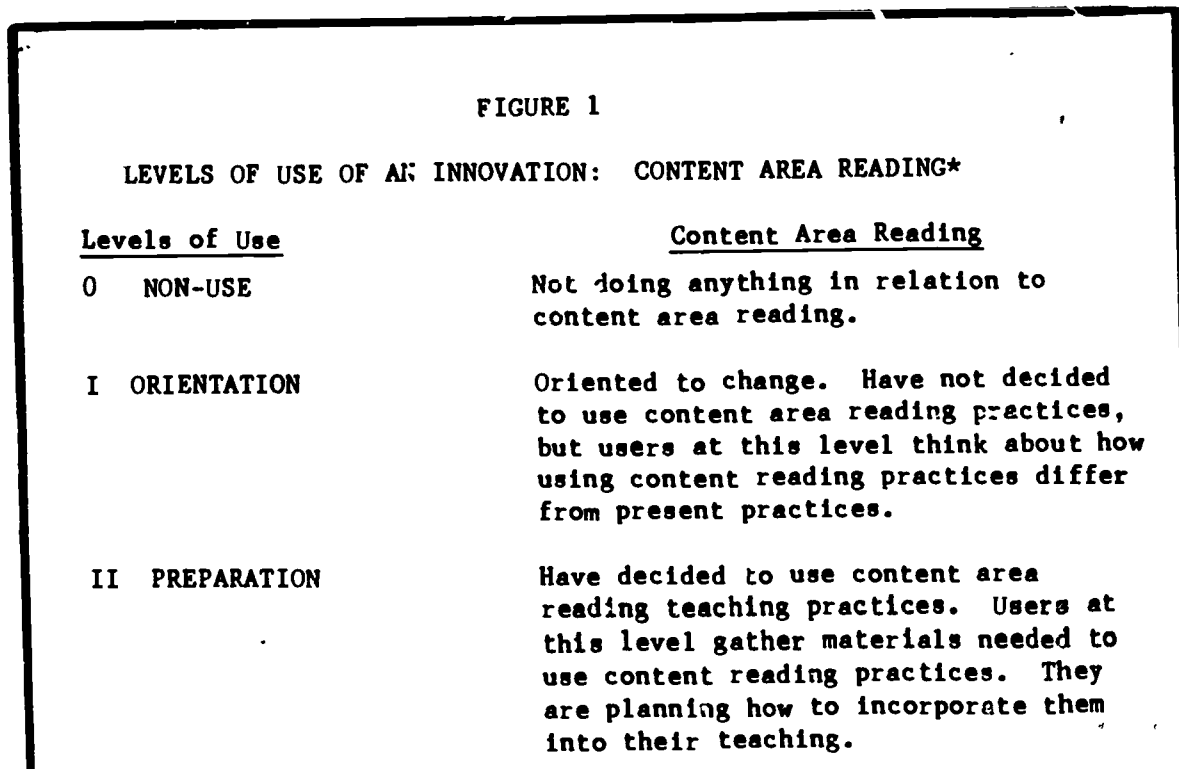
Therefore, to better understand why, to what extent, and under what conditions the participating teachers used and adapted content area reading innovations, we used personal interviews and field observations and also analyzed teacher-developed materials. In this paper we share our findings and discuss five major themes which emerged from data analysis. Also, we suggest several factors which we feel should be taken into account in order for staff development programs to impact on teachers' use and adaptation of innovations.

THE RESEARCH DESIGN

The staff development project described in this paper was initiated at the start of the 1979-80 school year. The innovation components were presented and developed in workshop sessions and demonstrated in teachers' classrooms over a two-year period of time. In addition, during this two- year period teachers collaborated with a staff developer and with one another

in devising content area reading lessons for use in their classrooms. One-on-one support and structured feedback were provided to many of the teachers at various points in the on-going staff development project. The staff developer also frequented the teachers' lounge and had many informal interactions with teachers. Moreover, some of the teachers were hired in the summer of 1981 to develop content area reading lessons which were tied to their individual curriculum objectives.

At the beginning of the 1981-82 school year, the twenty-four teachers participating in the staff development project were individually interviewed [1] to determine the extent to which they were using critical components of the content area reading innovation. Each interview followed a schedule adapted from the Levels of Use Interview (Hall, et. al., 1975). According to Hall, et. al. (1975), innovation users may incorporate an innovation into instructional routines at different levels. Figure 1 depicts these levels as they would apply to content area reading.

FIGURE 1

LEVELS OF USE OF AN INNOVATION: CONTENT AREA READING*

Levels of Use	Content Area Reading
0 NON-USE	Not doing anything in relation to content area reading.
I ORIENTATION	Oriented to change. Have not decided to use content area reading practices, but users at this level think about how using content reading practices differ from present practices.
II PREPARATION	Have decided to use content area reading teaching practices. Users at this level gather materials needed to use content reading practices. They are planning how to incorporate them into their teaching.

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[1] Appendix 2 lists the questions which were asked to determine the extent to which teachers used and modified content area reading innovations.

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III MECHANICAL USE

Have begun using the content area reading practices, often in a mechanical way. Users at this level are usually very tied to using a practice exactly as it was explained to them; they are continuing to learn about the innovation.

IVA ROUTINE

Have established a level of routine in using content area reading practices. Users are refining use of the innovation.

IVB REFINEMENT

Make adaptations within their own classrooms to increase impact.

V INTEGRATION

Work with others in using content area reading so that coordination of efforts will increase impact.

VI RENEWAL

Focus on drastic changes or are moving into using new innovations related to content area reading.

*Adapted from: Hall, G., et.al. Levels of use of an innovation: A framework for analyzing innovation adoption. The Journal of Teacher Education, 1975, 34, 226-233.

It was determined from the interviews that a majority of the teachers (18 out of 23) were using content reading strategies at a "mechanical level" at the end of the school year. In their interviews they discussed the "how to's" of using the strategies and of increasing the number of formats they would use. Only five of the teachers expressed impact concerns, i.e. made statements which indicated they were reflecting on how they could refine and adapt content reading strategies to more effectively teach their students.

These five teachers were at the "refinement" level and, as a result, were interviewed more extensively and were observed in their classrooms. The focus of these interviews and classroom observations was to determine how and why these teachers adapted the content area reading strategies presented in the staff development workshops. The interview data were analyzed to answer these two questions:

1. What factors seem to affect the level of use of content reading strategies on the part of these high school teachers?

2. What factors seem to affect the adaptations of content reading strategies made by the participating high school teachers?

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As a result of the analysis, five major themes emerged concerning teachers' use and adaptations of content area reading innovations:

1. The extent of teachers' use of content area reading strategies and the types of adaptations they made were affected by time pressures on the teachers.

2. The extent of teachers' use of content area reading strategies was affected by informal friendship systems within the school which in turn seemed to be influenced by organizational patterns.

3. The extent of use of content area reading strategies was affected by social/political factors in the school.

4. The extent of use of content area reading strategies was affected by the existence of and the nature of the inservice support system.

5. The types of adaptations made were affected by the nature of the subject that was taught by the teachers.

Theme 1: Time Pressures

Many of the teachers made statements indicating that time pressures caused by the school schedule affected both the extent to which they used content reading strategies and the types of strategies they used. Most of the teachers used non "paper-and-pencil" tasks (such as helping students make predictions) much more extensively than they used various types of reading guides which they had to prepare for students. For example, three-level guides and anticipation guides took too much time and thought to construct. Only five of the teachers actually devised anticipation and three-level guides on a regular basis during the school year. An analysis of these reading guides suggested that the teachers varied the format and, in a sense, "experimented" with the original prototype format that was presented during the workshops.

Theme 2: Informal Friendship Systems

The participating teachers in the project taught in what is called a "unit system," i.e: a unit of a science teacher, an English teacher, a social studies teacher, and a mathematics teacher who teach the same group of students. The twenty-four teachers in the project had similar schedules, generally frequented the teachers' lounge, and were all members of the teachers' union. Because the informal leaders of their "friendship" groups became enthusiastic about content area reading innovation, there appeared to be an increase in the credibility of the staff developer and in turn an increase in the extent to which teachers used components of content area reading innovation.

Since the staff development project was discontinued last year, the staff developer is presently working with vocational teachers in the same high school. The vocational teachers are not in a unit system and thus have little reason to collaborate. They also do not frequent the teachers' lounge because they each have an office of their own with a telephone. In addition most of the vocational education teachers do not belong to the union. The impact that the staff developer seems to be having on this group of teachers appears to be less than it was on the 24 teachers in the project. We hypothesize that a major factor in this appears to be the lack of observable friendship patterns among vocational teachers because they have separate offices and because they do not share students.

Theme 3:   Social Political Factors

The social-political factors associated with school climate also seemed to have affected the extent to which some of the teachers perceived and used content area reading innovations. For example, two teachers who had been enthusiastic about the reading staff development project were informally interviewed just after they had received a tentative "R.I.F." notice. Their responses to interview questions about how they were using the innovation were very pessimistic and negative. The next school year the same two teachers were re-hired and were extensively using and adapting the content area reading strategies they had developed during the summer.

Another example of how the social-political nature of the school climate affected teachers' participation in the staff development program occurred at the beginning of the 1980 school year. Immediately after a strike, the administration instituted a new policy for teachers to have their lesson plans evaluated. The teachers spent much of their time at staff development sessions in the weeks immediately following the enactment of this policy discussing its affect on their attitudes toward work. During this time there was little noticeable use of reading innovations in the teachers' classrooms or efforts to develop content area reading lessons.

Theme 4:   The Existence and Nature of In-Service Support Systems

Many of the participating teachers said that they would use content reading strategies to a lesser extent the next year if the program was discontinued. However, the five teachers who were adapting and refining

innovation components responded that they would continue using content area reading strategies whether or not the staff development project continued. Their level of commitment was so high that the strategies seemed to have become a natural part of their teaching.

Teachers were also asked which aspect of the staff development program they felt was the most effective. In general they felt that demonstration lessons extending into team teaching situations aided them the most in incorporating content area reading lessons into their teaching.

When they were asked for specific feedback on the way the program was run, the participating teachers commented on the importance of having coffee at the workshop sessions and on the opportunity of sharing ways of teaching with their colleagues along subject matter lines. Staff development sessions in previous years had been within the unit groups, i.e. a group which included a social studies teacher, an English teacher, a science teacher, and a mathematics teacher. This staff development project grouped teachers with specialists in their own area of expertise. In these groups, teachers could share and collaborate on ways to teach specific topics.

Theme 5: Content-Specific Adaptations

To understand how innovation components were adopted, an analysis was made of the content area reading materials which were developed by the participating teachers during the school year and by the three teachers who were paid for summer curriculum development. The type of content area reading materials used was affected by the content areas the teacher(s) taught. For example, because science texts contain a great number of technical vocabulary terms unfamiliar to students, science teachers used vocabulary reinforcement activities extensively. In contrast, the English teachers were apt to devise anticipation guides and three-level guides, or involve students in making predictions because their content lends itself to these strategies. Social studies teachers used vocabulary reinforcement exercises, anticipation guides, three-level guides, cloze, and concept guides. Finally, the teachers in the project were encouraged to have their students write about ideas they studied in content area texts. The kinds of writing assignments that will be made also differed along content lines.

IMPLICATIONS

The staff development project in this study incorporated many of the components of effective training programs, i e. theory and practice

delivered through a variety of teaching techniques, modeling teaching behaviors through demonstration, establishing conditions for collaboration, providing structured feedback, etc. Nevertheless, even with all these factors supporting the staff development effort, most of the teachers in the program only progressed to the point where they were using components of content area reading innovations at a mechanical level. These same teachers by and large suggested that despite several years of continual inservice support, they would probably not use the innovation components on a regular basis if the project was discontinued by the school administration. At this point, we can only speculate on why only a handful of the teachers (five of twenty-three) actively sought ways to refine and experiment with their use of content area reading innovations or why only a few teachers shared and collaborated with one another with respect to the innovation _outside_ of the staff development sessions.

Urban high school teachers have many demands placed on their time and energy. The "press of life" in their high school seemed to inhibit teachers from collaborating and reflecting on ways to "fine tune" or improve their craft as it related to content area reading instruction. The teachers just did not feel that they had enough time during the school day to think through or experiment with the strategies presented in the staff development sessions. They were content to "try out" the strategies and techniques with a high degree of fidelity toward the way they were presented in the inservice work-shops, especially if the staff developer prepared the adjunct materials for the teacher. On the other hand, the teachers who were hired in the summer to develop content area reading lessons and adjunct materials were highly reflective and enthusiastic about using the innovation during the school year. Follow-up observations and interview data suggest that these teachers con-tinued to reflect on and experiment with the use of the innovation during the school year.

For staff development programs designed to impact on teachers' use and adaptation of innovations, instructional leaders must take into account and plan for factors which seemingly are not directly related to the innovation _per se_. At least three specific ways to increase the likelihood that teachers will actively use and seek ways to refine an innovation include:

1. Providng time within the teachers' schedules to meet on an on-going basis to "work" with the innovation;

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2. Organizing staff development sessions that involve teachers who are responsible for similar content and share common concerns related to that content;

3. Hiring teachers to work on improving their craft during the summer.

Moreover, contextual factors surrounding the particular group of high school teachers involved in study seemed to greatly affect the success of staff development efforts. Thus, staff developers need to think through the specifics of their own particular situations with regard to the frequency with which teachers use the teachers' lounge, the relationship of teachers to the administration, and the structure and influence of informal friendship systems that exist. These kinds of factors need to be considered in planning both formal and informal staff development efforts.

Appendix 1

CRITICAL COMPONENTS OF CONTENT AREA READING INNOVATION

IN THE STAFF DEVELOPMENT PROJECT

1. Different types of reading guides are used to focus students' attention on major concepts.
   a. anticipation guides (focus attention prior to reading)
   b. concept guides (focus attention after reading)
   c. three-level guides (focus attention during reading)

2. Important content vocabulary words are introduced and reinforced.
   a. structured overviews (graphic organizers prior to reading)
   b. vocabulary reinforcement exercises (before or after reading)

3. Purposes for reading are set before reading.
   a. previewing
   b. prediction
   c. curiosity arousal

4. Students are involved in structured group work and/or whole class discussion.

5. Students are asked to support their answers to reading guides using appropriate parts of the text.

CONTENT AREA READING INNOVATION INTERVIEW

Directions to the Innovation User:

I would like you to choose a specific strategy or technique that has been presented and demonstrated in the staff development workshops and which you feel that you use in your classroom on a fairiy regular basis. Once the user identifies a particular innovation component for further discussion, the following probes are made:

1. Describe how you use (the innovation component)? What do you do? What do your students do?
2. What do you see as the strengths and weaknesses of using (the innovation component)?
3. Did you do anything different in your use of (the innovation component) from what we discussed in the content area reading sessions?
4. Did you do anything to make the use of (the innovation component) more appropriate for students in your classroom?
5. Does the way you used (the innovation component) vary from class to class that you teach?
6. How do you go about preparing lessons to use (the innovation component)?
7. How do you decide that (the innovation component) is needed for a particular text selection?
8. How do you decide what portions of the text need to be emphasized through the use of (the innovation component)?
9. How do you decide what form (the innovation component) will take?
10. Is there anything that you consciously do to get students ready for (the innovation component)?
11. Were there any ideas presented in the content area reading sessions which you disagreed with? If so, which ones?
12. Which ideas presented in the content area reading sessions did you think were particularly useful to you as a content teachers?
13. Are there any changes you plan to make or have made in the way you use (the innovation component)?
14. When the staff development project is discontinued, will you continue to use (innovation component)?
15. What was the most effective aspect of the staff development project?

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BIOGRAPHIES OF AUTHORS

RICHARD T. VACCA is a professor of Curriculum and Instruction at Kent State University. In addition to coordinating the Graduate Program in Reading, Dr. Vacca also directs the Educational Child Study Center. He has published several books and numerous articles on various aspects of reading and writing instruction and the professional development of teachers.

MARY K. GOVE is a reading consultant in the East Cleveland School District and an adjunct instructor at Kent State University. Dr. Gove's immediate research interests center on the impact of teachers' beliefs on teaching behavior. She is presently co-authoring a textbook on theory and practice in the teaching of reading.