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AUTHOR Lenz, B. Keith; Alley, Gordon R.
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ABSTRACT

This investigation examined whether advance organizers would help learning disabled (LD) adolescents to more efficiently process information on selected academic tasks. There were three phases: First, 51 LD and 63 normally achieving (NA) subjects participated in the development of a test to measure important and unimportant information. Second, eight LD adolescents, one NA adolescent, and 10 secondary content teachers participated in a study to investigate the use of advance organizers in an applied setting. Using two multiple-baseline designs across teachers and students, teachers were trained to use advance organizers, and students were trained to listen for advance organizers. This phase generated information regarding how organizers might be used and constructed in a natural setting. The third phase involved examining the effects of advance organizers under more controlled conditions with 46 LD and 51 NA adolescents. The test developed in the first phase of research was used to measure how adolescents performed on measures of important and unimportant information under treatment and control conditions. Results of the study conducted in the applied setting demonstrated the efficacy of using advance organizers in secondary classrooms. All teachers learned to use the advance organizers in their classrooms with minimal training, and all students showed increases in their awareness to teacher use of advance organizers after training. In the final investigation, the advance organizer treatment significantly increased test scores of the LD group, but not for the NA group. A significant interaction was demonstrated for the LD group on the type of information learned. LD students in the treatment group identified more important information than the control group, while LD students in the control group identified more unimportant information than the LD students in the treatment group. In addition, LD students performed significantly poorer than NA students on measures of both important and unimportant information. However, this distance was minimized when the advance organizer treatment was present. Results of these investigations support the postulation that advance organizers can exert a positive influence on the learning of LD adolescents. (Author/CL)

FINAL REPORT

THE EFFECT OF ADVANCE ORGANIZERS ON THE LEARNING AND RETENTION OF LEARNING DISABLED ADOLESCENTS WITHIN THE CONTEXT OF A COOPERATIVE PLANNING MODEL

by

B. Keith Lenz, Ph.D.
Department of Exceptional Student Education
Florida Atlantic University

Gordon R. Alley, Ph.D.
Institute For Research in Learning Disabilities
Department of Special Education
The University of Kansas

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ABSTRACT

This investigation examined whether advance organizers would help learning disabled (LD) adolescents to more efficiently process information on selected academic tasks. There were three phases to this study. First, 51 LD and 63 normally-achieving (NA) subjects participated in the development of a test to measure important and unimportant information. Second, eight LD adolescents, one NA adolescent, and ten secondary content teachers participated in a study designed to investigate the use of advance organizers in an applied setting. Using two multiple-baseline designs across teachers and students, teachers were trained to use advance organizers, and students were trained to listen for advance organizers. This phase generated information regarding how organizers might be used and constructed in a natural setting. The third phase involved examining the effects of advance organizers under more controlled conditions. There were 46 LD and 51 NA adolescents involved in this phase. The test developed in the first phase of research was used to measure how adolescents performed on measures of important and unimportant information under treatment and control conditions.

Results of the study conducted in the applied setting demonstrated the efficacy of using advance organizers in secondary classrooms. All teachers learned to use the advance organizers in their classrooms with minimal training, and all students showed increases in their awareness to teacher use of advance organizers after training. In the final investigation, the advance organizer treatment significantly increased test scores of the LD group, but not for the NA group. A significant interaction was demonstrated for the LD group on the type of information learned. LD students in the treatment group identified more important information than the control group, while LD students in the control group identified more unimportant information than the LD students in the treatment group. In addition, LD students performed significantly poorer than NA students on measures of both important and unimportant information. However, this distance was minimized when the advance organizer treatment was present. The results of these investigations support the postulation that advance organizers can exert a positive influence on the learning of LD adolescents.

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CHAPTER I

Introduction

In the subject-centered secondary school setting, academic success is defined as the ability of a student to acquire and deal effectively with secondary content (Bent & Unruh, 1969). Learning disabled (LD) adolescents have demonstrated difficulties in effectively acquiring and retaining information that meet the content demands of the secondary school setting (Alley & Deshler, 1979). This is significant because LD adolescents are generally mainstreamed into regular content classrooms for more than half of the school day (Brandis & Halliwell, 1980; Deshler, Lowery & Alley, 1979).

Brandis and Halliwell (1980) reported that regular content teachers were unable to meet the needs of mainstreamed handicapped students because of lack of information and training. However, instruction received in the special education resource room is often insufficient or inappropriately designed to meet secondary regular education content demands. (Wiederholt & McEntire, 1980). Research should be conducted to determine effective methods for promoting the success of LD students in the secondary content classroom through the use of existing special education support personnel.

Overview

A cognitive mediator, the advance organizer, was selected to promote increased acquisition of information by LD adolescents in secondary school content classrooms. This intervention was selected because it can be communicated to secondary content teachers easily by special education personnel and, because it is content based, can be independently

implemented by the secondary content teacher. The purpose of this study was to determine whether advance organizers would allow the LD adolescent to more efficiently receive, select and process information on academic tasks. The purpose of this study was accomplished through the completion of three phases of study.

First, the literature was reviewed to investigate the components of advance organizers that had proven most effective. Based on this literature review a measure was constructed to assess student reading comprehension of important and unimportant information. These two elements of reading comprehension became the dependent measures for the primary investigation.

Second, a preliminary investigation was conducted to examine the conditions under which advance organizers could be successfully implemented in a secondary setting. The literature review of the first phase was used to develop a research based criteria for developing advance organizers that were judged to most likely facilitate the acquisition of information by LD adolescents in secondary school regular classroom settings. Using this criteria, regular classroom teachers were trained to develop advance organizers for use in their classrooms. Teacher's then implemented the advance organizer as a teaching methodology in their classroom. The use of advance organizers was then observed. An interview was used to obtain student response to the teacher use of advance organizers. This measure provided information on the efficiency of advance organizers on the student's ability to detect the use of advance organizers in the secondary setting. In addition, the relative frequency of ten types of organizing behaviors used by teachers and an estimate of their individual effect on students were examined.

Third, a primary investigation was conducted to evaluate the quantitative and qualitative aspects of advance organizers using the instrument developed in this study for measuring important and unimportant information. This investigation allowed the comparison of the effects of advance organizers on LD students with normally-achieving (NA) students on the dependent measure.

Rationale

Curricular Approaches for LD Adolescents. Programming for LD adolescents has been based on one or more of three general goals. First, LD adolescents should learn those skills in reading, writing, math, etc. that they have not mastered. This goal is achieved through use of remedial curriculum approaches (Deshler, 1978). Second, LD adolescents should acquire an alternate set of skills that emphasize functional, vocational, or career related activities. This goal is achieved through the use of alternative curriculum approaches. And third, LD adolescents should master the concepts and principles of each subject area in the secondary school. This goal is achieved through the use of secondary content curriculum approaches.

Deshler, Lowery, and Alley (1979) reported that in a national survey of 98 secondary programs, 55 percent of the programs had remedial content as their focus, 22 percent of them focused on alternate content, and 24 percent focused on secondary content acquisition. However, of those programs focused on secondary content, the emphasis was either tutorial or compensatory (i.e., taping books, reading students tests). These approaches did not assist the student in independently meeting the demands of the secondary content class. Of those program specialists using a remedial approach as their focus, 51 percent reported using a

fundamental basic skills approach, while 4 percent reported using a study skills or learning strategies approach.

The learning strategies approach for LD adolescents, as conceptualized by Alley and Deshler (1979), emphasizes teaching efficient study and learning techniques that students have failed to learn as they have progressed in school. Although programs that reported use of the learning strategies approach in the Deshler, et al., (1979) survey taught learning strategies to enhance writing, reading, and listening skills (typically considered basic skills areas), the ultimate goal was student's independent success among secondary content classrooms. Except for programs that have adopted the learning strategies approach, there has been little evidence that indicates that LD adolescents have received assistance from special education in developing skills to independently meet secondary classroom demands (Alley & Deshler, 1979). Therefore, intervention models such as the learning strategies approach are worthy of research attention.

Learning Disabilities and Learning Strategies. The demands placed on LD adolescents in secondary content classrooms require the student to possess and use a broad set of information processing skills. Alley and Deshler (1979) suggested that learning strategies that promote the use of specific techniques, principles, or rules could assist LD adolescents in the acquisition, manipulation, integration, storage and retrieval of information across situations and settings of the secondary school. The learning strategies approach for serving LD adolescents, as conceptualized by Alley and Deshler, is part of a move in the field of learning disabilities toward a more cognitive theoretical orientation to learning disabilities.

A cognitive approach to learning emphasizes what the learner brings to the learning task (Ausubel, 1969). Reid and Hresko (1981) stated that it is important to view the learner as the most important element in the teaching-learning situation, rather than materials, lessons, teachers, or other external factors. Jernstedt and Chow (1980) reported that in a study of the effectiveness of two instructional methods (individual versus traditional) teaching method accounted for only 3% of the total variance, while student input accounted for 25% of the total variance. However, the interaction between the student and the learning environment accounted for an additional 30% of learning. Jernstedt and Chow concluded that the environment can only influence behavior to the extent that it can promote active student participation and involvement in the learning task. This suggests that the student must realize that he/she must take an active part in learning. Therefore, it may be hypothesized that effective instruction provides activities that promote or "facilitate the learner's ability to construct meaning from experience" (Reid and Hresko, 1981 p. 49).

Instruction in learning strategies assumes that the student does not have effective and/or efficient learning strategies. Rothkopf (1970) called behaviors produced by the learner during the course of the learning act mathemagenic activities. Dansereau, Actkinson, Long, and McDonald (1974) and O'Neil (1978) coined the more popular term of learning strategies for these behaviors. These behaviors include taking notes, writing summaries, answering adjunct questions, etc. When learning is affected by these behaviors, researchers have explained these outcomes in terms of the "learning strategies hypothesis". Mayer (1980) stated that the learning strategies hypothesis proposes that making the

learner actively integrate new information with existing information will affect the learning and use of information. As a result, the inefficient use or lack of effective strategies is called the "strategy deficiency hypothesis."

Advance Organizers. Identifying variables that make teaching more effective has long been a goal of educational research. However, present methods used in teaching learning disabled students in the regular classroom have not been effective compared to the normal achievement gains of their peers. Based on the research on strategic deficiencies of LD students in reading, it is clear that organization of input into meaningful components is an important skill at the secondary level. The task is to identify methods that will assist the LD adolescent in regular classroom learning tasks.

Mann (1970) stated that using normal curriculum in training academic skills may be advantageous because it is relevant to the learning task. Torgesen and Goldman (1977) used a similar approach that incorporated the use of learning strategies in training. Torgesen and Goldman found that reading disabled children could improve their reading performance if environmental supports were provided in the use of appropriate reading strategies. Several environmental supports that have been studied outside the context of the special education classroom have included adjunct questioning, restructuring of semantic structures, restructuring of organizational patterns (Gibson & Levin, 1975) as well as coping skills such as outlining, summarizing, underlining (Alley & Deshler, 1979). These methods have been proposed as aids in the organization of information for meaningful representation by the students.

A major problem with many of the methods listed above, however, has been the difficulty of secondary content teachers in implementing them in the classroom. Although many of these methods may be implemented within a specialized remedial setting, very few classroom teachers are able to restructure materials or insert questions in text, for example. Similarly, coping skills demand instruction in the specific skill to be used in the task, and regular secondary content teachers not not have sufficient time available to teach these in their classroom. However, a very promising approach that: (a) assists the student in the learning task, (b) requires minimal teacher preparation, and (c) is easily incorporated into the secondary classroom is the advance organizer. The advance organizer has been proposed by Ausubel (1963) as a means of strengthening a student's cognitive structures. Ausubel described cognitive structures as a person's knowledge of a particular subject matter at any given time and includes how well organized, clear, and stable it is. In an applied setting, an advance organizer has generally taken the form of material that is presented "in advance of and at a higher level of generality, inclusiveness, and abstraction than the learning task itself" (Ausubel & Robinson, 1969, p. 606). An example of an advance organizer is provided below. This passage would be presented to a student either verbally or in written form prior to the actual reading assignment.

> Acculturation takes place when the people of one culture acquire the traits of another culture as a result of contact over a long period of time. The British governed Kenya for about 80 years. During this period, the direction of cultural change was largely one way (Clauson & Rice 1972).

After the advance organizer is given, the passage is then read. The passage would include information about the acculturation process and the specific forms of acculturation. Ausubel has described the use of advance organizers as providing "intellectual scaffolding" for the student to structure the information obtained form learning. He believed that before new information is presented, the stability and clarity of a student's prior knowledge must be strengthened to help the student acquire and retain new information. The hypothesis that advance organizers can improve learning and retention is a part of assimilation theory.

Assimilation theory suggests that "learning involves relating new potentially meaningful material to an assimilative context of existing knowledge" (Mayer, 1979a). Assimilation theory predicts that advance organizers will contribute to learning by making available meaningful context. It is hypothesized that advance organizers will "activiate" the LD adolescent in such a way that meaningful learning will occur. Torgesen and Goldman (1977) and Haines and Torgesen (1979) have called the learning disabled student an inactive or passive learner. They contended that it is the task of educators to activate the LD student so learning will occur. Dansereau (1978) suggested that focusing on improving teaching without considering the way the learner must interact with the teaching method may limit a learner's cognitive awareness. Therefore, the advance organizer must be used to enlist the aid of the student in the learning task.

Advance Organizers in the Classroom

Advance organizers may be particularly beneficial to LD adolescents because they are intended to make the student process information more

efficiently, and can be used by secondary content teachers to independently promote student success. However, there are two significant issues that must be addressed before advance organizers can be useful with LD adolescents. These issues include the ability and willingness of content teachers to use advance organizers, and the ability of LD students to detect advance organizers when they are used.

The implementation of special techniques or procedures in the regular classroom through a systematic process that includes input from both regular and special education teachers has been called cooperative planning (Riegel, 1980). However, the success of cooperative planning has been limited to the time, skills, and willingness of content teachers to implement specific techniques and procedures i.e., reducing content demands, using adapted texts, oral administration of tests. The advance organizer solves some of the problems cited by content teachers because it does not require a compromise either on the quantity or quality of content, and requires little time to prepare and deliver. Therefore, the implementation of advance organizers should be practical and cost effective for use in the secondary setting.

The ability of LD students to detect those advance organizers used by teachers is a prerequisite to any benefit a student may receive from teacher use of advance organizers. Mayer (1979,a) stated that in order for information to be meaningful it must be received by the learner. If the student cannot identify cues such as advance organizers that will help them learn, then the cues are ineffective. Therefore, to determine whether advance organizers can be detected and used by the LD student is imperative to their use.

Research Questions

The purpose of this study was to determine whether advance organizers would make LD adolescents more efficiently receive, select, and process important versus unimportant information on selected academic tasks. Answers to following questions were sought:

1. Do advance organizers affect the performance of LD adolescents differently from the performance of normally-achieving (NA) students on a multiple-choice test?
2. Does the use of advance organizers affect the performance of LD and NA adolescents differently when compared to no advance organizer use, as measured by a multiple-choice test?
3. Does the type of information learned due to the presence or lack of the presence of the advance organizer differentially affect the performance of LD and NA adolescents?

In addition to the three major questions investigated in the primary investigation, several preliminary questions were investigated in order to more effectively complete the primary investigation. Specifically, answers to the following questions were sought.

1. Which advance organizer components are most effective with LD adolescents?
2. Can secondary content teachers be trained to use advance organizers in their classrooms to assist LD adolescents?
3. Can LD adolescents detect the use of advance organizers by secondary content teachers?

Definitions

Learning disabled. For the purposes of this study, the definition used was the one adopted by the federal rules and regulations of Public Law 94-142, the Education for All Handicapped Children Act (United States Office of Education, August 23, 1977). The definition is as follows:

> "Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

Normal Achievers. The term normal achiever refers to those adolescents used in this study who were achieving in the average or ab ve average range on measures of classroom performance, intellectual ability, and achievement. In addition, the term normal achiever excludes individuals who met any criteria for inclusion in a handicapped group, or had ever received or been referred for services for the handicapped.

Secondary content curriculum approaches. This term refers to curriculum approaches for the learning disabled adolescent that emphasize the acquisition of the normal secondary school curriculum as their

primary goal. Tutoring a student in a subject area or providing optional learning methods (such as tape recording textbooks) are types of curriculum approaches that can be classified under the general term of secondary content curriculum approaches.

Advance Organizers. The term advance organizers refers to a set of behaviors that precede the learning act and generally incorporate one or more of the following components: a) announcement of the benefits of the advance organizer; b) knowledge of topics and/or subtopics; c) knowledge of the physical requirements needed for the learner and/or instructor to accomplish the task; d) knowledge of background information related to new learning; e) knowledge of concepts to be learned (specific or general); f) examples or clarification of concepts to be learned; g) knowledge of the organization or sequence in which new information will be presented; h) motivational information; new or relevant vocabulary; and j) knowledge of goals or outcomes that should result because of learning.

Important Information. This term refers to those basic idea units in a passage that are most related to the reader-identified theme.

Unimportant Information. This term refers to those basic idea units in a passage that are least related to the reader-identified theme.

Basic idea units. A basic idea unit is defined as parts of a passage that contain an idea and represent a place where a reader might logically pause in reading for meaning. Idea units are those intermediate units usually set apart by pauses. Johnson (1970) stated that "the functions served by pausing might be to catch a breath, to give emphasis to the story, or to enhance meaning", (p. 13).

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this study was to determine whether advance organizers would allow the learning disabled (LD) adolescent to more efficiently select and process important versus unimportant information on selected academic tasks. A narrative integrative review of the literature covering the following topics was conducted:

1. Learning Disabilities in Secondary Schools.
2. Learning Disabilities and Learning Strategies.
3. The Effectiveness of Advance Organizers.
4. Advance Organizer Definitions.
5. Advance Organizers and Learning Disabilities.
6. Measuring the Effects of Advance Organizers.
7. Advance Organizers in the Regular Classroom.

This review of literature was generated through computer searches of national computer data bases in education, special education, and psychology, as well as through reviews of selected journals and books.

Learning Disabilities in Secondary Schools

The success of the LD student in the regular secondary classroom is dependent on the effectiveness of the content teacher to plan appropriate learning conditions. Facilitating conditions to assure LD students' success in the content classroom are not always present. Moran (1980) reported that secondary teachers lectured significantly more often than they involved students in discussion through questioning; they presented few organizing statements, including advance organizers, to help students listen more efficiently; and they provided limited feedback and checks for

understanding of directions. Moran also reported that the information processing demands that they placed on students (measured in morphemes per teacher utterance) exceeded levels for adults to process information efficiently. Moran also found that content teachers misperceived their actual teaching behaviors. These teachers reported that they perceived that "wh" questions were their most frequent teaching behavior. An observation of their actual teaching behavior showed that commands, opinions, and stated facts were the most frequent. Knowlton and Schlick (in preparation) found that teachers expected LD adolescents to have: (a) subject matter skills such as reading and spelling; (b) general study skills such as notetaking, composition, and reference skills; (c) independent work habits such as locating the correct page, requesting help; (d) responding appropriately to classroom work tasks; and (e) communication skills such as speaking clearly and seeking information.

Link (1980) found that content teachers perceived that the five most essential skills for academic success in the secondary school included: a) following oral and written directions, b) recalling information for tests, c) turning in assignments on time, d) locating answers to questions, and e) locating information in a textbook. However, these same students received very little direct instruction in the essential skills (Keimig, 1980).

The majority of adolescents placed in LD programs have basic skill deficits, as well as deficits in study skills (Carlson & Alley, 1981; Deshler, Warner, Schumaker, Alley, in press; Norman and Sigmond, 1980). However, often after years of remediation in basic skills, the basic skills achievement of LD adolescents appears to level off by the time the student reaches tenth grade (Warner, Alley, Schumaker, Deshler,

Clark, 1980). Many LD adolescents appear to plateau at about a fifth grade achievement level in the areas of reading and written language, and at about sixth grade level in mathematics. These effects appear to be consistent for most LD adolescents despite continued remedial efforts in the secondary school. In addition, Carlson and Alley (1980) found that LD adolescents tended to score significantly lower on tests of notetaking, monitoring of written work, scanning a textbook, test taking, and listening comprehension. These findings indicate that the demands of secondary school classrooms combined with the learning difficulties of LD adolescents will result in failure if external supports are not provided to the student to meet secondary school setting demands.

Learning Disabilities and Learning Strategies

Research in the field of learning disabilities has demonstrated that learning disabled individuals are less efficient learners and are developmentally delayed in learning. (Hall, 1980; Loper, 1980; Reid, Knight-Arest, & Hresko, 1980; Wong, 1979). The use of increasingly sophisticated strategies as facilitators of information processing has generally been accepted as a developmental phenomenon (Chi, 1976; Flavell, 1970). Numerous researchers have asserted that LD students fail to use these information processing strategies (Brown & Campione, 1980; Flavell, 1970; Keeney, Cannizzel, & Flavell, 1967; Spring & Capps, 1974; Tarver, Hallahan, Kauffman, & Ball, 1976; Torgeson & Goldman, 1977; Wright & Vlietstra, 1975).

The failure to use strategies, therefore, will impact dramatically on the ways that an LD student learns, and the types of information acquired. Skills directly affected by efficient use of strategies include reading and listening. LD adolescents must interact with textual and

oral information on a daily basis in the secondary classroom. However, a series of prerequisite conditions must be introduced before the adolescent can take advantage of the information to be learned. These conditions comprise the information that must be processed correctly, and on which decisions are made. This is the application of the learner's strategy. Such conditions in preparing to read textual information include: (a) recognition of prior knowledge, (b) anticipation of forthcoming knowledge, (c) knowledge of the purpose of the activity, (d) awareness of relationship to larger contexts, and (e) self-awareness of abilities to complete the task (Ausubel, 1963; McKnight, Schick & Cleaver, 1975). The student must quickly attend to each of these prerequisites before, during, and after the listening or reading task.

The ability of the LD adolescent to learn from listening and reading and to retain that information is of primary importance in the success of the LD student in the secondary setting. Lindsey and Kerlin (1979), in a review of literature related to secondary learning disabilities, suggested that disorders in reading may be the most notable academic deficiency in LD adolescents. Smiley, Drew, Worthen, Campione, & Brown (1977) found that students who were poor readers were also poor listeners. They concluded that either the processes necessary for reading and listening are highly related, or that a general processing deficit exists possibly delaying the development of strategic thinking. Yet, the mainstreamed LD adolescent is expected to be relatively independent in accomplishing these tasks. However, regardless of the amount of assistance received through special education services, only a small portion of programming can be provided through direct instruction to increase the ability of a student to deal with secondary content information (Alley & Deshler, 1979).

Cognitive based instruction in listening and reading has focused primarily on assisting the LD student to more efficiently select and organize information. Most studies in this area have been limited to elementary age children. This requires researchers interested in the LD adolescent to rely on inference and an intuitive appeal that the secondary LD student's learning can be explained in a similar fashion. However, the information available on elementary age LD students provides helpful information for pursuing this approach with secondary age LD students.

Katsonis and Patterson (1980) found that LD children demonstrated deficits in their ability to monitor their own comprehension in reading tasks. Torgesen, Murphy and Ivey (1979) demonstrated that LD children failed to employ efficient information organizational strategies. This study replicated an earlier study (Torgesen, 1977) based on a sample from a different geographical and cultural region. In an earlier study, DeHirsch, Jansky, and Langford (1966) found that reading success at the end of second grade correlated with the ability to organize a story. Gibson and Levin (1975) suggested that a child's awareness of the way he/she efficiently and strategically organizes a task may be important in developing general reading skills.

Substantial gains in comprehension have been reported using methods that have required LD adolescents to attend to information focusing highlights of textbooks (e.g., table of contents, chapter headings, section headings, summaries) (Schumaker, Deshler, Denton, Alley, Clark & Warner, 1981). Additional studies on listening have indicated that listening skills can also be increased by teaching students to listen for cues and taking notes (Deshler, Schumaker, Alley & Warner, in preparation). Although this approach appears promising, the majority of

information presented in secondary schools often depends on more rigorous analyses and integration of textual content and oral presentation.

Direct instruction in learning strategies assumes that LD adolescents will use these skills in secondary school settings. Schmidt, Deshler, Alley, & Schumaker (in preparation) found that learning strategies taught in the LD program do not automatically generalize to secondary content classes. This finding suggests that, in addition to instruction in learning strategies, secondary content teachers must facilitate the learning of the LD adolescent by assisting in the activation process of the learner.

The Effectiveness of Advance Organizers

The concept of advance organizers was first introduced by Ausubel in 1960 in a study of 120 college students. Since that time hundreds of studies have investigated the concept of advance organizers. However, most reviews of studies involving advance organizers argue that research on advance organizers has been fraught with problems in methodology that confuses the interpretation of the effects of advance organizers (Barnes & Clawson, 1975; Lawton & Wanska, 1977; Mayer, 1979a; Mayer 1979b; Tierney & Cunningham, 1980). For example, Barnes and Clawson (1975) provided one of the most damaging reviews of advance organizers. They analyzed the results of 32 studies. Their finding was that the efficacy of advance organizers had not been established. They reported that only 12 of the 32 studies reviewed demonstrated that advance organizers facilitated learning. In addition, they found no clear patterns in the studies that indicated why advance organizers did or did not work.

Lawton and Wanska (1977) in a reply to Barnes and Clawson seriously questioned the procedures used in arriving at their findings. Lawton

and Wanska argued that: a) Barnes and Clawson had been selective in their choice of studies to review and gave no rationale for selecting those 32 studies out of the hundreds conducted; b) only nine of the studies reviewed had been published; c) the studies were not reviewed for inconsistencies in methodology; d) data represented in the tables were represented inaccurately; e) the studies were not independent (i.e., the results, of one research project having three parts could appear three times); and f) some data pointing to the positive effects of advance organizers were ignored, while the negative effects were reported. Mayer (1979a, 1979b) also attacked the Barnes and Clawson review, but on more conceptual grounds. Mayer argued that Barnes and Clawson were not sensitive to whether or not the studies they reviewed used advance organizers under conditions where assimilation theory predicted that advance organizers would facilitate learning, nor did they examine whether the studies actually measured the specific elements of learning that assimilation theory predicted would be affected by advance organizers.

Mayer (1979a) countered Barnes and Clawson's review with a review of his own. Mayer reviewed 44 published research studies that included (minimally) a control group. Mayer's findings refuted the Barnes and Clawson review. Mayer concluded from his review that advance organizers can positively affect learning, and the conditions under which advance organizers can be predicted to be beneficial can be specified. Luiten, Ames, & Ackerson (1979) also addressed the Barnes and Clawson review. Luiten and his collegues using meta analysis examined trends in the effects of advance organizers across 135 advance organizer studies. They concluded from their findings that advance organizers tended to increase learning over control groups.

In one of the most recent reviews of the literature on advance organizers, Mayer (1979a, 1979b) addressed many criticisms expressed by previous researchers on the effectiveness of advance organizers (e.g., Barnes & Clawson, 1975). Mayer, in a review of advance organizer studies since 1960, identified forty-four published studies that met minimal experimental conditions (contained a control group and had been published in a book or journal). He concluded, from the combined results of the studies on advance organizers, that the research tended to support these conclusions:

1. There was a consistent advantage for the advance organizer groups over the control group. The advantage was diminished when the materials were familiar, when learners had a richer background of knowledge, when learners had higher IQs, and when tests failed to measure breadth of transfer ability.
2. When the advance organizer treatment was compared to a treatment where an organizer was presented <u>after</u> the learning experience, the advance organizer group out performed the other treatment group.
3. Advance organizers were more effective when the material was poorly organized than when it was well organized (e.g., spiral format).
4. Advance organizers improved the performance of learners with less background knowledge more than learners who had more extensive background knowledge.
5. Advance organizers aided lower ability students more than higher ability students.
6. Advance organizers improved far transfer of learning more than specific retention of details.

The general purpose of Mayer's review was to investigate advance organizers as an application of assimilation theory. Assimilation theory has long been taken for granted as a pillar of modern cognitive psychology. Essentially the concept is one of connecting new ideas with old knowledge (Mayer, 1979a). However, the effectiveness of advance organizers is based on the potentiality of meaningfulness. Learning will only be facilitated when the learner possesses a cognitive structure to which substantive aspects of information can be related (Lawton & Wanska, 1977). As a result, information can only be considered potentially meaningful. Mayer adopted Ausubel and Robinson's (1969) definition of meaningful learning by identifying the following three conditions for "meaningful":

1. Reception: the new material must be received by the learner
2. Availability: the learner must possess, prior to learning, a meaningful assimilative context for integrating the new materials
3. Activation: the learner must actively use this context during learning to integrate the new and old information

Advance organizers are concerned with meeting the conditions of availability and activation. Specifically, advance organizers give the learner a context in which to integrate new material and aid the student in identifying and relating this information to old and new informaton. Ausubel pointed out that the meaningfulness of material depends on the learner and the material, not on the method of presentation.

The advance organizer reviews also addressed the methodological problems in advance organizer research. Mayer (1979a) suggested that studies should examine the effects of organizers under conditions where background knowledge or prior knowledge could be ascertained. Studies

should also investigate the effects of advance organizers on subjects with varying abilities. In addition, he suggested that tests measuring advance organizers should be sensitive to the structural differences in what is learned. Lawton and Wanska (1977) recommended that the construction of the advance organizer treatment be carefully defined according to what is predicted by assimilation theory. Mayer (1979a, 1979b), Lawton and Wanska (1977) and Barnes and Clawson (1975) were all in agreement that the major difficulty with advance organizer studies was the inconsistencies in defining advance organizers in various studies, and the lack of an operational definition that could be used across studies. Kozlow and White (1979), in another selected review of research on advance organizers from 1960 to 1977, recommended that future research studies specify a basic definition of the advance organizer.

Advance Organizer Definitions. Almost all researchers who have studied the advance organizer concept agree that the advance organizer is something that occurs before a learning experience. Beyond this point there is wide disagreement. Advocates of the advance organizer concept would add that the organizer is designed to enhance learning (Mayer, 1979a). Opponents have argued that the advance organizer may do nothing for the learner, (Petersen, Glover, & Ronning, 1980) and may even inhibit learning (e.g., Christie & Schumacher, 1976; Schumacher, Liebert & Fass, 1975)

Most organizers in advance organizer research are variations on the two basic types of organizers that Ausubel (1963) identified: the expository and comparative organizers. The expository organizer provides new or unfamiliar background information to the learner as an anchor in preparation for a new or unfamiliar learning experience. This type of organizer might be presented prior to the introduction of a completely

new concept or topic. The comparative organizer identifies relationships that exist between what the learner may already know or be familiar with to what will be learned. This type of organizer might be presented to bridge yesterday's lesson, or an earlier lesson, to the present learning task. According to Ausubel, these organizers should: (a) point out similarities and differences between what has been learned and what is to be learned, and (b) increase the student's ability to discriminate between a variety of ideas or concepts that the student might possess, but are not consistent with the present information to be mastered.

Researchers have implemented Ausubel's advance organizer in a variety of ways. Lawton (1977) introduced higher-order concepts and rules in order to accelerate the acquisition of concrete operations, as described by Inhelder and Piaget (1964). He found that he could facilitate the learning of social studies subject-matter concepts and logical operations of six year old children by presenting higher-order concepts and rules. Additionally, he found that the students transferred what they had learned to dissimilar test materials in the area of social studies. Thompson (1977) obtained positive results using an expository advance organizer that progressed from a detailed concept to a more general and abstract concept. Roper (1980) was successful in facilitating learning of science material by first presenting new concepts, pointing out confusing aspects of the new concepts, and illustrating similarities and differences between old and to-be-learned concepts. Roper argued that an analogy might be used to demonstrate to the learner how the to-be-learned concept related to prior knowledge.

Advance organizers have also been defined in more concrete terms. Peterson, Glover, & Ronning (1980) found that behavioral objectives

facilitated the learning of specific important information. Schallert (1975) found that titles that provided a context for ambiguous materials positively influenced reading comprehension of memory. Kneen (1979) compared guide material to a structured overview using seventh grade students. She found that the structured overview was superior. Bluestone and Kerst (1980) used a preview of the structure of a passage as an advance organizer. They found that explicit identification of a well organized text aided learning. Hall (1977) found that graphic organizers (diagrams) of main ideas significantly improved the performance of ninth graders on a multiple-choice comprehension test.

Fleming and Levie (1978) stated that an advance organizer may be achieved through the use of a topic sentence, directions on how to perform a task, presentation of cues to listen for as learning progresses, and through motivational statements. They also suggested that advance organizers are similar to establishing "set". Fleming and Levie defined set from a perceptual approach as a method of influencing how an individual perceives, categorizes, organizes and interprets the environment. If set can be controlled, what is learned can be controlled.

The type of advance organizer may also have a negative effect on learning. Schumacher, Leibert and Fass (1975) found that when the experimenter provided organization or structure for a learning task to college students, students performed more poorly than a group who had no organizational aids. They hypothesized that providing a structure to a task changes the type of activity that the learner engages in, a effects recall. Christie and Schumacher (1976) found that advan organizers did not increase the total amount recalled, but increased the amount of irrelevant information recalled. Peterson, Glover, and Ronning (1980) used objectives as advance organizers and found that they

improved intentional learning, but at the expense of incidental learning.

In addition to the specific research on advance organizers, there have been many additional studies that have provided indirect information relevant to the advance organizer concept. Dee-Lucas and DiVesta (1980) found that a variety of organizational contexts and orienting tasks resulted in increased learning of focused material, but a trade off was encountered because incidental learning decreased. Rothkopf and Billington (1975) found that as the number of directed reading objectives or goals presented in advance of a lesson increased, the amount of learned per goal decreased. Frase and Kreitzberg (1975) concluded that providing learning goals may provide information about <u>how</u> to process the goal-relevant material. In addition, they found that more control over learning processes could be gained if the directions referred specifically to words used in the text. Arkes, Schumacher, and Gardner (1976) and Geiselman (1977) concluded that successful retention of prose material was based on the quality of the interaction with the material and the duration of contact. In addition, the more specific the directions are about what to learn, the higher the recall (Rothkopf & Kaplan, 1972). Studies by Balser (1972) and Frase (1969) indicated that the organization of an initial passage that provided advance information about subsequent passages aided memory. Finally, a study by Nugent, Tipton and Brooks (1980) found that advance organizers used prior to television instruction significantly increased comprehension and facilitated discussion. However, they found the organizers limited the personal value that students attached to the instruction. The investigators hypothesized that the advance organizer set up boundaries which inhibited individualistic thought.

In general, the term advance organizers has different meanings for different researchers. No single definition has emerged that embodies the wide variety of interpretations of the advance organizer concept. Ten major themes emerge across the advance organizer studies. Advance organizers appear to refer to a set of behaviors that precede the learning act and generally incorporate one or more of the following components: a) announcement of the benefits of the advance organizer; b) knowledge of topics and/or subtopics; c) knowledge of the physical requirements needed for the learner and/or instructor to accomplish the task; d) knowledge of background information related to new learning; e) knowledge of concepts to be learned (specific or general); f) examples or clarification of concepts to be learned; g) knowledge of the organization or sequence in which the new information will be presented; h) motivational information; i) new or relevant vocabulary; and j) knowledge of goals or outcomes that should result because of learning.

Advance Organizers and Learning Disabilities. A major limitation of the advance organizer studies have been that only a few have been conducted outside of a university context. Studies comprised of high school students have not generally included or have not reported LD students in their sample. However, there are indications that advance organizers should be beneficial to LD adolescents.

Mayer (1979a) found after reviewing advance organizer research that advance organizers should have the most facilitating effects with students with limited background knowledge or ability. While most LD students identified for special education services are served on the basis of average ability, Warner, Alley, Schumaker, Deshler, and Clark (1980)

found that the average ability level of LD adolescents was closer to a mean IQ of 90 on an individually administered IQ test, than to the general population mean of 100. In addition, LD adolescents who are poor readers, may also be poor listeners (Smiley, Drew, Worthen, Campione, & Brown, 1977). Poor reading and listening skills in content classes limit the amount and type of information that the LD adolescent can effectively store and use as a knowledge base. As a result, prior knowledge or background information may be limited across content areas. This condition meets one of the criteria for the predictability of usefulness for advance organizers.

Some research in the area of learning disabilities has indicated that LD students may be characterized by field dependence (e.g., Keogh & Donlon, 1972; Tarver & Maggiore, 1979). That is, that they are unable to ignore intrusive information and have difficulty focusing on a central task (Ausburn & Ausburn, 1978). Satterly and Tefler (1979) found in a study of normal adolescents that field dependent subjects were significantly aided by advance organizers. However, they also reported that subjects had to be made aware of the advance organizer and its facilitating properties in order to perform better on the outcome measures. Satterly and Tefler stated that the use of advance organizers with adolescents should be accompanied by instruction in a strategy that assisted the student in using the organizer.

Several studies with LD students have direct implications for the use of advance organizers, although no studies were found where the advance organizer construct was specifically applied. Cartelli (1978) found that preorganized material aided recall in LD students. He concluded that the ability to organize information differentiated LD students

from normal learners. In another study, Wong (1979) used advance questions as preorganizers to passages to be read. The advance questioning nearly doubled the number of main ideas produced by the LD students, but produced no improved performance for the normal achievers. Maria & MacGinitie (1980) identified a subgroup of LD children that could not process information in a story that they had read because of the inability to relate their prior knowledge to new information. Their prior knowledge actually handicapped them as they read. For these learners, the advance organizer concept may be particularly helpful.

Mayer (1980) used advance organizers as a direct test of the learning strategies hypothesis. The hypothesis tested was that "activities aimed at making the learner actively integrate new information with existing knowledge will affect the encoding, storage, and eventual use of new material on performance tests (p. 770)." Mayer's results supported this hypothesis. Therefore, if a "strategy deficiency hypothesis" is accepted for LD adolescents, advance organizers should have positive effects on learning.

Measuring the Effects of Advance Organizers. The effects of advance organizers can be measured in terms of the quantity of information learned or in the type of information learned. These distinctions are important because the quantity of information learned is not necessarily tied to the quality of information learned. For example, Christie and Schumaker (1975) found that their advance organizers diminished the ability of students to discern relevant from irrelevant information. Peterson, Glover, and Ronning (1980) found that objectives improved intentional learning, but reduced incidental learning. These studies suggested that advance organizers restricted the type of learning that occurred.

One problem with using measures that are based on variables such as relevant/irrelevant and intentional/unintentional is that they do not always correspond to typical reading tasks. For example, Brown and Smiley (1977) pointed out that the units that made up the relevant/irrelevant scale used by Christie & Schumacher (1975) resulted in an unnatural reading flow. The story became more difficult to read and to understand. The measure of intentional/unintentional learning used by Peterson, Glover and Ronning also has limitations for use with LD students. Their measure was based on teacher judgement of learning. They ignored the possibility that learners act on information in different ways, and that learner judgment of the importance of the information to the task at hand may include both components of intentional and incidental learning.

Another approach to examining the type of information learned is by structural importance. This method for objectively rating the importance of structural units of prose passages was developed by Johnson (1970). The structural importance of a passage is determined by dividing verbal materials into subunits possessing psychological significance. Johnson accomplished this by having 23 judges (college students) segment idea units resulting from pausal judgments. Judges were told to put a slash after any word in the passage where they might pause. The judges were told that "the functions served by pausing might be to catch a breath, to give emphasis to the story, or to enhance meaning" (Johnson, 1970 p. 13). A second group of judges were asked to rate the importance of each pausal unit in relation to the whole story. The judges rated the units into four groups of importance (high to low). Johnson was able to demonstrate a consistent relationship between structural importance and recall.

Brown and Smiley (1977) used the technique developed by Johnson to examine the metacognitive development of children. Using this system, Brown and Smiley found a strong developmental trend. The ability of students to judge and rate the importance of the pausal or idea units was found to be a late-developing skill. Skill at determining and remembering the most important units increased with age. Brown and Smiley (1978), in a related study, validated their original findings, and concluded that the ability of a student to identify the importance of idea units was closely related to effective strategy use. Brown and Smiley suggested that if the student is "to be an advanced organizer the child must have some knowledge concerning the importance of sections of the text he is required to study," (Brown and Smiley, 1977 p. 2)

The use of a measurement system based on structural importance to measure the effects of advance organizers with LD adolescents includes three mjor advantages. First, if the structural importance of idea units is used as the basis for constructing test items, the integrity and reading flow of the original reading passage would not be threatened. Second, because ratings are based on judgments of mature readers as to unit importance, experimental bias is avoided. And third, since the ability to rate unit importance is developmentally based, and is closely tied to the use of effective strategies, the advance organizer should counter the effects of poor strategy use. A measurement system based on idea units should indicate whether the use of advance organizers can counter the effects of a strategy deficit.

Advance Organizers in the Regular Classroom

The effects of advance organizers can be measured from two perspectives. One perspective is that the effects of advance organizers can

be examined through the rigors of a controlled scientific experiment. This approach can be used to determine whether the advance organizer can affect learning in the absence of other factors. The impact of the classroom environment is not considered.

The other perspective is that the effects of the advance organizer can be examined in the natural setting. This approach can provide evidence as to whether advance organizers can be implemented in the content classroom. It can also be used to determine whether student learning can be affected in the natural setting. The external validity of an experimental treatment is whether effects can be replicated in another natural setting. The implementation of advance organizers to improve the performance of LD adolescents is contingent upon the ability of teachers to promote learning in a setting other than the special education classroom.

Focusing intervention efforts solely on the learning difficulties of the LD adolescent without considering the effects that environmental factors have on that learning does not facilitate optimal learning. Schumaker, Warner, Deshler, and Alley (1980) reported that such attempts have resulted in only limited progress. Lewin (1935) explained the relationship that environment has to an individual, and to the individual's behavior, in his formulation, B = f(PXE), where B = behavior, P = person, E = environment, and f = frequency. This formula has important implications for conceptualizing and providing sound intervention strategies for LD adolescents. Using Lewin's approach, Schumaker, et al., (1980) conceptualized learning disabilities as a condition that occurs as the result of a complex interaction between the learner and the environment. In the case of the learning disabled adolescent, the most predominant educational environment is the regular classroom.

An assumption of most special education programs is that learning will transfer across settings. However, communication between the special education program teacher and the regular classroom teacher is needed to determine whether the student generalizes what he or she has learned. The problem is to operationalize the concept of mainstreaming. A number of authors have attempted to operationalize this concept by focusing on the training of LD teachers as consultants to regular teachers so that instructional considerations can be made (e.g., Christie, McKenzie, & Burdett, 1972; Laurie, Buchwach, Silverman, & Zigmond, 1978; Prouty & McGarry, 1973; Zigmond, 1978). Laurie et al. identified three prerequisites for establishing such an arrangement between the resource teacher and the regular teacher. These prerequisites are: (a) administrative support of cooperative planning, (b) available time, and (c) a commitment by special educators and regular classroom teachers to work together. If these prerequisites can be met, the task becomes one of creating changes in the regular classroom.

In addition, Laurie et al. (1978) identified eight steps to create such changes. These steps included:

1. Determine the requirements for "making it" in the particular mainstream class
2. Specify which of these course requirements the LD student is not meeting
3. Hypothesize the causes of failure
4. Brainstorm possible classroom modifications
5. Overcome the regular teacher's resistance to change
6. Select an action plan
7. Implement the plan
8. Evaluate the changes

Deshler, Schumaker, Warner, and Alley (1980) contended that this model of cooperative planning relied on intervention within the LD classroom for one or two hours a day, in addition to planning with regular teachers to change the demands or approach to a content area. Deshler, et al., (1980) argued that this approach had not proven successful at the secondary school level. They stated that a LD program based on assisting the adolescent to develop strategies for organizing, selecting, and using information would take another approach. They contended that a strategy development program would focus on assisting the adolescent to meet the demands of the secondary classroom. Deshler et al., (1980) stated that the following steps may be identified in comparison to those of Laurie et al.:

1. Determine the requirements for "making it" in the particular mainstream class
2. Specify which of these course requirements the LD student is not meeting
3. Hypothesize the causes of failure
4. Teach the students the appropriate strategies
5. Inform the regular teacher of skill acquisition
6. Cooperatively plan to promote student's generalization of the new skill
7. Evaluate generalization
8. Maintenance and follow up

By following these steps the LD teacher initiates changes in the LD student rather than in the regular teacher. The regular teacher's responsibility rests in Step 6. Deshler et al. (1980) stated that in this phase the regular teacher may need to facilitate the LD student's

use of a strategy. This is particularly important since the LD student has been described as a passive or inactive learner (e.g., Haines & Torgesen, 1979; Torgesen & Goldman, 1977).

This approach has visible advantages over attempting to dramatically change the student's learning environment, especially for regular classroom teachers who may be reluctant to make substantial changes in classroom procedures. In addition, this approach protects the integrity of the content of the regular classroom by not asking for possible sacrifices to general instructional objectives. In contrast, however, a cooperative planning model in which the regular classroom teacher merely reports on the progress of a student may have limited impact on student learning. The environment of the regular classroom must actively support the learning of efficient strategies through prompts, checks, cues, and modeling of appropriate strategies. As a result, the implementation of Step 6 in the learning strategies cooperative planning model should be centered on helping regular classroom teachers develop effective teaching skills that will promote the acquisition and generalization of strategies once the strategies have been taught to the student.

Brandis and Halliwell (1980) reported that a major contributor to the regular classroom teachers' inability to assist in the mainstreaming process was their lack of information and training, which in turn generated suspicion and apprehension. In addition, as Deshler, Schumaker, Warner, and Alley (1980) pointed out, the inability to appropriately change the learning environment to accommodate the range of abilities in a secondary classroom makes the mainstreaming task appear formidable. If the ability and willingness of a teacher to implement a program for an LD student were measured against this criteria, the prerequisites to

cooperative planning, cited earlier, would never be met. However, the cooperative planning model for the learning strategies approach proposed by Deshler et al. (1980) combined with a training program to operationalize the teacher's role in this process provides a promising alternative.

Specifically, this type of cooperative planning model would not require changes in the content of the course, nor major environmental alterations. The role of the teacher would not be remedial, nor merely evaluative. Specific responsibilities would be known, and information would be available for the regular classroom teachers through the LD teacher in order to promote understanding and knowledge of methods that facilitate appropriate strategy use. In this manner, the ability to implement a cooperative planning model would be available, and the willingness of the teacher would be acquired by focusing attention on the minimal amount of teacher time and work required.

By adopting the steps identified by Laurie, Buchwach, Silverman, & Zigmond (1978), and Deshler, Schumaker, Warner, and Alley (1980), the steps of the cooperative classes process needed to implement advance organizers in the secondary content classroom might look something like this:

1. Determine the requirements for "making it" in the classroom
2. Specify which of these course requirements the LD adoledcent is not meeting
3. Determine the causes of failure (e.g., students ability to organize information)
4. Target specific strategies with teacher and student (e.g., reading and listening skills)

5. Begin strategy interventions

   a) Teach teacher to cue students (advance organizers)

   b) Teach students listening and reading strategies

6. Inform the regular content teachers of skill acquisition

7. Cooperatively plan to promote students' generalization of the new skill

   a) Increase use of advance organizers by content teachers

   b) Student should be taught/prompted to begin developing his/her own advance organizers (adapting the strategy to meet individual needs)

8. Evaluate generalization

9. Maintenance and follow up

The advance organizer concept could easily be incorporated into the cooperative planning model, and has several advantages. First, the advance organizer is content based, and as such, is dynamic because of its flexibility and relevance to the classroom. And second, it can be prepared in advance of the class in a variety of ways and can be reused in subsequent classes. One possibility for the use of the advance organizer is through an oral presentation prior to a reading assignment or lecture. Schallert and Kleiman (1979) found that teachers who verbally presented information had four general advantages over written material. The teacher could: (a) tailor the message to fit their class, (b) activate prior knowledge by reminding students of old information relevant to new information, (c) focus attention and increase interest and motivation, and (d) monitor comprehension to check understanding of task or information. Luiten, Ames, and Ackerson (1979) found that the most effective use of advance organizers was through oral presentation. This

approach would be highly conducive to the secondary classroom. A few remarks prior to a reading task or lecture could easily be implemented.

Finally, it is important to note that LD adolescents comprise the largest number of handicapped students in the secondary school. Brandis and Halliwell (1980) have reported that 45% of the handicapped students in their study of mainstreaming were learning disabled, 40% educable mentally retarded, and 6% emotionally disturbed. In addition, they reported that LD students comprised the largest group of handicapped students mainstreamed into the regular curriculum. These figures indicate that an emphasis on assisting the LD adolescent succeed in the regular classroom is justified. However, the success of the LD adolescent in the regular classroom is contingent on their ability to meet the demands of that setting. By initiating cooperative planning through sound educational approaches that assist the LD student in meeting these demands, progress is made toward addressing the complex array of variables that interact between the student and the environment and, ultimately, result in learning.

CHAPTER III

METHODS AND PROCEDURES

Purpose

The purpose of this study was to determine the effects of advance organizers on learning disabled adolescents under both controlled and natural conditions. First, a test was developed and validated to measure the quantity and quality of learning that might be affected by advance organizers. Second, a preliminary investigation was conducted in order to develop and validate criteria for constructing effective advance organizers. This pilot study investigated the procedures necessary for training teachers to use advance organizers, the types of advance organizers most readily adapted to the regular classroom, and the effects of advance organizers on students in secondary school settings. Third, a control group study was conducted using the validated test instrument. This investigation examined the experimental effects of advance organizers as a cognitive mediator with LD adolescents as compared to normally-achieving adolescents.

Subjects

All student subjects for this study were selected from a target population of students enrolled in grades ten, eleven, and twelve, across three school districts in eastern Kansas, and one school district in western Missouri. The three school districts in eastern Kansas were: Unified School District 497, Lawrence; Unified School District 501, Topeka; and Unified School District 233, Olathe. The school district in western Missouri was the School District of St. Joseph, St. Joseph. The teacher subjects for this study were all selected from Olathe North High School and Olathe South High School in Olathe Kansas.

A total of 227 high school students and 10 teachers participated across all components of this study. There were 105 LD students and 115 normally-achieving students. Criteria and validation criteria for selecting subjects used by the University of Kansas Institute for Research in Learning Disabilities were adopted for this study.

The criteria used for identifying LD subjects were ones of exclusion. A student who demonstrated one or more of the following conditions was excluded from the sample:

1. Demonstrated reading ability above the 7th grade reading level or a discrepancy between grade placement and reading achievement of more than four years as measured on the most recently administered individual achievement test.
2. Students whose verbal and full scale intelligence scores were one and a half standard deviations below the mean.
3. Students who fit the definition of "children with personal and social adjustment problems" which were manifested before the student evidenced learning problems. Personal and social adjustment problems typically manifest themselves as marked behavior excesses and deficits which persist over a period of time. Behavior excesses and deficits include the following:
   a. Agressive and/or anti-social actions intended to agitate and anger others or to incur punishment
   b. Inappropriate and/or uncontrolled emotional responses
   c. Persistent moods of depression and unhappiness
   d. Withdrawal from interpersonal contacts

e. Behaviors centrally oriented to personal pleasure-seeking with little or no regard to the consequences of any acts

Singly or in combination, behavior excesses and deficits may be indicative of emotional disturbance, mental illness, or social maladjustment if they are manifested over an extended period of time in various environments, and may interfere with social interactions and learning.

4. Students who were economically disadvantaged. To be included in this category, a student's family must have had financial difficulties so severe that they required substantial assistance from a government social service agency. Examples of youths in this category were youths whose parents were on welfare, or youths whose parent received ADC payments.

5. Students who were environmentally disadvantaged. To be included in this category, a student's home environment must have been substantially different from the family environment of most children and must have represented a severe level of deprivation or neglect before learning problems surfaced. Examples of youths who in this category were youths who had been formally placed outside the natural home, youths who were abused or neglected to the extent that formal inquiry was made, youths who were isolated from any life outside the home, or youths whose parents were killed and who had lived in several homes since the death of their parents.

6. Students who were culturally disadvantaged. To be included in this category, a youth must have been raised in a culture either within or outside the United States which was substan-

tially different from traditional American public/private school education. Examples of youths in this category were youths raised within a "cult" or religious sect with schooling which did not approximate public school education today, or youths raised in another country with little or no training in reading, speaking, or writing English.

7. Students who were sensorially handicapped. Hearing Impaired The definition for a primary disability in hearing was the loss of 26 or more decibels in one ear or both ears. This indicated that a youth needed help from a professional and was considered a primary impairment by audiologists. Visually Impaired The definition of a visual impairment which may necessitate special programming was visual acuity less than 20/70 in the better eye with correction, or evidence of chronic narrow field of vision or any other chronic visual problems other than those that had been corrected with glasses or contact lens.

8. Students who were physically handicapped. This category included any student with a physical impairment (e.g., heart ailment, orthopedic handicap) that had resulted in the student not being able to participate in regular school programming and activities.

In summary, students with no severe deficits and students whose deficits might have been linked to some other disability or disadvantage were not to be considered as members of the LD population.

The criteria used for selecting normal achievers were any student who had never received or had been referred for special education ser-

vices, did not meet any criteria listed for the learning disabled, and did not meet the criteria listed below:

1. Had received an F in the most recent grading period in an academic subject other than math (e.g., social studies, science, English).
2. Scored below the 33rd percentile on the most recently administered group achievement test.
3. Could be classified as having average IQ by either a group or individual measure.

Learning Disabled population. The sample of learning disabled students was drawn from a total population of approximately 460 learning disabled students. Approximately 410 of the total population met the selection criteria (Appendix A). These students were currently being served in resource rooms for one to three hours each day. The 410 learning disabled students and their parents were contacted and asked to participate. There were 112 students who returned the parent/student consent form and were present at the time of the test administration. Therefore, the LD students were not randomly selected, and should be considered volunteers.

To insure that the selection criteria were strictly adhered to, the 112 students were validated as learning disabled students by a validation team consisting of two school psychologists and two LD specialists. This validation team independently rated students based on information collected from school records to determine whether each student met the selection criteria for inclusion in the LD sample. Of the 112 students there were 105 who were validated as LD by the validation team.

Normally-Achieving Population. The sample of normally-achieving students was drawn randomly from the Topeka, Olathe, and St. Joseph school districts. Using the attendance rosters for each school, each student was assigned a number. The students were selected using a table of random digits (Minium, 1978). Students who did not meet the selection criteria (Appendix A) were dropped out of the sample and a new student was selected. This gross screening process was repeated until approximately 400 subjects were selected. These students were then contacted regarding participation in the study. There were 115 students who returned the consent form and were present at the time of the test administration. Therefore, the normal-achieving sample was not randomly selected, but should be considered volunteers.

Participating samples. For those students participating in the study background information was collected for each student. This information included achievement and ability test scores, race, sex, and birthdate. This information is represented in Tables 1 through 5. The form used to collect this information is included in Appendix B. The participating school districts, the University of Kansas Institute for Research in Learning Disabilities had reviewed and approved the consent and data collection forms.

Measure Development. There were 51 learning disabled students and 63 normally-achieving students who participated in the development of the Advance Organizer Test. The school district of Topeka USD 501 and the St. Joseph School District agreed to participate in the test validation phase. Lawrence USD 497 agreed to participate in this study by virtue of an agreement with the University of Kansas Institute for Research in Learning Disabilities.

TABLE 1

Descriptive Data for 50 LD Subjects:
Test Validation

APTITUDE DATA

Test	N	Mean IQ	SD	Median	Mode	Range
WISC-R						
Verbal	45	89.51	10.96	88.00	85.00	*68-123
Performance	44	101.70	10.71	100.00	100.00	82-126
Full Scale	49	95.06	8.79	94.00	89.00	78-119

ACHIEVEMENT DATA (Reading Comprehension**)

Test	N	Mean Percentile	SD	Median	Mode	Range
Woodcock-Johnson	47	13.17	7.29	11	8	1-27
Piat	3	15.33	2.31	14	-	14-18
Total	50	13.52	7.09	11.5	8	1-27

AGE		GRADE			SEX		RACE	
	N	MEAN		N	MEAN		N		N
15	4	16.8	10	27	10.6	Female	15	White	37
16	16		11	15		Male	35	Black	7
17	20		12	8				Hispanic	6
18	7								
19	3								

* The student with a verbal IQ of 68 was accepted for this study because the test administrator recorded that the student did not cooperate during the verbal portion of the IQ test; and that the IQ of 68 greatly underestimated verbal IQ. The performance IQ was measured at 98.

** Comprehension had been measured by either the Woodcock-Johnson Psycho-educational Battery or the Peabody Individual Achievement Test.

TABLE 2

Descriptive Data for 63 NA Subjects:

Test Validation

APTITUDE DATA

Test*	N	Mean Percentile	SD	Median	Mode	Range
CAT	62	62.26	20.61	61.50	-	25-99
No data	1					
Total N=	63					

ACHIEVEMENT DATA

Test*	N	Mean Percentile	SD	Median	Mode	Range
TAP	27	66.96	21.75	68.0	-	33-99
SRA	27	64.44	19.38	61.0	61.0	34-97
ITBS	9	69.22	23.18	71.0	-	36-99
Total N=	63	66.20	20.69	69.00	61.0	33-99

AGE	N	Mean	GRADE	N	Mean	SEX	N	RACE	N
16	27	16.8	10	29	10.7	Females	38	White	42
17	25		11	22		Males	25	Black	12
18	10		12	12				Hispanic	9
19	1								

* CAT = Cognitive Abilities Test
TAP = Test of Academic Proficiency
SRA = Science Research Associates Achievement Test
ITBS = Iowa Test of Basic Skills

TABLE 3

Descriptive Data for Subjects:
Preliminary Investigation

Subject	Grade	Age	Full Scale IQ	Reading Grade Equiv.	Reading %ile	Sex	Race
1	11	16	101	5.0	8%	Female	White
2	12	19	87	6.2	16%	Male	White
3*	11	17	--	--	70%	Female	White
4	10	16	104	6.8	16%	Male	White
5	10	16	90	6.2	21%	Male	Black
6	10	16	96	6.8	28%	Female	White
7	11	17	102	4.2	3%	Male	White
8	10	16	109	6.8	22%	Male	White
9	10	17	87	7.0	25%	Female	White
Means*	10.5	16.3	97(SD=8.3)		17.4% (SD=8.5)		

*Subject 3 was the non-LD student who participated in the study. Means have been computed without the data from Subject 3. The Iowa Test of Basic Skills Reading Subtest was available for a reading measure.

**A reading measure for LD students was taken from either the Woodcock-Johnson Psychoeducational Battery or the Peabody Individual Achievement Test. Where recent test information was not current or not available, the Woodcock-Johnson Reading Subtest was administered.

TABLE 4

Descriptive Data for 46 LD Subjects

Primary Investigation

APTITUDE DATA

Test	N	Mean IQ	SD	Median	Mode	Range
WISC-R						
Verbal	40	87.4	7.49	86.50	91.0	77-108
Performance	40	97.3	10.13	98.00	98.0	80-118
Full Scale	42	92.0	7.80	92.00	91.0	80-109
DAT*						
Verbal	4	19.75	7.32	17.50	-	14-30
Numerical Ability	4	26.50	18.77	25.50	-	5-50

ACHIEVEMENT DATA (Reading Comprension**)

Year	N	Mean Grade	Mean Percentile	SD	Median	Mode	Range
1982	28	10.6	10.11	6.03	9.50	6.0	1-24
1981	1	11.0	12.00	-	-	-	- -
1980	6	11.3	17.67	10.59	18.5	-	5-30
1979	5	11.8	10.60	5.41	13.0	-	3-16
1978	6	11.3	8.83	4.40	8.0	-	4-15

Total N= 46

AGE	N	Mean	GRADE	N	Mean	SEX	N	RACE	N
15	4	16.7	10	16	10.9	Females	19	White	44
16	16		11	18		Males	27	Black	2
17	15		12	12					
18	10								
19	1								

* Developmental Aptitude Test

** Comprehension had been measured by either the Woodcock-Johnson Psychoeducational Battery or the Peabody Individual Achievement Test.

TABLE 5

Descriptive Data for 51 NA Subjects

Primary Investigation

APTITUDE DATA

Test*	N	Mean Percentile	SD	Median	Mode	Range
DAT	36	67.42	20.76	72.50	80.0	20-97
CAT	7	69.43	16.70	60.0	57.0	53-96
PSAT**	6	78.0	17.46	73.0	71.0	54-99
SAT**	1	50.0	-	-	-	- -
Totals	50	68.6	19.8	71.0	80.0	20-99
No data	1					
Total N=	51					

ACHIEVEMENT DATA

Test*	N	Mean Percentile	SD	Median	Mode	Range
ITBS	43	73.77	15.71	78.0	93.0	39-96
Stanford Ach. T.	4	52.0	3.37	53.50	54.0	47-54
ACT**	2	91.0	8.48	91.0	-	85-97
CTBS	2	73.5	19.09	73.5	-	60-87

Total N= 51

AGE	N	Mean	GRADE	N	Mean	SEX	N	RACE	N
14	1	16.3	10	26	10.7	Females	29	White	47
15	7		11	16		Males	22	Black	3
16	25		12	12				Hispanic	1
17	13								
18	5								

* DAT = Differential Aptitude Test
CAT = Cognitive Abilities Test
PSAT = Perliminary Scholastic Aptitude Test
SAT = Scholastive Aptitude Test
ITBS = Iowa Test of Basic Skills
Stanford Ach. T. = Stanford Achievement Test
ACT = American College Test
CTBS = California Test of Basic Skills

** Questions as to whether these college placement test are aptitude tests were not raised in this study. Performance on these tests were used as indications of aptitude and/or achievement where such information was needed.

The 133 subjects were selected and asked to participate according to the Selection and Validation Criteria described in Appendix A. Students in the St. Joseph school district sample were paid two dollars each as an incentive to participate in the study. The Topeka schools did not allow the payment of money to students as incentives for participation in research. The students in the Lawrence schools were not paid because the data collection was part of a larger study, and was considered part of routine program evaluation procedures. Descriptive data for student subjects involved in validating the advance organizer test are shown in Tables 1 and 2.

There were several advantages for including these three school districts in the test validation: a) the districts represented both urban and suburban geographic areas, b) various family socio-economic levels were represented, c) since districts covered two states, and therefore, two identification criteria for learning disabilities, the generalizability of the data was increased, and d) the districts were relatively close for data collection efforts. Once the selection criteria described in Appendix A were applied to subjects across the districts, these factors provided a larger, more representative population of adolescents from which to sample.

Preliminary Investigation. Eight learning disabled students one normally-achieving student and ten high school teachers participated in the pilot study. The school district of Olathe USD 233 agreed to participate in the preliminary study. The eight LD students were selected and asked to participate according to the selection criteria and procedures described in Appendix A. Students were paid ten dollars each as an incentive to participate in the study. The ten teachers were ran-

domly selected from a list of teachers who were known to have LD students in their classrooms. Each teacher who was contacted agreed to participate. Teachers were paid a $50.00 incentive to participate in the study. Descriptive data for student subjects involved in the preliminary investigation are shown in Table 3.

Primary Investigation. The school district of Olathe USD 233 agreed to participate in the primary investigation. There were 46 learning disabled, and 51 normal achieving students who participated in the primary investigation. The 97 subjects were selected and asked to participate according to the selection and validation criteria in Appendix A. Students were paid two dollars each as an incentive to participate in the study. Descriptive data for student subjects involved in the primary investigation are shown in Tables 4 and 5.

Use of the Olathe school district had several advantages for use in the pilot and investigative study: a) the district represented a cross section of students from various family socio-economic levels, b) the criteria for placement in the LD program was the same for students in both the preliminary study and the primary study, and c) data collection efforts were aided because of the close proximity of schools.

Instrumentation

Measurement Systems

Measurement systems were developed for both preliminary and primary investigations. The measurement system for the preliminary investigation will be described as part of the procedures used for the preliminary investigation. The measurement system for the primary investigation is described in this section.

The construction and validation of the test to measure the effects of the advance organizer treatment in the primary investigation were accomplished through the completion of six tasks. These tasks were as follows:

Passage Selection and Modification

Identification of Passage Idea Units

Determination of Idea Unit Importance

Test Construction

Test Administration

Data Analysis and Final Item Selection

Each of these tasks will be described below.

Passage Selection and Modification. The selection of the reading material to be used in the test was based on three criteria. First, the content of the reading material had to represent information that in form reflected secondary school content, but in substance was unlikely to be covered in a typical secondary school sequence of studies. Second, the reading material had to be of a length that would be reasonably well received by LD students with reading difficulties. However, the length of the reading material had to be of sufficient length to contain enough content for the development of an advance organizer, and to allow a measure of the retention of information. Third, the reading material had to be at a readability level that most secondary LD students would be able to read. Yet, the material had to be at an interest level that would engage the normally-achieving student despite the lowered readability level.

To fulfill these criteria, six high interest, novel passages were selected from general social studies works from the Lawrence Public

Library in Lawrence Kansas. Each of these passages ranged in length from 1500 to 3000 words. These passages were modified to correspond to the stimulus materials described by Brown and Smiley (1977). Modification of the materials according to the Brown and Smiley criteria was justified on two counts. First, the materials used by Brown and Smiley had proved successful across groups of students that had included third graders, fifth graders, seventh graders, and college students. Second, in the Brown and Smiley study the intended use for the materials was similar to the use intended for this study.

The process of modifying the passages caused the elimination of three of the passages because of the initial difficulty of the reading selections. The remaining modified passages were entitled "Tulipmania," "Aborigines," and "Greece" (see Appendix D). The three passages were reduced to approximately the same length of 517, 508 and 508 words respectively. The reading levels of the passages were altered by reducing sentence lengths, deleting words, and substituting synonyms. The passage alterations reduced the readability indices to 5.436, 5.446, and 5.444 respectively, as judged by the Dale-Chall readability index.

Identification of Passage Idea Units. The procedure used for identifying the idea units was originally described by Johnson (1970) and later applied to children's recall of information by Brown and Smiley (1977). Fifteen graduate students in education were asked to first read the entire text and then go back and divide the text into idea units or pausal units. The graduate students divided the passages by placing slash marks with a pencil between words. A pausal unit was defined as one that contained an idea and/or represented a place where a reader might logically pause in reading for meaning. A sample of the idea units identified for each passage is included in Appendix C.

The fifteen graduate students identified a total of 137 possible pausal units in the "Tulipmania" passage. Fifty-six or 40% of the pausal units were selected by all fifteen of the graudate students. Applying a criterion of 50% agreement for acceptance as an idea unit, 78 (57%) idea units were identified for "Tulipmania."

The 15 graduate students identified a total of 158 possible pausal units in the "Aborigines" passage. Sixty-four or 40% of the pausal units were selected by all 15 of the graduate students. Applying a criterion of 50% agreement for acceptance as an idea unit, 70 (44%) idea units were identified for "Aborigines."

The 15 graduate students identified a total of 152 possible pausal units in the "Greece" passage. Fifty-four or 36% of the pausal units were selected by all 15 of the graduate students. Applying a criterion of 50% agreement for acceptance as an idea unit, 64 (42%) idea units were identified for "Greece."

Determination of Idea Unit Importance. To determine the importance of the idea units for each passage by "good" readers, another separate sample of 17 graduate students was asked to rate the idea units of each passage. Each story was retyped with one idea unit per line. A rating form used for this task is included in Appendix D. Raters were asked to read each of the passages and then identify the passage theme. Raters then rated each idea unit according to the identified theme. The procedures for rating the idea units are included in Appendix E.

The raters were first asked to rate all idea units into one of two levels of importance, either most important or least important. Then using those idea units in the most important group they were asked to subdivide this group into two additional subgroups of most important and

important. Next, raters were asked to subdivide those idea units grouped earlier as least important into two more subgroups of the least important and slightly important. The result was the identification of four levels of importance for the total idea units in each passage.

Once the idea units were rated, quantitative importance ratings (1 through 4) were assigned and totaled for each idea unit to obtain get a grand total importance weighting for each idea unit. The idea units for each passage were then ranked from the highest grand weighting to the lowest grand weighting. The standard deviation for the grand ratings on each idea unit was then computed. Table 6 shows the weighting and standard deviations for each of the ranked idea units.

Any idea unit that was deemed a non-content unit e.g., however, also, this, etc. was deleted. Since the grand importance ratings were to be used as the basis for constructing a test with sets of questions to measure important and unimportant information, it was important to maximize the distance between the idea units rated as important and unimportant. To accomplish this the middle 20% of the ranked idea units was dropped out of the rankings. This middle 20% is represented in Table 6 by the boxed area. Finally, to further control for rater agreement, only those idea units with the lowest standard deviations were used. Only those standard deviations that fell below the computed random for each passage were selected. After applying this criterion, the data were visually inspected in order to identify, a break in the standard deviations. Standard deviations below this break were the ones finally accepted. The standard deviations accepted for "Tulipmania" ranged from .34 to 1.05. The standard deviations accepted for "Aborigines" ranged from .73 to 1.07. The standard deviations accepted for

Table 6

Weightings and Standard Deviations for Idea Units

[illegible]			Aborigines			Tulipmania		
Unit #	Weight	SD	Unit #	Weight	SD	Unit #	Weight	SD
20	55	1.03 •	43	59	.79 •	76	62	.34 •
49	55	1.09	45	59	.70 •	20	58	.62 •
22	54	1.09	9	57	.81 •	60	58	.73 •
37	53	1.08 •	44	57	.89 •	61	55	1.09
44	53	.87 •	48	57	.81 •	9	54	.89 •
50	53	1.08 •	11	56	.82 •	36	54	.88 •
56	53	.70 •	61	55	.81 •	10	53	.87 •
48	52	1.24	10	54	.72 •	27	53	.95 •
45	51	1.05 •	72	54	.89 •	70	53	.87 •
17	49	.93 •	12	53	.95 •	31	52	1.36
21	49	.93 •	50	53	.59 •	65	52	1.06
60	49	1.18	55	52	1.06 •	67	52	.77 •
13	48	1.03 •	59	52	1.00 •	68	52	.77 •
14	48	1.03 •	68	52	.86 •	69	52	.93 •
57	47	1.06 •	47	51	1.06	15	51	1.05 •
34	45	1.17	28	50	1.02 •	52	51	.91 •
38	45	.91 •	46	50	.96 •	57	51	.83 •
31	44	1.06 •	62	49	1.08	71	51	.82 •
55	44	.93 •	63	49	.77 •	53	50	.62 •
1	43	.87 •	16	48	.82 •	54	50	.81 •
11	43	1.08 •	22	48	1.10	64	50	1.09
18	43	1.14	69	48	.73 •	72	50	.81 •
12	42	.88 •	26	46	1.02 •	77	49	.77 •
15	42	1.20	58	46	1.15	78	49	.77 •
58	42	1.31	13	45	.98 •	7	48	.97 •
59	42	1.31	60	46	.81 •	8	48	.89 •
2	41	.89	64	45	.83 •	16	48	1.21
3	41	.88	56	45	1.07 •	18	48	1.15
5	41	1.03	49	44	.90 •	39	48	1.15
30	41	.81	7	44	1.03	47	48	1.13
4	40	1.10	57	44	.93	63	47	1.00 •
23	38	.63	65	44	.90	4	46	1.32 •
27	39	.88	14	42	1.09	29	46	.81 •
36	38	.96	27	42	.79	30	46	.81 •
61	39	1.26	51	42	.93	62	46	.96 •
42	38	1.02	54	42	1.03	6	45	1.11
43	38	1.26	15	41	1.03	74	45	.98
47	38	1.29	17	41	.94	38	43	1.25
28	37	.87 •	18	41	.94	5	43	1.08
44	37	1.20	24	40	.97	17	42	.96
29	36	1.00 •	19	39	.80	37	42	1.20
62	36	1.06 •	1	38	1.00	26	41	1.03
63	36	1.06 •	30	38	1.02	2	40	1.03
10	35	1.11	31	38	.75 •	12	39	1.03
16	35	1.17	8	37	1.12	19	39	1.15
26	35	1.06 •	20	37	.86 •	66	39	1.09
32	34	1.09 •	21	37	.87 •	13	38	1.02
33	34	.89 •	25	37	.87 •	75	37	1.20
39	34	.88 •	29	36	1.06	14	37	.87 •
41	34	.96 •	3	35	.90 •	35	36	.93 •
8	33	1.18	42	35	.97 •	59	35	.98 •
51	33	1.18	6	34	.81 •	48	35	.91 •
54	33	1.12	23	34	.81 •	1	34	1.09
64	33	1.34	4	33	.78 •	3	34	1.20
7	32	1.10 •	52	33	1.07	34	34	.81 •
9	32	1.03 •	66	32	.81 •	73	34	1.02 •
19	32	1.11 •	53	30	1.17	49	33	.99 •
40	32	.97 •	37	27	1.01 •	55	33	.96 •
6	31	.93 •	2	25	1.04	50	32	.97 •
35	29	.83 •	5	25	1.05 •	56	32	.67 •
52	28	1.06 •	34	25	.70 •	32	31	.70 •
24	27	.95 •	35	25	.79 •	58	30	.96 •
53	27	1.08 •	71	23	1.05	21	28	.86 •
25	25	.74 •	32	24	1.01 •	25	28	.86 •
			36	23	.80 •	33	28	.88 •
			38	22	.87 •	46	28	.86 •
			39	21	1.01 •	51	26	.72 •
			67	21	1.01 NC	22	25	.89 •
			70	21	1.00 NC	23	25	.89 •
			41	20	1.00 NC	24	25	.89 •
			40	20	1.00 •	11	23	.89 •
			33	19	.85 •	26	22	.81 •
						28	22	.89 NC
						40	18	.34 •
						41	18	.34 •
						42	18	.34 •
						43	18	.34 •
						44	18	.34 •
						45	18	.34 •

• = Accepted for test item use

NC = Non-content unit - deleted

"Greece" ranged from .74 to 1.11. The remaining idea units that are indicated by asterisks in Table 6 became the content for writing multiple-choice test items on the measure of recall for important and unimportant information.

Test Construction. The multiple choice item type was selected as the means of measurement because of its potential to measure comprehension and application (Tuckman, 1975). Multiple choice items were written from criteria supplied by Wesman (1971) and Tuckman(1975).

During the item writing process several idea units had to be combined in order to construct a single multiple choice item. This combining occured when separate idea uits were either judged to be highly dependent on each other for meaning, or were parts of a list of related items. This process yielded thirty-six items written for "Tulipmania", forty items for "Aborigines", and thirty-seven items written for "Greece". These three prototype tests were then submitted to three expert judges with substantial educational measurement graduate training. One judge was a professor in the Department of Educational Psychology and Research at the University of Kansas. The remaining two judges were post-comprehensive doctoral students in measurement in the Department of Educational Psychology and Research. Each review was independent, and changes were made based on the reviewers comments. When inconsistencies in the reviews occurred, the professor in the Department of Educational Psychology and Research was consulted for a final decision.

Each of the three passages was typed on a separate piece of paper. Each passage was entitled "Tulipmania", "Aborigines", or "Greece" along with the identifying word STORY. These passage identifiers were kept simple in order to prevent the title from acting as a type of advance

organizer. Appendix F includes the package of test materials as it was finalized for administration. The test materials package contained: (a) a set of directions, (b) the passages and (c) questions covering the respective passages.

Test Administration. At the three test sites the administration of the tests was done in groups. Four schools were involved across the three school districts. In two of the four schools only LD students participated in the study. In one of these schools the LD students were administered the tests during their normal attendance time in the LD resource room. If students needed extra time to complete the test they were allowed to remain and finish the test. In the second of these schools, all participating LD students were assembled at one time to take the test. The test was administered in a normal high school classroom. In the other two schools both normally achieving and LD students were administered the test together. Students were dismissed from their normal classes and were assembled in a large classroom for the test administration. Any student reporting to the test administration site late was asked to take the test on a "make-up" day that had been set for each site. All testing for the four sites was done in the morning, and was done within a three week period. Even though variations occurred across the test sites, these variations did not appear to affect the test results.

Once students were assembled for the testing, the students were given envelopes by the investigator and a research assistant with the test materials in them. Once all the envelopes had been distributed, students were asked to put their names on the envelopes. Directions for the test were then distributed. The directions were read orally to

the subjects. The directions are included in Appendix F. References to payment of the two dollar incentive was deleted from the directions given to the subjects at the two schools where no incentive payment was permitted.

Subjects were allowed to work at their own speed. They were instructed to circle responses directly on the test forms. As students finished they brought their test materials to the administrator. The completion time in hours, minutes, and seconds was put on each envelope. This allowed the computation of a gross time estimate of test taking time.

Data Analysis and Final Item Selection. Student responses were subsequently transferred to a separate answer sheet by a research assistant for machine scoring. A second research assistant checked the data transfer to insure accuracy. The reliability of each of the tests was determined by computing a Kuder-Richardson No. 20 coefficient and split half (odd-even) coefficient for each of the three passages test and student group. Reliability coefficients were obtained using each computation for each group, by passage, on each of the two importance levels of test questions. Student data was collapsed across the four schools. The split half coefficients ranged from .58 to .88, and the KR20 coefficients ranged from .53 to .86 (Table 7).

Final item selection for the advance organizer test was based on analysis of item difficulty and item discrimination. Item difficulty ranged from .16 to .97 (Table 7), and item discrimination ranged from -.19 to .73. Items were selected for the final advance organizer test if the difficulty ranged between .20 and .80 inclusively, and the discrimination was at or above .20. These two criteria were judged to be

TABLE 7

Reliability Coefficients for Advance Organizer Test: Validation Phase

Learning Disabled Adolescents

Test	Passage	Number of Items	Reliability Coefficients: Split Half (Odd-even)	Standard Error	KR-20	Standard Error	Mean	SD	Item Difficulty Range	Item Discrimination Range	Number of Subjects
Important I.	1	22	.88	1.838	.86	1.963	9.92	6.213	.20 - .73	.18 - .71	51
Important I.	2	26	.89	1.907	.86	2.172	14.04	6.767	.18 - .82	- 01 - .68	51
Important I.	3	19	.81	1.838	.80	1.881	8.90	4.207	.24 - .82	.12 - .67	51
Unimportant I.	1	13	.74	1.555	.73	1.582	6.76	3.06	.25 - .63	.23 - .73	51
Unimportant I.	2	14	.78	1.489	.77	1.518	9.20	3.175	.41 - .88	.29 - .69	51
Unimportant I.	3	18	.87	1.464	.81	1.811	9.53	4.161	.24 - .80	.16 - .67	51

Normally-Achieving Adolescents

Test	Passage	Number of Items	Reliability Coefficients: Split Half (Odd-even)	Standard Error	KR-20	Standard Error	Mean	SD	Item Difficulty Range	Item Discrimination Range	Number of Subjects
Important I.	1	22	.79	1.490	.70	1.770	16.63	3.243	.37 - .97	.05 - .58	63
Important I.	2	26	.87	1.686	.84	1.851	19.730	4.626	.30 - .94	-.19 - .71	63
Important I.	3	19	.84	1.502	.81	1.642	13.76	3.740	.48 - .97	-.02 - .68	63
Unimportant I.	1	13	.58	1.388	.53	1.469	8.683	2.162	.16 - .90	.14 - .62	63
Unimportant I.	2	14	.74	1.113	.68	1.245	11.810	2.196	.70 - .94	.15 - .67	63
Unimportant I.	3	18	.67	1.619	.68	1.602	13.254	2.839	.32 - .94	.23 - .68	63

adequate for "Tulipmania" and "Greece" for both the normally-achieving and LD groups. However, on the "Aborigines" passage very few of the items measuring unimportant information met the selection criteria. On 10 of the 14 items measuring unimportant information the item difficulty level was greater than .80. In general, the normally-achieving group found these items too easy. In order to obtain equivalence on unimportant items with the other two tests, items with the highest item discrimination values were selected. As a result, on the unimportant items selected for "Aborigines" the item difficulty ranged from .76 to .94, and item discrimination ranged from .39 to .65. As a result, the unimportant test items for the Aborigines passage were fairly easy for the normally-achieving students, but provided adequate discrimination between high and low achievers.

Application of the selection criteria on "Tulipmania" and "Greece," and the single criterion on "Aborigines" resulted in a 20 item test for each passage. On each test 10 items measured unimportant information and 10 items measured important information. This representation resulted in a comprehensive 60 item test to measure the effects of advance organizers among the three passages for the primary investigation.

Procedures

Preliminary Investigation

Overview. The purpose of the preliminary investigation was to investigate the conditions under which advance organizers could be made operational in the secondary content classroom. A criteria was developed for constructing advance organizers for content classroom use. A series of observations was made to determine the types of organizational behaviors that teachers used in. These observations served as both a base-

line within a time-series design (Hersen & Barlow, 1976) to precede teacher training in advance organizers, and to assist in the identification of appropriate instances where advance organizers might be most effective. An obse vational system was developed to record these teacher behaviors (Appendix H). After baseline, teachers were trained to mastery in the procedures for constructing advance organizers. Teachers were then observed. Student learning under the advance organizer condition was measured through interviews (Appendix J). Finally, students were trained to listen and use advance organizers, and information learned was assessed through the interviews. The pilot study provided information regarding the construction and implementation of advance organizers across secondary content settings.

Subjects. Eight LD students and nine secondary content teachers in two senior high schools in the Olathe, Kansas school district were contacted and agreed to participate. Teachers were offered a $50.00 incentive payment for participation. Teachers were randomly selected from a list of content teachers known to have LD students in their classes. Once teachers had agreed to participate. Learning disabled students in each of the classes were randomly selected and asked to participate until an LD student for each participating classroom had agreed to participate. LD students were offered a $10.00 incentive payment to participate. Parental consent was obtained. An additional teacher with no LD students volunteered to participate. A normally achieving student was selected for participation in place of an LD student. It was determined that this data could be useful in comparing LD student progress to a norm. As a result, a total of nine students and ten teachers participated in the pilot study.

There were four females and five males. Eight of the students were white, and one student was black. The range of student ages was 16 to 19 with a mean age of 16.3 years. IQ scores for the LD students ranged from 87 to 109 with a mean of 97 (SD = 8.3). Reading for LD students, as measured by individual achievement tests ranged from 4.2 to 7.0 (Table 3). The mean percentile for the eight LD students was 17.4 (SD = 85). The Peabody Individual Achievement Test and the Woodcock-Johnson Psychoeducational Battery were the two tests that had been used to assess comprehension. The one normally-achieving student scored at the 70th percentile in reading on a standardized group achievement test.

Setting. The schools in which the students were observed were in Olathe, Kansas. Olathe has a population of about 28,000 and is a fast-growing, suburban community of urban Kansas City, Missouri. Olathe can be characterized as having a relatively homogeneous middle-class population. The regular classrooms of the students were the settings for the observations.

There were eight different classrooms involved in this study. Two sets of teachers team taught in two of the content classes. Therefore, in six classrooms, one teacher gave instruction, and in two classrooms, two teachers gave instruction. In each of these team teaching situations, the second teacher was an LD teacher who typically played a support role, rather than being responsible for primary instruction. One teacher taught two of the target classes. A different LD student was selected for participation in these classes. Although the same teacher taught both classes, the two classes were considered independent of one another for measuring student progress since they covered different content areas, were held different times of the day (morning

versus afternoon) and involved two different LD students. Therefore, across 10 teachers, nine different classrooms were involved. Table 8 demonstrates the types of subjects taught, and the respective teachers involved. The number of students in each class ranged from 17 to 28. All of the classrooms were furnished with chalkboards, teacher and student desks, and instructional materials. The observers sat at the rear or the side or the side of the classroom for the observations.

Advance Organizer Criteria. Based on a review of the literature on advance organizers and the organizational difficulties of LD adolescents, a ten component criteria was developed for constructing advance organizers. This criteria was informally submitted for review to experts in the fields of curriculum and instruction, educational psychology, and special education. The experts were asked to review the criteria for their effectiveness at orienting mildly handicapped adolescents to a forthcoming learning task. Based on the reviews of the experts, the criteria was revised three times before a final draft was developed. A manual was developed (Appendix G) to train teachers in developing advance organizers for their specific content classes.

Measurement System. Based on the ten advance organizer criteria, an observational system was constructed. Table 9 lists the ten categories and subcategories that were involved in the observations. A complete description of the observational system is included in Appendix H. A recording from (Appendix I) was developed to record the target behaviors. Each time a target behavior was observed, the actual time of occurance to the nearest minute was recorded. Therefore, several behaviors could occur within a 60 second interval. The method by which the organizational information was delivered was also recorded. Several

TABLE 8

Teachers, Students, and Subject Groupings

Classrooms	Teachers	STUDENTS		Subject Area
		Class totals	Subjects	
First Design				
Classroom 1	Teacher 1*	20	1	American History
Classroom 2	Teacher 2	18	1	English
Classroom 3	Teacher 3	20	1**	Anatomy
Classroom 4	Teacher 4	15	1	English
Second Design				
Classroom 5	Teacher 5	16	1	Physical Science
Classroom 6	Teacher 5	25	1	General Science
Classroom 7	Teacher 6	18	1	Geography
Classroom 8	Teacher 7	18	1	Biology
Classroom 9	Teacher 8*	40	1	English

* An LD teacher was in the classroom acting in a support role.

** This was the normally-achieving student used for comparison purposes.

TABLE 9

ADVANCE ORGANIZER OBSERVATION COMPONENTS

COMPONENT	SUBCOMPONENTS	COMPONENTS	SUBCOMPONENTS
1. Informed of purpose of AO	AO will provide some benefit	7. Motivated students	Positive consequences
			Negative consequences
2. Clarified the tasks' physical parameters	Teacher's Actions		Interest statements
	Student's Actions	8. Introduced new terms/ words	New terms/words
3. Identified the topic of the task	Major topics		Repeated terms/ words
	Subtopics	9. Provided organizational framework	Outline
4. Provided background information	New Information		Lists
	Previous lesson		Narrative
			Other
5. Stated the concepts to be learned	Content based	10. Stated the general outcome desired	Knowledge
	Content free		Comprehension
			Application
6. Clarified the concepts	Examples		Analysis
	Non-examples		Synthesis
	Cautions		Evaluation

modes were allowed to be scored for a single behavior. The possible delivery modes were as follows:

Verbal:	spoken, cassette, video or tape recording of teacher
Visual Aid:	chalkboard, overhead projector pictures
Writing:	paper, book
Elicited:	student response to teacher's question
Other:	film, song

In order to determine the general configuration of organizational behaviors used by teachers over the total class hour, the class hour was divided into three separate observational periods for recording occurrences of the target behaviors. These three periods were defined as follows:

Pre-lesson Period: The period of time beginning as soon as the first student entered the classroom until the Lesson Period began. All comments of an organizational nature prior to the actual lesson, but not part of the actual lesson were included in this period (i.e., overviews, presummaries, lesson directions).

Lesson Period: The period of time beginning when the teacher began to give the class new content specific information related to the present topic or activity (i.e., began lecture or learning activity).

Post-lesson Period: The period of time beginning when the teacher stopped presenting new information, and began to repeat, summarize, or make assignments. The post-lesson period ended when the teacher dismissed the class or announced that lesson was finished, or the bell rang and students left without direction(s).

In addition to the observational system, a student interview questionnaire was constructed. For each of the advance organizer components one or more questions was written to elicit student awareness and/or understanding of that component. The questions were submitted to a panel of ten experts who included graduate students and professors in special education. The experts were given the questions in random order and were asked to match the question with the most related advance organizer category. A 90% agreement level was set for acceptance of a question. Questions not meeting the 90% agreement level were either deleted or rewritten and resubmitted to the experts for approval. Using this procedure, wording changes were made on three questions, one question was deleted, and one question was resubmitted and subsequently approved. The interview questions are included in Appendix J.

At the end of the observed class each student was interviewed in an quiet location as close to the class as possible. The interviews lasted no more than three to four minutes. The observers interviewed the students and recorded student responses verbatim. Students were encouraged to use any notes that they had taken during the class period to aid in their responses.

Reliability. Reliability was determined by calculating the percent of agreement between observers during the training session, and then on 10% of all subsequent observations. Observer recordings were compared occurence by occurrence for agreement. To have an agreement on a given behavior, both observers had to record the same time, within one minute, for the occurrence of the behavior. The recorded occurences had to occur in the same order for each observer. If these conditions were not met, a disagreement was scored. The percentage of agreement was cal-

culated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100 (Hall, 1974).

There were four observers trained in the observation system procedures. The percent of agreement during training was measured at .96, .87, .91, and .90, respectively. Across all observations (n = 129) there were 14 reliability checks. The inter-observer agreement across the four observers was 95 percent. For the advance organizer period alone, the inter-observer reliability was 95 percent. Agreement was calculated for each of the ten categories related to the organizational behaviors. For categories 2, 3, 4, 6, 7, 9 and 10 (see Table 9) the interobserver agreement were all above 92 percent. However, for category 8, Introduced New Terms, agreement was 77 percent, for Category 1, Informed of Purpose of Advance Organizer, agreement was 67%, and for Category 5, Stated the Concepts to be Learned the reliability was 50 percent. Because of the low frequency of the categories any minor disagreement (e.g., one or two behaviors difference) resulted in a low percent agreement. Therefore, a better indication of reliability is obtained by examining total observations, which was calculated at 95 percent. The percentages are listed in Appendix Q.

Procedures. Each teacher received training in developing advance organizers for their particular content area. The training session consisted of five phases. First, prior to the training session, a manual for developing effective advance organizers was provided to the teacher. Second, within two days a training session was held. The training session began with a brief review of the study, and a review of the advance organizer training manual. Third, the observational system was described for the teacher, and the teacher's baseline data was

reviewed. Every attempt was made to make the teacher aware of his/her status regarding use of organizational behaviors. A strong rationale was made for the use of advance organizers. Fourth, the researcher modeled the construction of advance organizers across various content areas, and the content area of that particular teacher. The teacher was then asked to construct an advance organizer on the Advance Organizer Worksheet for his/her content area (Appendix K.) Feedback was provided, and the training session was concluded. Fifth, the teacher was observed using advance organizers in his/her classrooms. Observers provided feedback to the teacher on each observation related to the use of advance organizers. Feedback was provided in the form of frequency of use for each category.

As teachers began using advance organizers in their classrooms, students were interviewed to determine if the use of advance organizers affected what information they could identify related to the advance organizer categories after observed class periods. No specific intervention was planned for students.

Experimental Design. The teacher's and student's responses to training was evaluated using two multiple baseline design across subjects (Baer, Wolf, & Risley, 1968). There were four classrooms and four students across the first multiple baseline design, and five classrooms and five students across the second multiple baseline design (Table 6). Organizational behaviors were analyzed across classrooms and not teachers. Therefore for those classes where there were two teachers, there was no differentiation as to which teacher engaged in the behavior. During baseline teachers were observed and were asked not to change their normal teaching behaviors. A minimum of five baseline points indicating

a stable or descending baseline slope was required before training was initiated (Parsonson & Baer, 1978).

Teacher Training Findings. Figures 1 and 2 show the baseline and training results for teacher use of advance organizers. Figures 3 through 6 repeat this data, and add the baseline and after training results for teacher organizational behaviors recorded during and after the actual lesson. Figures 7 and 8 show teacher use of advance organizers compared to student performance as a result of the implementation of advance organizers in the classroom. The number of organizational behaviors that teachers engaged in for each observation period is shown by a closed circle. A mastery level of ten was set as a decision criteria for mastery. This is demonstrated by a dotted line on the figures. The data for classrooms five and six (C5 and C6) have been combined in Figure 2 since they are based on the observations of one teacher, but across two separate classrooms. The data for C5 is represented by the closed circles. The data for C6 are represented by the double circles.

Before training the teachers across the classrooms observed engaged in no more than five or six organizational behaviors for any single classroom. Across classrooms one through four (C1, C2, C3, C4 Figure 1) the average number of advance organizers used during baseline was 2.97. ($n = 32$, $SD = 1.06$). Across classrooms five through nine (C5, C6, C7, C8, C9, Figure 2), the average number of advance organizers used during baseline was 2.57 ($n = 33$, $SD = 1.96$). After training, these averages increased to 8.94 ($n = 33$, $SD = 2.46$) and 9.57 ($n = 33$, $SD = 1.71$), respectively. After training, mastery was met in C1 by the fourth observation, in C3, C4, and C7 by the second observation, and in C2, C8, and C9 immediately after training. The teacher for C5 and C6 had difficulty implementing the training in C5, but not in C6. In classroom six

Figure 1

Teacher Use of Advance Organizers

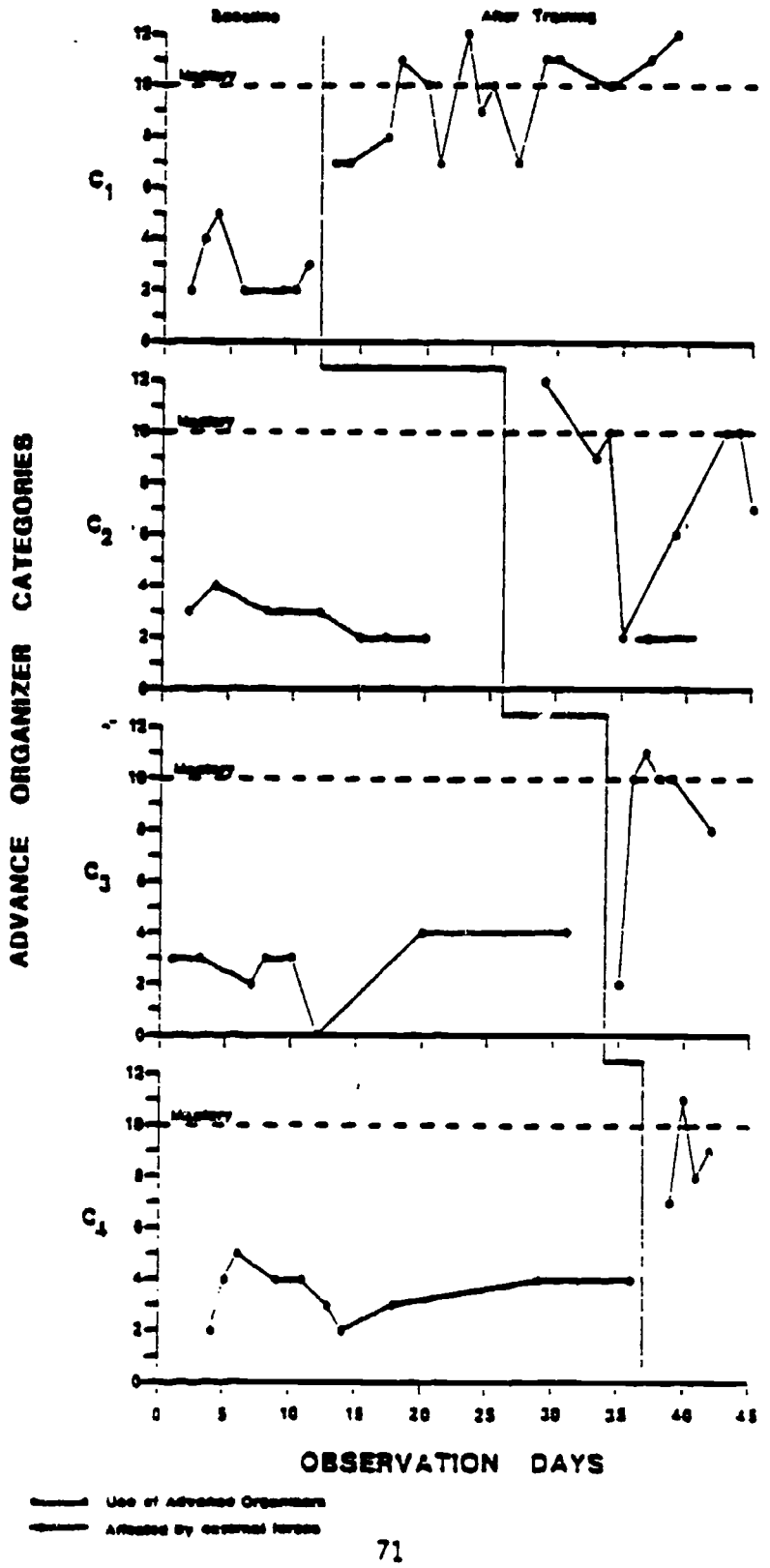

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Figure 2

Teacher Use of Advance Organizers

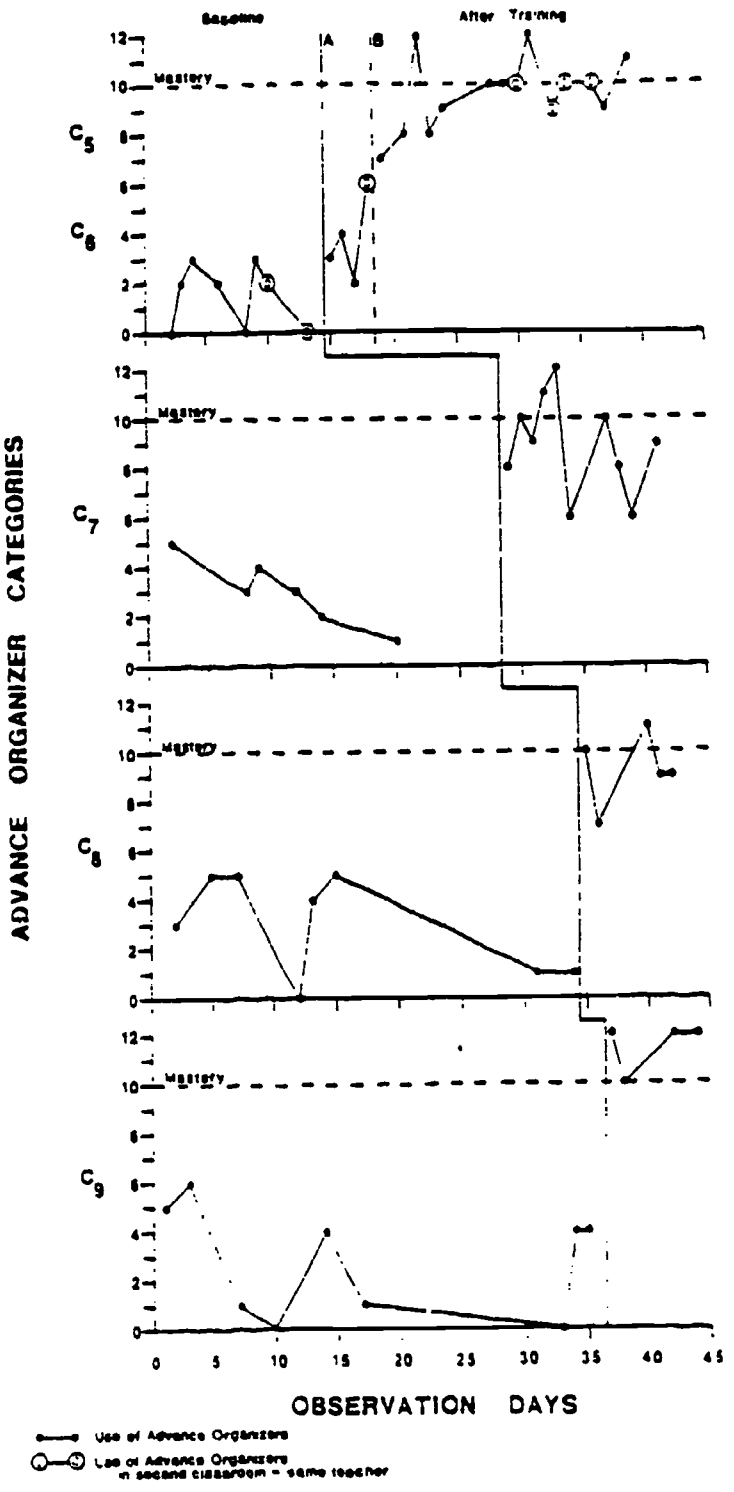

Figure 3

Teacher Use of Lesson Organizers Compared to Advance Organizers

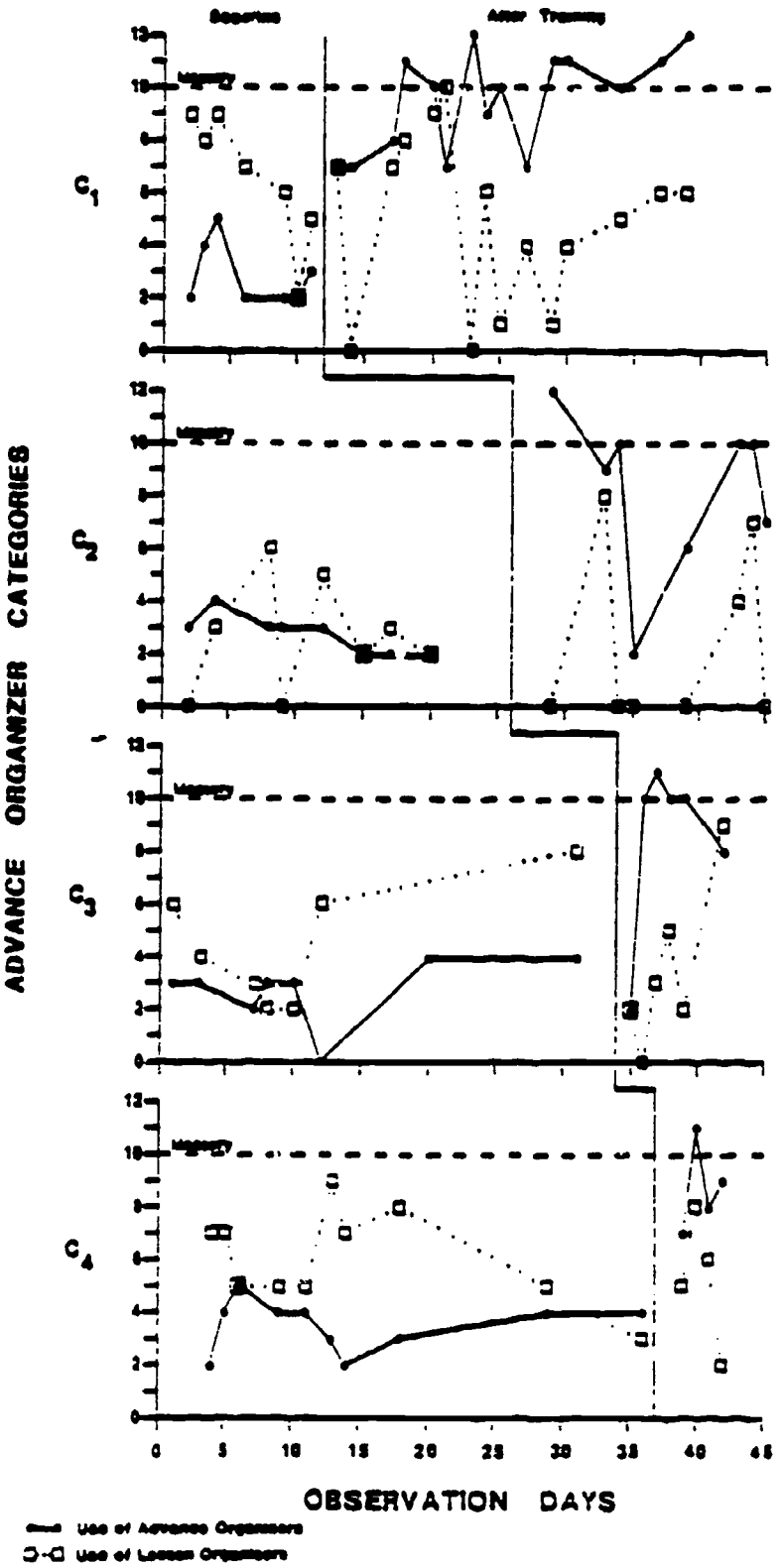

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Figure 4

Teacher Use of Lesson Organizers
Compared to Advance Organizers

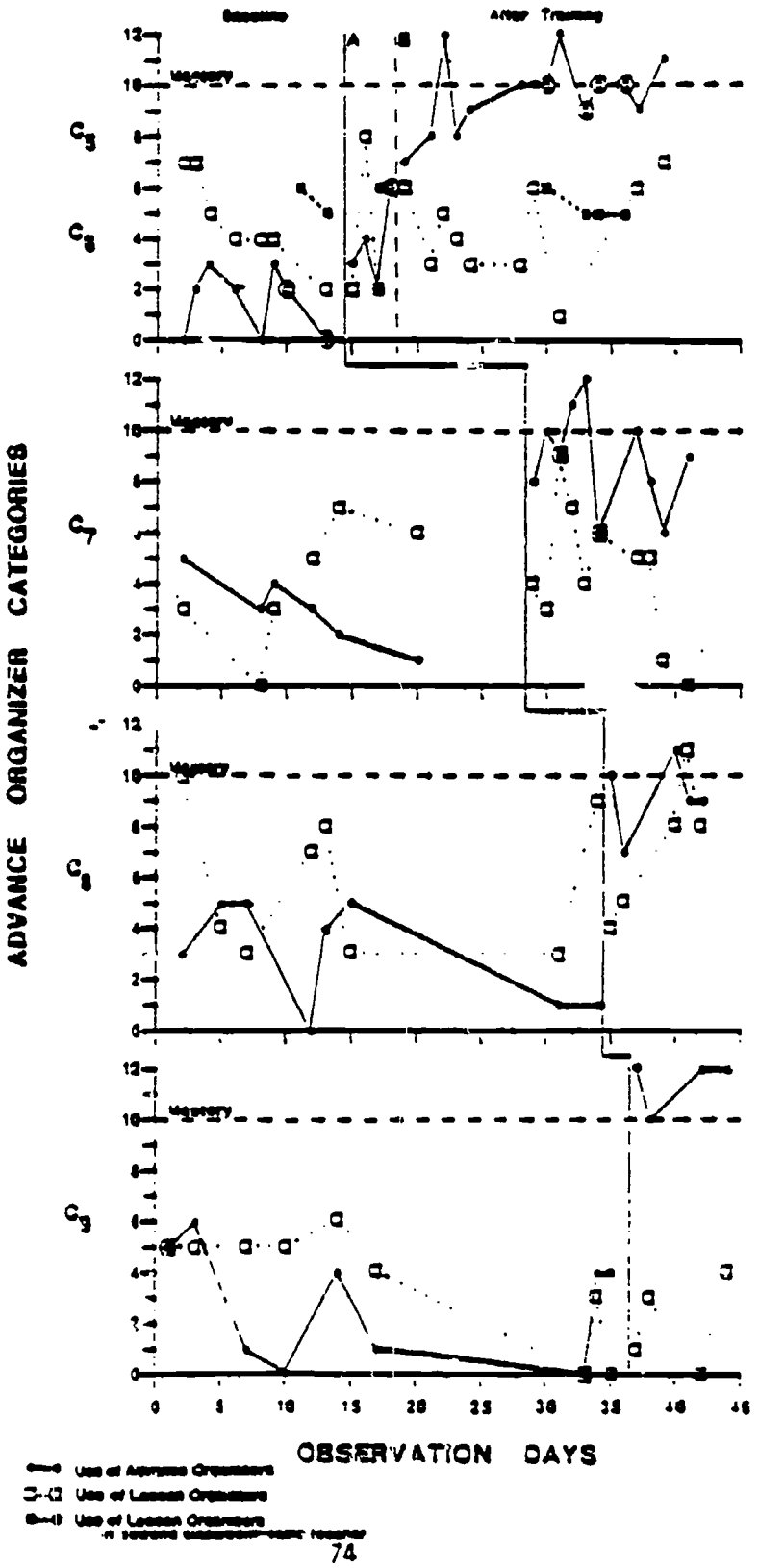

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Figure 5

Teacher Use of Post-Lesson Organizers Compared to Advance Organizers

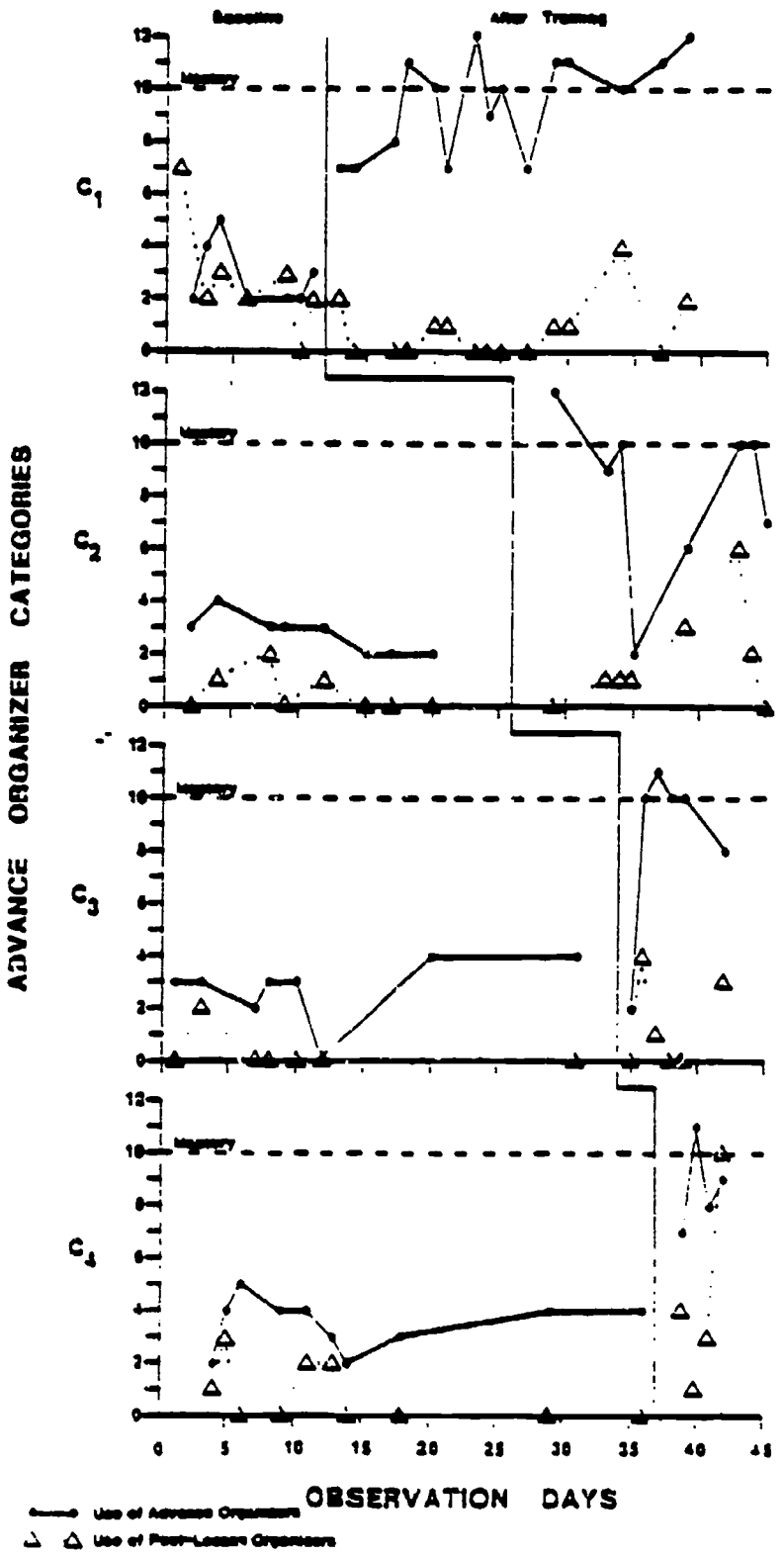
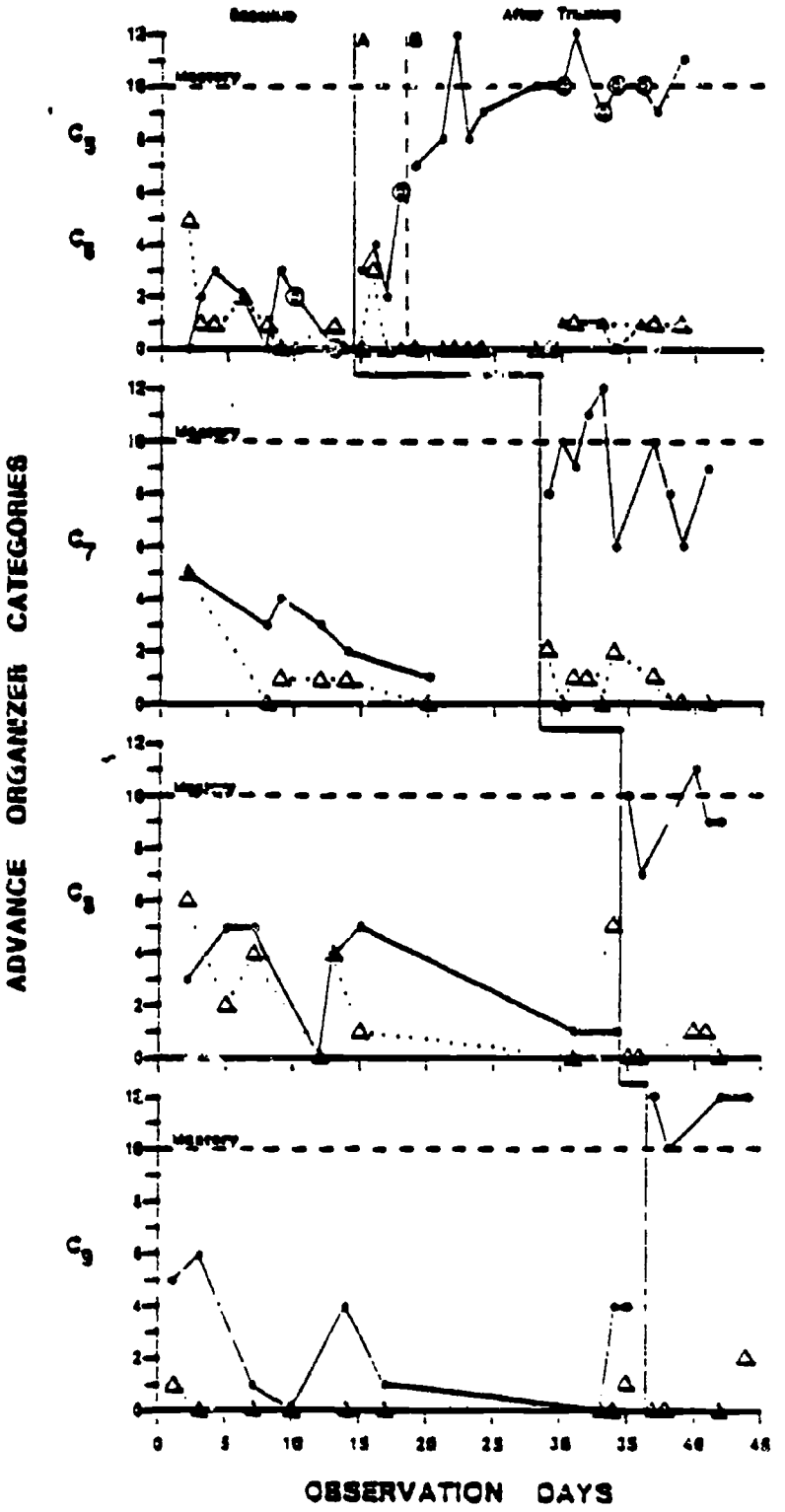


Figure 6

Teacher Use of Post-Lesson Organizers Compared to Advance Organizers



(Figure 2) the teacher taught a science lab. The course and text book relied heavily on studert independence and discovery. As a result, the teacher had difficulty implementing the orienting activity because he felt the students should do that for themselves. A second training session was held with the teacher. The advance organizer procedures were then adapted for a discovery/lab situation. The only major adaptations that were made that the teacher was told to give a purpose for the lab, rather than state the concepts to be learned. In addition, since the teacher felt the book provided the advance organizers for the lesson, he was asked to point the students' attention to these.

As demonstrated in C1 of Figure 2, after the initial training session (labeled A), advance organizer use did not significantly increase. However, after the second training session (labeled B), the use of advance organizers increased, and mastery was met by the third observation. This problem was not demonstrated in C6, because this class was taught using a more traditional lecture approach to science. However, the second training session did appear to increase the use of advance organizers. In C6, mastery was met in the first observation after the second training even though this observation was not made until three weeks after the training.

In general, the findings across the nine classrooms demonstrated that the training was effective. Across all observations, only one observation recorded use of less than six types of advance organizers after the teacher had met mastery. This observation is indicated by an arrow in classroom 2 (Figure 1). However, upon inspection of anectdotal information, the comments made by the research assistant recording the behaviors indicated that a film running the entire period had been shown. The film had been started before the bell rang in order to show

the entire film during the class. period. As a result, there were few teacher comments of any nature.

Figures 3 and 4 show the use of organizational behaviors during the actual lesson (indicated by squares). Across the six classroom no clear pattern emerged that indicated that the use of organizational behaviors during the lesson was consistently affected because of the advance organizer treatment. In fact, the use of organizing behaviors are extremely erratic from day to day across all classrooms. Figures 5 and 6 show the organizational behaviors during the post-lesson period (indicated by triangles). In general, no clear pattern emerged across classrooms that indicated that the use of organizational behaviors after the lesson was completed was consistently affected because of the advance organizer treatment. However, in specific classrooms different affects were observed. In C2 the use of post-lesson organizational behaviors appear to be increasing. However, in C5 and C9 the use of post-lesson organizational behaviors diminished after the advance organizer training. The means and standard deviations for the use of organizatinal behaviors during and after the lesson prior to and after the advance organizer training are included in Table 9.

Student Response Findings. Figures 7 and 8 show the response of students to the use of teacher organizational behaviors. Student response, as measured by student interviews after the class period, indicated whether students were aware of the organization of the lesson and/or class period. Student responses are indicated by the larger open circles. Since student response to teacher behavior was measured on a different scale (amount of organizational information produced versus number of categories used), a multiple scale graph was used. The scale to the left

Figure

Student Response to Teacher Use of Advance Organizers

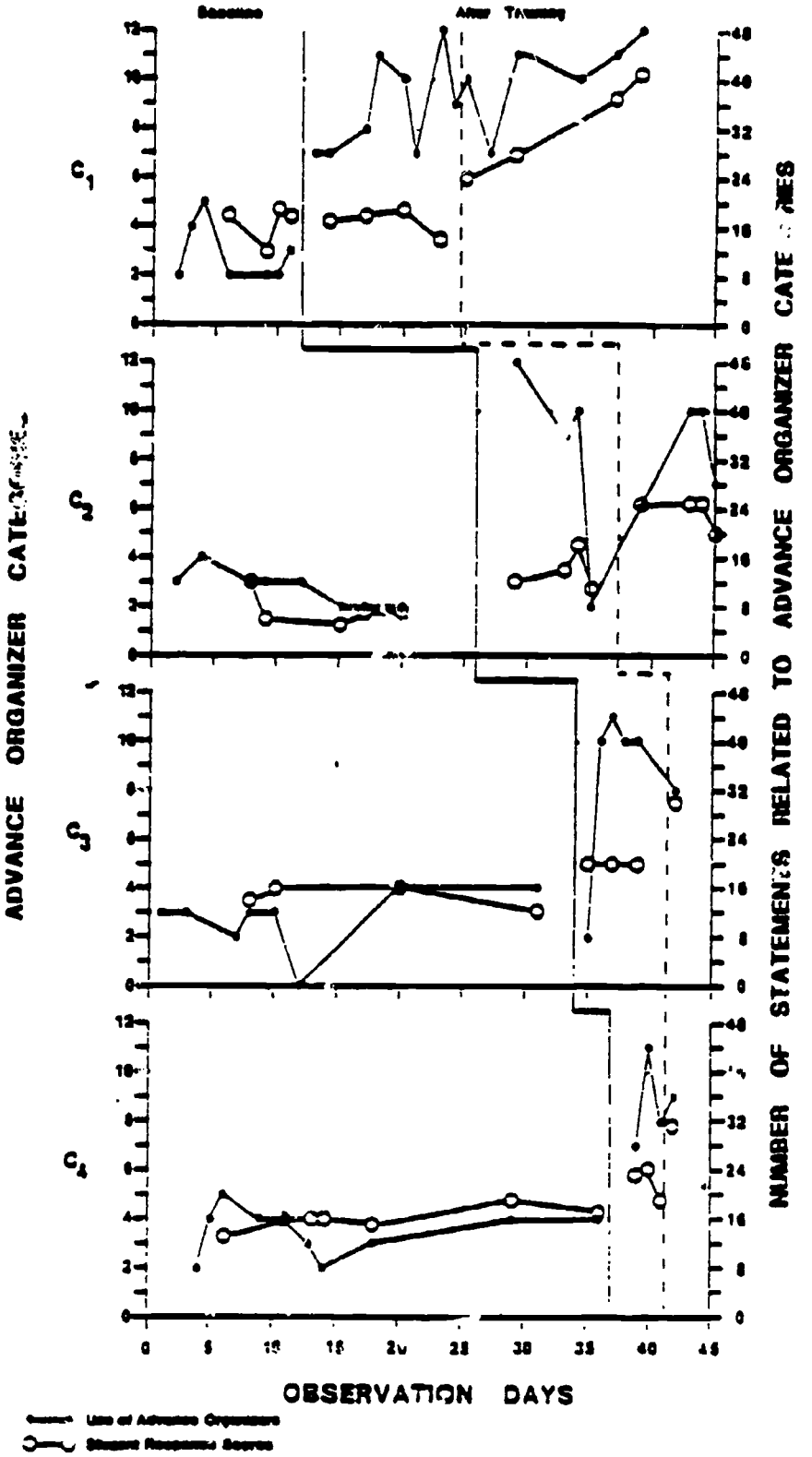
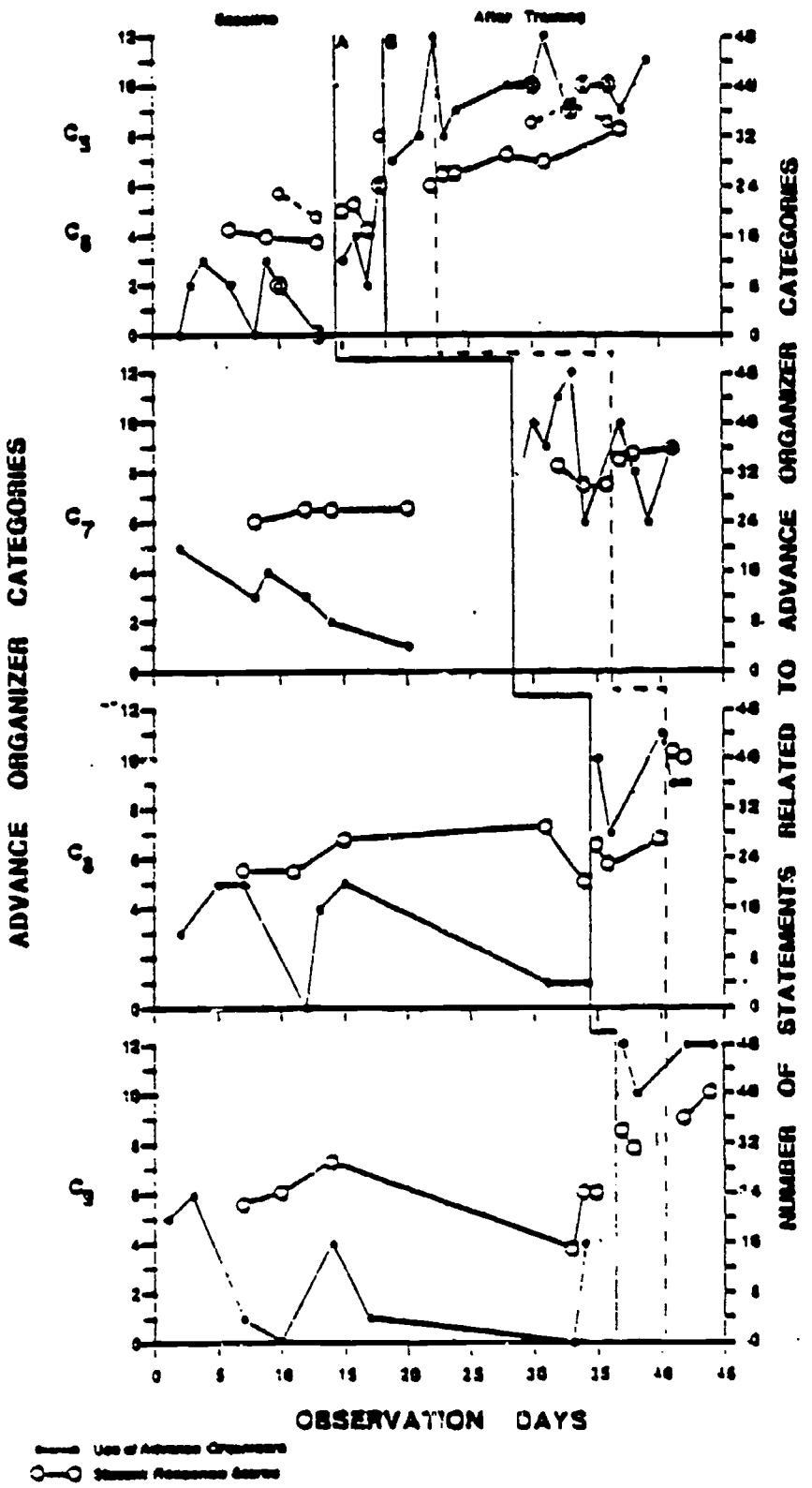


Figure 8

Stude[illegible] Response to Teacher

Use of Advance Organizers



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of the graph indicates the number of statements or pieces of information that the student verbally produced in the interview that could be scored in one of the twelve categories used in the observation system.

An initial inspection of student data after the teachers in C1 and C5 were trained indicated that the performance of students did not significantly improve as a result of training. Therefore, a student training session was implemented to increase student awareness of the use of advance organizers by their teachers. Each student was trained to listen for questions in each of the advance organizer categories. Students were told that teachers would be providing the answers to these questions during the first five minutes of the class period, but before the lesson began. Students were encouraged to write down the answers to the questions on a Using Advance Organizers worksheet (Appendix L.). Students were allowed to use the advance organizer worksheets to answer the interview questions in the same way that they had used their notes to help them.

The initial observation that the use of advance organizers alone was not assisting students to identify organizational information was not demonstrated across all students. In C3, C7, and C9 all student response scores were above baseline scores. In C2, C4, and C5 the majority of student response scores are above baseline scores. Only in C1 and C8 are student response scores unchanged. Therefore, for some students use of advance organizers alone affect the organizational information that students get from the lesson.

After training to identify advance organizer information (indicated by a dotted line in Figures 7 and 8) all students' response scores increased. In general, the findings for student response to teacher

training and student training indicate that some students independently identified cues regarding information to be learned in the lesson, and demonstrated marginal progress. However, all students were able to benefit from training to use the advance organizer categories in order to organize information. However, conclusions based on this data must be drawn tentatively. Although behavior changes across students were replicated, limited response scores for students were obtained after student training, especially for students in C3, C4, C8, and C9. Additional data could not be collected because of the close of the school year. Lack of this data raises questions as to the durability of student gains since the level of performance was not demonstrated over a longer period of time.

In addition to evaluating student response to organizational information by the number of scorable statements, the percent agreement with teacher organizational behaviors was calculated. For each observation where an audible tape recording and a student interview was available, the student interview responses was matched with what actually occurred. Computation of agreement was done by dividing the total number of agreements by the total number of agreements plus disagreements, and multiplying by 100 (Hall, 1974). These percentages provided an indices of how much of the students' interview responses were connected to what actually occurred in the classrooms. The percentage of agreement also indicated the degree to which the student response scores (as represented in figures 7 and 8) were reliable representations of what students actually received from that classroom, and not from guessing and/or general knowledge of the class.

Figure 9 shows the percent agreement between LD students and their teachers for each of the ten advance organizer categories before and after the advance organizer training. The percentages were computed on 32 out of the 68 (51%) teacher observations model during baseline, and on 34 out of the 61 (59%) teacher observations model after training. The difference between the two percentages is indicated by a "D" above each category on the graph.

Across all but two categories there were increases in the amount of agreement between teachers students. A total increase of 25 percent was found for all categories. The largest increases after training were in category ten, knowledge of desired outcomes (51 percent gain), category one, knowledge of an advance organizer (68 percent gain), and category five, knowledge of background information (46 percent gain). The only categories where increases did not occur were in category three, knowledge of lesson organization, and in category eight, knowledge of motivational elements. In these two categories, no change between baseline and training was found in teacher-student agreement. The student-teacher agreement for the one normally-achieving student (Figure 1, C3) was 80% before teacher training and 100% after teacher training. The only category where the student had difficulty agreeing with the teacher during baseline was on knowledge of outcomes. The teacher-student agreement data is not included in Figure 9.

The teacher-student agreement data indicates two possible conclusions. First, the reliability of the student interview data during baseline may be questionable. The total teacher-student agreement percentage during baseline was only 66 percent. However, the agreement of 91 percent after training was very good. Therefore, the poor agreement

during baseline may indicate that the baseline scores were inflated, and that in reality, the true baseline for students was lower. The organizational behaviors that were being used by teachers were not being detected by students. Therefore, 44% of what students provided in the interviews were "guesses" at what actually happened. Second, the increase shown in each category may indicate the powers of that category in the total advance organizer construct. Because a 25 percent increase was seen in teacher-student agreement overall, the training appears to have positively affected what students picked up in classes, in general. However, because the greatest agreement percentages were seen in the categories related to knowledge of outcomes, presence of advance organizers, and background information, it can be reasoned that advance organizers are most powerful when these elements are present. It is also reasonable to predict that advance organizers are the least powerful when the categories related to topics, lesson organization, teachers and student actions, and rationales (motivation statements) are emphasized. For these categories, it appears that students may pick up information related to these categories at the same rate, regardless of the presence of the advance organizer.

Advance Organizer Category Use Findings. As shown in Figure 9, the advance organizer categories appeared to have had differential effects on student performance. The advance organizer training appeared to have affected general teacher organizational behaviors as well. While no clear patterns were observed across teacher organizational behaviors for the lesson and post-lesson periods (Figures 3, 4, 5, 6), the frequency data for each period indicates effects. Figure 10 shows the total use of organizing behaviors across all teachers for all three periods before

Figure 9

Percent of Agreement Between Teachers and LD Students on Organizational Information

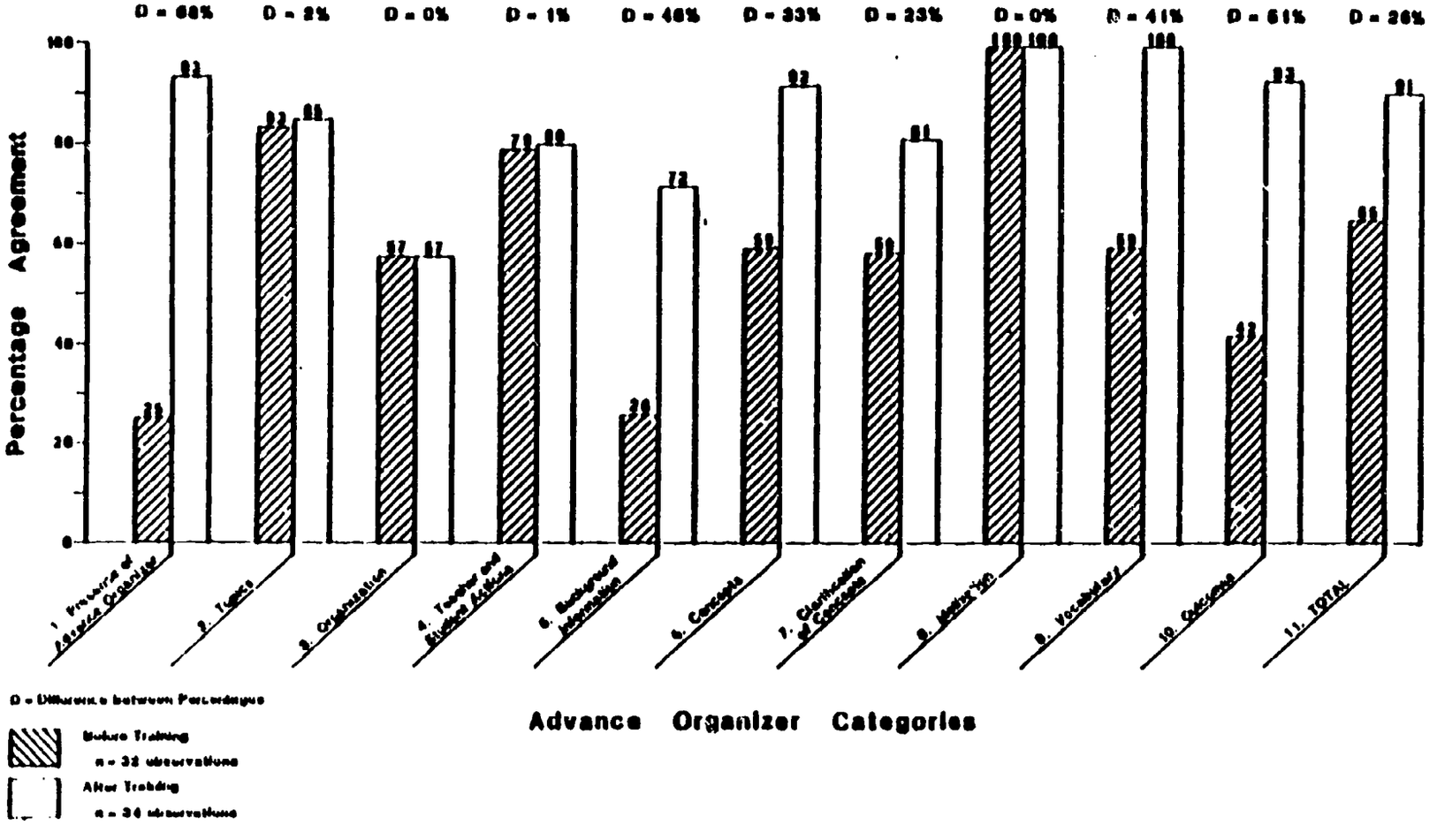
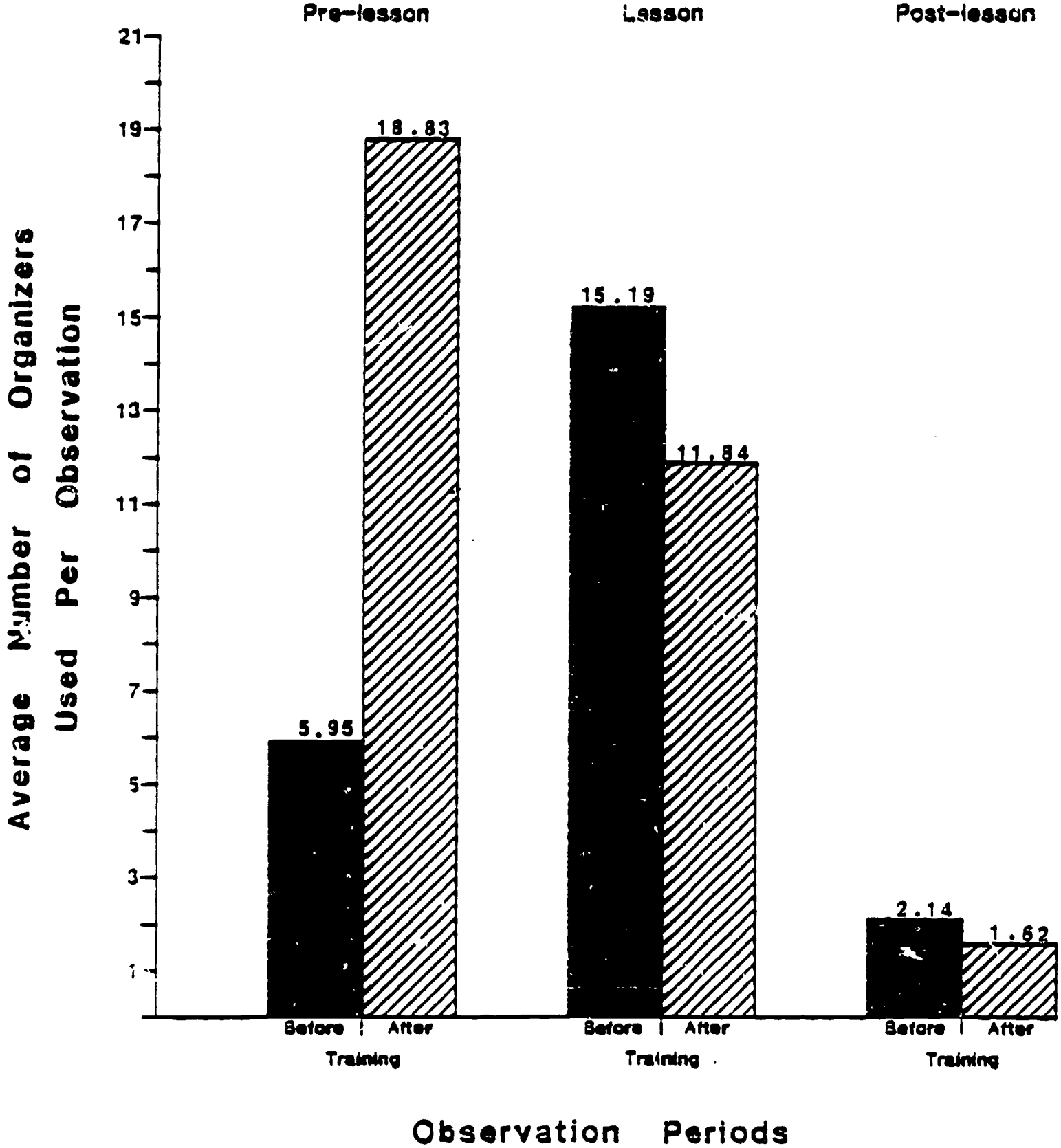


Figure 10

Total Organizer Use Before and After Training



and after teacher training. The graph represents the number of organizers used per observation.

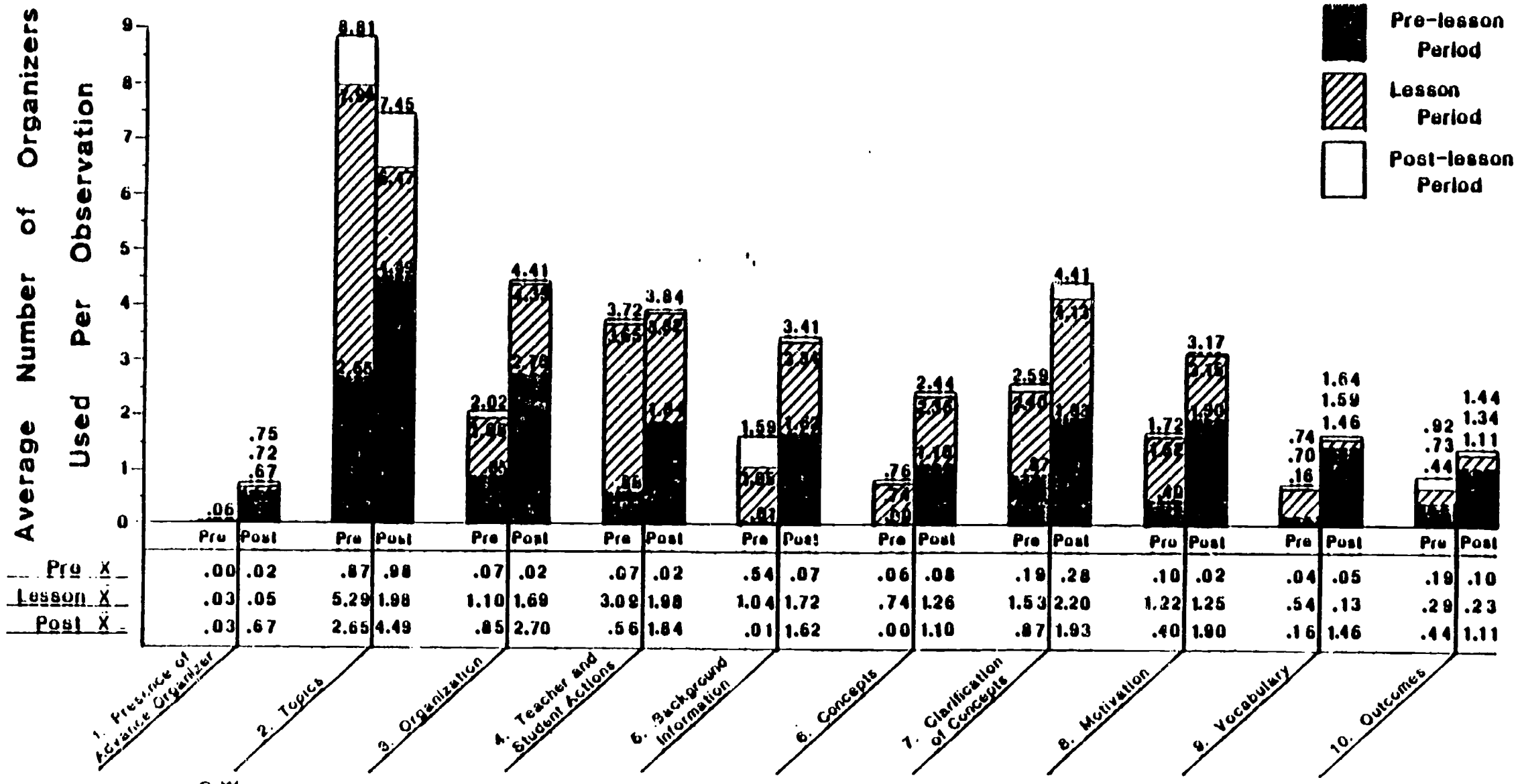
Figure 10 shows that while advance organizers increased, lesson and post-lesson organizers decreased. Figure 11 shows the change across the three periods for each organizer category. The most dramatic decrease in organizers was in the number of topics used per observation during the lesson period (category two). A substantial decrease also was seen in the number of organizers used for teacher and student actions (category four). In almost all other categories related to lesson organizers there was either an increase or very little change after training.

The number of organizers used during the post-lesson period was almost nonexistent both prior to and after teacher training. Only in the category of topics (category two) did the number used per observation approach 1.00. This finding indicates that teachers did not use review techniques across the classrooms observed. regardless of teacher training. While this may be discouraging from an educational point of view, this strengthens the findings of this study because it eliminates the possibility that the information obtained from students in the interviews was based on data provided to students in a post-lesson review. These data indicate that the effects of the changes recorded in teacher organizational behaviors across the lesson and post-lesson periods did not appear to generally affect student performance. Student response scores (Figures 7 and 8) did not decline, and teacher-student agreement (Figure 9) either went up or remained the same.

Implications for Primary Investigation. Based on the data from the preliminary investigations, several deductions were made for use in the primary investigation. First, teachers were able to use advance organi-

Figure 11

Organizer Use By Category Before and After Training



	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Pre X	.00	.02	.87	.98	.07	.02	.07	.02	.54	.07	.06	.08	.19	.28	.10	.02	.04	.05	.19	.10
Lesson X	.03	.05	5.29	1.98	1.10	1.69	3.08	1.98	1.04	1.72	.74	1.26	1.53	2.20	1.22	1.25	.54	.13	.29	.23
Post X	.03	.67	2.65	4.49	.85	2.70	.56	1.84	.01	1.62	.00	1.10	.87	1.93	.40	1.90	.16	1.46	.44	1.11

zers in their typical secondary school classrooms with very little training. This finding confirms the contention that the use of advance organizers is a practical technique for use in secondary classrooms, and for ease of use in a cooperative planning model. Second, while some students showed gains just when advance organizers were used, student training and knowledge of the benefits of listening for advance organizers appeared to increase awareness of organizational behaviors across all classrooms. Third, the effectiveness of advance organizers may be contingent on the categories used to construct the advance organizer. The most powerful advance organizer categories indicated by teacher-student agreement were knowledge of the advance organizer, outcomes, background information, vocabulary, and concepts. Fourth, while advance organizers appeared to affect organizing behaviors in other parts of the instructional period, the advance organizer behaviors appeared to counter any negative effects on learning.

Primary Investigation

Subjects. Forty-six learning disabled and fifty-one normally-achieving students participated in the primary investigation. The two groups of students were randomly divided into treatment and control groups using a table of random digits (Minium, 1978). There were 23 LD students in the treatment group, and 23 LD students in the control group. There were 27 normally-achieving (NA) students in the treatment group, and 24 normally-achieving students in the control group. Unequal NA group sizes resulted from student absences on the days of the testing.

Setting. The testing was done at two high schools in Olathe, Kansas. A date was set for each school for data collection. One make-up date was set for each site for additional data collection efforts.

Social Studies Test. All students were given the Social Studies subtest of the Woodcock-Johnson Psychoeducational Battery (Woodcock and Johnson, 1977). This test is designed to be an individually administered test. The test measures social studies background knowledge from kindergarten through adult levels. The test was adopted for group administration using the following modifications:

1. Student responses were self recorded on lined paper provided by the researchers. Numbers for each response were included.
2. An opaque projector was used to project the stimulus items onto a screen. The researcher read the items to the group.
3. All items were administered to all students.
4. While students were taking the advance organizer tests, the Social Studies tests were scored. Any responses on the social studies test that need clarification were obtained after the Advance Organizer tests were completed.

Treatment condition. Advance organizers were constructed for each of the three reading passages based on the ten component criteria validated in the pilot study. Three of the advance organizer criteria (Appendix G) were not used in the construction of the advance organizer passages. Step 4, Clarification of Action to be Taken, was not done because the test directions for both groups had to clarify what the students had to do. Second, Step 8: Motivate Students To Learn, was not done because students had been paid to participate, and the passages were too short to attempt specific motivational statements in the advance organizer. Third, Step 9: Introduce Vocabulary was not done because the reading level had been controlled, and almost all new vocabulary was measured directly on the Advance Organizer Test. Presenting any informa-

tion in the advance organizer that could directly provide an answer to a test item was avoided. In addition, knowledge of actions and motivational statements had proved to make little difference in student response to advance organizers in the preliminary investigation. Appendix M contains the complete test package, with the advance organizers, that was distributed to students. Each advance organizer contained an opening and a closing paragraph that were similar across the three passages. The middle three paragraphs provided information relevant to each specific passage.

Results from the preliminary study indicated that students must be made aware of advance organizers in order to maximally profit from them. Two procedures were employed to actively engage the student in the use of the advance organizers. First, a short training session was held. Using an overhead projector, advance organizers were defined, and the components of advance organizers discussed. The seven categories used to construct the advance organizers were presented. Students were told that an advance organizer would be read to them before each reading passage, and that if they listened for the information presented in the advance organizer it would help them to do better on the test. The training narrative is provided in Appendix N.

A second procedure was used to make the student interact with the advance organizer. Students were asked to underline the parts of the advance organizer passage that they thought would help them when they read the reading passage. As the researcher read the advance organizer passage, students were asked to underline. Students were told that they could use the advance organizers as they read the story, but not while they answered the test questions.

Therefore, the treatment condition was comprised of a short training session on advance organizers immediately following the Social Studies test. Before each reading passage and test, an advance organizer was read to the students while they followed along. Students were asked to underline what they felt were the most important parts of the advance organizer.

Control Condition. The control group was given the Social Studies subtest, and after being given the general directions, read each passage and answered the test questions. Students were not given any advance information about the passages. The test package included in Appendix M (minus the advance organizer passages) was used for the control group.

General Procedure. The data collection took place in a large classroom and/or an auditorium. Each student had his or her own work space. As each student entered the testing area he/she was handed a large envelope and was told not to open it until directed. Once all students were present, students were instructed to put their names on the envelope. In addition, a verbal roll call allowed the construction of a seating chart for recording test taking times for each student.

Students were directed to carefully remove the set of test materials from the envelopes. The Social Studies test was on top, and was administered first. Once the Social Studies test was completed, all test protocols were collected and two research assistants began scoring them immediately. The general directions were then read to the students (Appendix M). Students in the treatment and control groups were in separate rooms, and engaged in the treatment or control conditions described earlier.

Students in both groups were instructed to put the passage (and advance organizers for the treatment group) back in the envelopes before they took the corresponding test. The time that each group began the reading passage was recorded. Students were told to raise their hand when they finished taking each test. Using the seating chart the time that each student took for each test was recorded. Students were directed to sit quietly and wait until all students had completed the test.

When all tests had been completed, students were paid the two dollar incentive and they returned to class. Those students who needed to clarify their Social Studies test were retained until the responses had been clarified according to the test responses directions. They were then paid, and returned to class.

Experimental Design. A posttest only, control-group design as described by Campbell and Stanley (1966) was used in this study. As a control variable for background information, the Social Studies subtest of the Woodcock-Johnson Psycho-Educational Battery (Woodcock & Johnson, 1977) was administered. Preliminary inspection of the data indicated the possibility of sex differences. T-tests were used to determine if sex was a factor. The t-tests indicated that sex differences were present in the LD group. As a result, sex was used in subsequent analyses as a covariate.

The independent variables were subject groupings (LD versus NA), and the experimental conditions (treatment versus control). The dependent variables were the types of information recalled (important versus unimportant) as measured by the Advance Organizer Test.

The three null hypotheses tested in the primary investigation were as follows:

Hypothesis I: There is no significant difference between the classification of students as LD and NA and performance on the dependent variables.

Hypothesis II: There is no significant difference between students in the experimental and control groups as measured by the multiple-choice tests following the treatment.

Hypothesis III: There is no significant interaction between the classification of students and the type of information learned as a result of the treatment.

The hypotheses were tested using multivariate analysis and covariance procedures (Finn, 1976). Wilks' Lambda was test of significance used. An approximate F was calculated for each test value. A .05 probability level was used for testing the significance of F.

Test Reliability. The internal consistency reliability of the tests was determined by computing coefficient alpha for each test and group. Since coefficient alpha is equivalent to the reliability coefficient resulting from the use of the Kuder-Richardson No. 20 formula when dichotomous data is used, the computed reliabilities could be compared to the reliability coefficient computed for the test validation. Reliabilities were not computed for each passage test, as was done during test development, but were computed for important and unimportant information across the three passage tests for each group. This was done because statistical analysis was done on important and unimportant information, and not by individual passage tests (repeated measure design).

The reliability for the test of important information across all subjects was .84, and .83 for unimportant information. For the LD group, the reliabilities for important and unimportant information were both .78. The reliabilities for important and unimportant information for the NA group were .81 and .65, respectively. These reliabilities are presented in Table 10. The reliability of the tests were all well within the range obtained during the test validation phase. Therefore, it was concluded that the tests were highly reliable for the purposes of measuring and interpreting the effects of the experimental conditions.

Control of Other Factors. The time that it took students in both experimental conditions to read each passage and take the test was recorded. An estimate of the difficulty of the tests across groups was indicated by the amount of time it took students to complete each passage and test. For the LD treatment group the average time was recorded at 9 minutes, 27 seconds (SD = 1 min. 34 sec.). The average time for the LD control group was 10 minutes and 30 seconds. (SD = 1 min. 41 sec.). For the NA treatment group the average time was 9 mintues 2 seconds (SD = 1 min. 49 sec.), and for the control group, 9 minutes and 32 seconds (SD = 1 min. 47 sec.). The tests did not appear to require a significantly greater amounts of inspection and response time for any specific group of students. This finding may indicate that the reading and interest levels were adequately controlled across students.

In order to determine whether students actually received the advance organizer treatment, the average number of words underlined and the number of different continuous underlines were counted. This measure allowed comparison of the LD and NA groups to determine whether performance on the dependent measure could be explained in terms of receiving

TABLE 10

Reliability Coefficients for Advance Organizer Test: Primary Investigation

LD SUBJECTS (n = 46)

	Alpha
Important Information (30 items)	.78
Unimportant Information (30 items)	.78

NA SUBJECTS (n = 51)

Important Information (30 items)	.81
Unimportant Information (30 items)	.81

TOTAL FOR ALL SUBJECTS (n = 97)

Important Information (30 items)	.84
Unimportant Information (30 items)	.83

or not receiving the information in the advance organizer. Analysis of the underlined protions of the advance organizers indicated that LD and NA received similar information from the advance organizer, and at similar rates. Across the three passages LD students underlined an average of 73.2, 77.5, and 52.4 words per story. The average number of different continuous underlines counted were 8.4, 7.7, and 7.8. For the NA students the average number of words per story was 74.8, 87.8, and 56.6. The average number of different continuous underlines counted were 10.6, 9.7, and 10.9. Very little variation was found between groups on similar passages.

As a result of the consistency in the test reliabilities found between the test validation sample and the primary investigation, the level of these reliabilities, the small differences in test-taking times, and the small differences in the reception of information in the advance organizer (as measured by underlines), the effects of the test and the environmental conditions at the time of the treatment were judged to have had little influence on the treatment effects. Control of these factors allowed for a clearer interpretation of the effects of the experimental conditions.

CHAPTER IV

RESULTS

The purpose of this study was to determine the effects of advance organizers on learning disabled adolescents, processing of verbal information under both controlled and natural conditions. First, a test was developed and validated to measure the quantity and quality of learning that might be affected by advance organizers. Second, a preliminary investigation was conducted to develop and validate criteria for constructing effective advance organizers. This pilot study investigated the procedures necessary for training teachers to use advance organizers most readily adapted to the regular classroom, and the effects of advance organizers on student in secondary school settings. Third, a control-group study was conducted using the validated test instrument. This investigation examined the experimental effects of advance organizers as a cognitive mediator with LD adolescents as compared to normally-achieving adolescents.

The test developed to measure the effects of advance organizers, and the findings of the preliminary investigation described in Chapter III were used in designing and implementing the primary investigation. Three hypotheses were tested in the primary investigation. They were as follows:

Hypothesis I: There is no significant difference between the classification of students and performance on the dependent variables.

Hypothesis II: There is no significant difference between students in the experimental and control groups as measured by the multiple-choice tests following the treatment.

Hypothesis III: There is no significant interaction between the classification of students and the type of information learned as a result of the treatment.

The results of the multivariate analysis of covariance (MANCOVA) indicated that all three-null hypothesis be rejected. The means and standard deviations are reported in Tables 11 and 12. Wilks' Lambda was the tests of significance used in the multivariate analysis (Table 12). The results of the MANOVA for the covariates are reported in Table 14.

Hypothesis I. The multivariate test indicated a significant difference in the distribution of group centroids (Table 13) based on classification across both dependent variables. (Wilks' Lambda = .82837, F-value 9.32335, p .001, df = 2, 90). The univariate analysis indicated significant differences between groups for each of the two dependent variables, important and unimportant information. For important information the difference was significant at p .001 (F-value = 4.58552, df = 1, 91). Unimportant information was significant at p .04. (F-value = 18.67326, df = 1, 91). Based on these analyses, null hypothesis I was rejected. The classification of students as LD or NLD affected total test performance, and performance on each type of information measured.

Hypothesis II. The multivariate test indicated a significant difference in the distribution of group centroids (Table 13) due to treatment across both dependent variables (Wilks' Lambda = .73446, F-value = 16.26948, p .001, df = 2, 90). The univariate analysis indicated significant differences between groups for important information, but not for unimportant information. For important information the difference was significant at p .001 (F-value = 15.36126, df = 1, 91). The level of significance for unimportant information was calculated at p = .247 (F-value = 1.36022, df = 1, 91). Based on these

TABLE 11

Cell Means and Standard Deviations for Dependent Variables by Experimental Condition

ADVANCE ORGANIZER CONDITION	MEAN	STANDARD DEVIATION	N
LD Subjects			
Important Information	18.95652	4.62678	23
Unimportant Information	14.43478	5.27280	23
NA Subjects			
Important Information	22.11111	5.04848	27
Unimportant Information	23.33333	4.16949	27
CONTROL CONDITION			
LD Subjects			
Important Information	12.73913	3.99110	23
Unimportant Information	18.08696	4.68957	23
NA Subjects			
Important Information	20.87500	5.05029	24
Unimportant Information	22.58333	2.66893	24
Total Sample Important Information	18.83505	5.87665	97
Total Sample Unimportant Information	19.79381	5.55641	97

TABLE 12

Cell Means and Standard Deviation for Covariates

SEX	MEAN	STANDARD DEVIATION	N
LD Subjects			
Advance Organizer Condition	1.52174	.47047	23
Control Condition	1.30435	.51075	23
NA Subjects			
Advance Organizer Condition	1.70370	.046532	27
Control Condition	1.41667	.50361	24
SOCIAL STUDIES SUBTEST			
LD Subjects			
Advance Organizer Condition	175.34783	4.21694	23
Control Condition	177.43478	4.92513	23
NA Subjects			
Advance Organizer Condition	183.81481	3.63780	27
Control Condition	184.83333	4.39037	24

TABLE 13

Summary of MANCOVA and MANOVA for Primary Advance Orgainzer Investigation

TREATMENT	VALUE	F	df	SIGNIFICANCE of F
Multivariate Test				
Hotelling's T^2	.36154	16.26948	2,90	0,000 *
Wilks' Lambda	.73446	16,26948	2,90	0,000 *
Important Information		15,36126	1,91	0.000 *
Unimportant Information		1.36022	1,91	0.247
CLASSIFICATION				
Multivariate Test				
Hotelling's T^2	.20719	9.32335	2,90	0.000 *
Wilks' Lambda	.82837	9.32335	2,90	0.000 *
Important Information		4.58552	1,91	0.035 *
Unimportant Information		18.67326	1,91	0.000 *
CLASSIFICATION BY TREATMENT				
Multivariate Test				
Hotelling's T^2	.37478	16.86504	2,90	0.000 *
Wilks' Lambda	.72739	16.86504	2,90	0.000 *
Important Information		8.72198	1,91	0.004 *
Unimportant Information		5.84511	1,91	0.018 *
TREATMENT FOR LD CLASSIFICATION				
Multivariate Test				
Hotelling's T^2	.72710	32.71951	2,90	0.000 *
Wilks' Lambda	.57901	32.71951	2,90	0.000 *
Important Information		23.57921	1,91	0.000 *
Unimportant Information		6.44192	1,91	0.013 *
TREATMENT FOR NA CLASSIFICATION				
Multivariate Test				
Hotelling's T^2	.00996	.44836	2,90	.640
Wilks' Lambda	.99013	.44835	2,90	.640
Important Information		.81266	1,91	.370
Unimportant Information		.59269	1,91	.443

TABLE 14

Summary of MANOVA Results for Covariates

SEX	BETA WEIGHTS	STANDARD ERROR	T-VALUE	SIGNIFICNACE OF T
Important Information	.14835	.97293	1.47639	0.143
Unimportant Information	-.00240	.91824	-0.02307	0.982
SOCIAL STUDIES SUBTEST				
Important Information	.30970	0.11046	3.08322	.003
Unimportant Information	.18402	0.10425	1.76470	.081

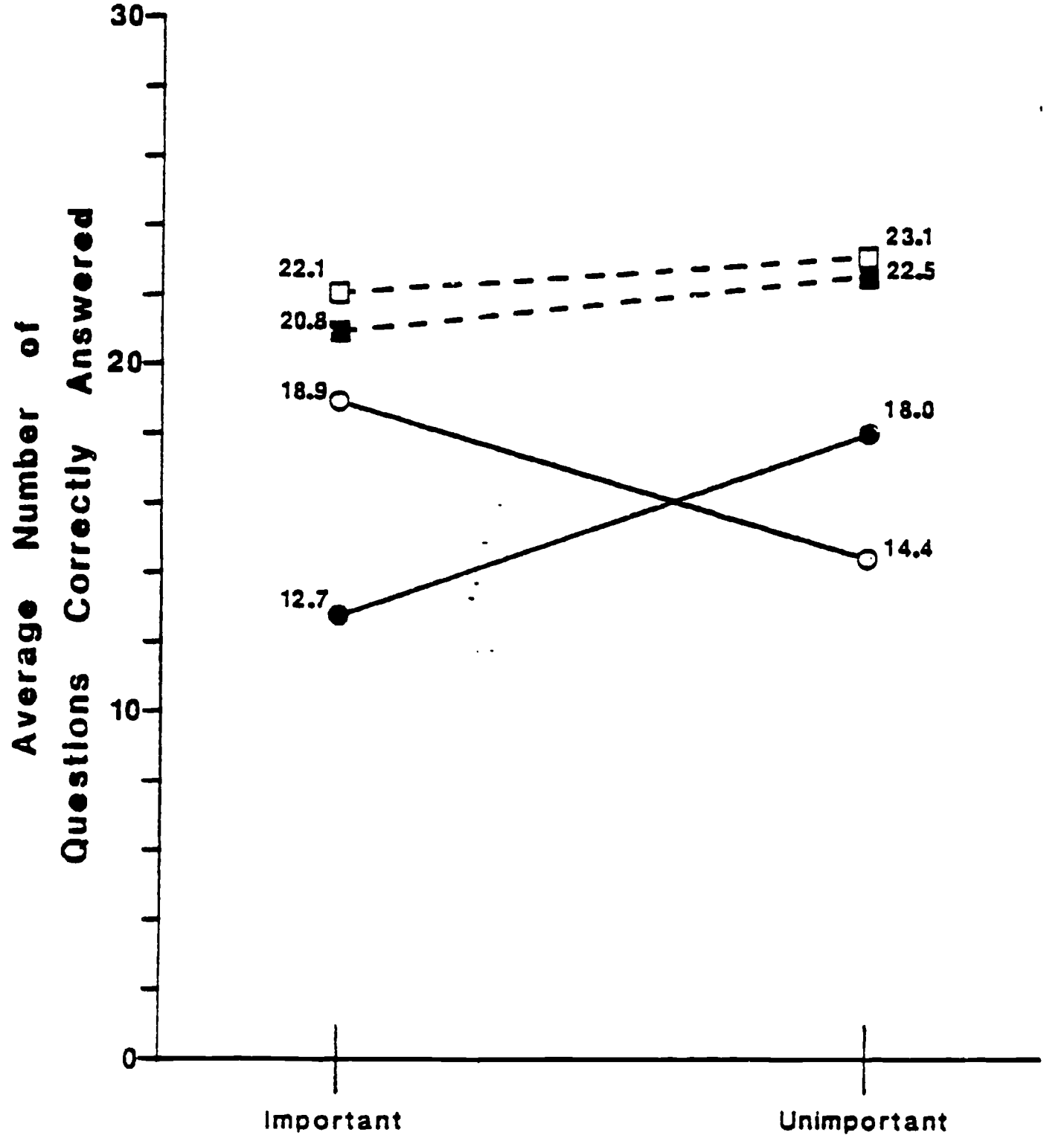
analyses, null hypothesis II was rejected. The treatment condition significantly affected the test performance of students as a whole. However, the treatment significantly affected the recall of important information, but not unimportant information.

Hypothesis III. In addition to the significant main effects, the multivariate test indicated a significant interaction (Table 13) between classification and treatment (Wilks' Lambda = .72739, F-value = 16.86504, p .001, df = 2, 90). The univariate analysis indicated significant differences for both important (F (1, 91) = 8.7[illegible], p .01) and unimportant (F (1,91) = 5.85, p .02) information. The presence of the interaction makes the interpretation of the main effects demonstrated under the first two hypotheses difficult. Therefore, in this investigation the interaction is of primary importance. This interaction is graphically illustrated in Figure 12: For the NA group the advance organizer consistently increased the group means for both important and unimportant information. For the LD group the interaction effects were dramatic. Students not given the advance organizer passage recalled significantly more unimportant information than important information. The reverse occurred for students who received the advance organizer treatment. More important information was recalled than unimportant information. The advance organizer treatment significantly increased the total recall of information for all students, and also increased the amount of important information recalled by LD students, but decreased the amount of unimportant information recalled by LD students. The type of information recalled by the NA group was not affected by the advance organizer treatment.

Figure 12

Graphic Representation of Interaction

between LD Classification and Performance on Dependent Variables based on Cell Means



A multivariate analysis of variance was used to determine the simple effects of the treatment for the LD group and NA (Table 13). For the LD group (treatment versus control), the multivariate test was significant at p .001 (F-value = 32.71951, df = 2, 90). In addition, significant differences were found for both important (p .001) and unimportant (p .02) information. For the NA group the tests of significance for the treatment condition were not significant for either test, or overall (p .05). Therefore, while the three major hypothesis were not rejected, the treatment affected the LD group, but not the NA group. Although the means for the NA group showed an increase, this increase was not statistically significant.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The success of current efforts to maximize the experience that LD adolescents receive in the secondary content classroom is dependent on three factors. First, special education programs must develop curriculum approaches that promote independent success of the student in the secondary content classroom. Second, environmental supports must be available to the LD adolescent in the secondary content classroom that interface with skills learned in the special education setting. Third, teachers must enlist the student's active participation in the learning process.

In the past twenty years, there have been several curriculum approaches developed for effecting change in the LD adolescent. However, only one model, learning strategies, has attempted to define the outcomes of their curriculum as the independent success of the student in the normal secondary curriculum. Empirical research has demonstrated that the learning strategies approach can affect LD adolescents approach to reading, writing, and listening tasks required in the secondary classroom (Deshler, Schumaker, Alley, Warner & Clark, 1981). This data lends support to the theory that LD adolescents who approach tasks inefficiently i.e., possess inefficient learning strategies may be taught strategies that will make them more efficiently respond to learning tasks. However, actual increases in classroom performance as an effect of this training has had only limited success. This limited success may be due to an over emphasis on the student, and not enough emphasis on the environ-

mental conditions affecting the student in the secondary content classroom.

The environmental supports made available for LD adolescents may affect how well a student learns and generalizes skills that have been learned. However, environmental supports can only exist if classroom teachers are able and willing to provide such supports. In special education, the ability and willingness of teachers to assist mainstreamed students has been addressed primarily through cooperative planning (Riegel, 1980). Yet little research exists related to how cooperative planning should be initiated, and what skills content teachers should have as a result of cooperative planning. One technique, the advance organizer, has been proposed as a skill that secondary content teachers could use that might benefit LD adolescents.

The present investigation examined whether advance organizers would make the LD adolescent more efficiently receive, select, and process important versus unimportant information on selected academic tasks. There were three phases to this study. First, 51 LD and 63 NA subjects participated in the development of a test to measure important and unimportant information. This test was used to evaluate performance of LD and NA adolescents on the two dependent variables (important and unimportant information) in the third phase of the study. Second, eight LD adolescents, one NA adolescent, and ten secondary content teachers participated in a preliminary study designed to investigate the use of advance organizers in an applied setting. Using two multiple-baseline designs across teachers and students, teachers were trained to use advance organizers, and students were trained to listen for advance organizers. This phase generated information regarding how organizers might be used and constructed in a natural setting. Third, the primary

investigation examined the effects of advance organizers under more controlled conditions. There were 46 LD and 51 NA adolescents involved in this phase. The advance organizer test, developed in the first phase of research, was used to measure how LD and NA adolescents performed on measures of important and unimportant information under treatment and control conditions.

A post-test only design was used with sex and social studies knowledge as covariates. Students were randomly assigned to treatment and control conditions. Students in the treatment condition were briefly oriented to the use of advance organizers as an aid to learning, and were then given the advance organizers before reading a passage and taking a test.

Results of the preliminary investigation demonstrated the efficacy of using advance organizers in secondary classrooms. All teachers were able to learn to use advance organizers in their classrooms with minimal training, and all students showed increases in their awareness to teacher use of advance organizers after training.

The primary investigation addressed the more substantive issues of the quantity and quality of information learned as a result of advance orgar izers. In order to explore these issues three null hypotheses were tested:

Hypothesis I: There is no significant difference between the classification of students and performance on the dependent variables.

Hypothesis II: There is no significant difference between students in the experimental and control groups as measured by the tests following the experimental condition.

Hypothesis III: There is no significant interaction between the classification of students and the type of imformation learned as a result of the treatment.

The data were analyzed using multivariate statistics. The results of the analysis indicated that all three null hypothesis should be rejected. Across all students, the advance organizer treatment significantly increased test scores. However, when the data were analyzed for each group, the difference was significant for the LD group (p .05), but not for the NA group (p .05). A significant interaction was demonstrated for the LD group on the type of information learned (p .05. LD students in the treatment group identified more important information than the control group. Students in the control group identified more unimportant information than students in the treatment group. In addition, LD students performed significantly poorer than NA students on measures of both important and unimportant information. However, this distance was minimized when the advance organizer treatment was present.

Conclusions

The results of this investigation support the postulation that advance organizers can exert a positive influence on the learning of LD adolescents. This influence can be described in two ways. First, the advance organizers used in this study increased the amount of important information that they could identify from the reading material. Second, the advance organizers diminished the amount of unimportant information that they detected. Yet, of practical significance is the fact that NA adolescents were not negatively affected by the treatment. In fact, increases were seen in the amount of information learned by NA adolescents, although this was not significant.

These findings also lend support to the "strategy deficiency hypothesis" as applied to the learning disabled adolescent. LD adolescents in the control condition attended to more unimportant than important aspects of the material. The advance organizer countered this performance. Brown and Smiley (1977, 1978) suggested that the ability to discern important from unimportant information is developmentally based and is closely related to effective strategy use. If this is true, then the poorer performance of LD adolescents on this task suggests that LD adolescents are developmentally delayed in developing strategies to effectively select and organize information relative to the learning task.

The finding that LD adolescents may be developmentally delayed on this measure when compared to NA adolescents is contradictory to the findings of Tarver and Maggiore (1979). Tarver and Maggiore found that the cognitive difference between LD students and NA students diminished as LD students approached adolescents. However, the differences in findings may be attributable to the fact that Tarver and Maggiore used tasks that were not parallel to the demands of the secondary setting. If this explanation is accepted, then this finding illustrates the importance of considering the impact of the environment of secondary schools on the learning of adolescents. Tasks appropriate for measuring the learning of younger students may not accurately represent the processing demands that LD adolescents must face in secondary schools.

The advance organizers used in this study produced such dramatic changes in the type of information recalled by LD students. This finding reinforces the notion that strategy training can impact the performance of LD adolescents. The advance organizer, as conceptualized in this

study, was able to promote more efficient processing of information by LD adolescents on tasks closely related to what is required of them in the secondary content classroom.

Educational Implications

The experience of LD adolescents in the mainstream can be maximized only if special education programs are designed to promote the independent success of students in the mainstream, and environmental supports are made available to LD adolescents that correlate with learning and skills learned in the resource room. Advance organizers is a technique that LD teachers can easily present to secondary content teachers as one type of environmental support. Additionally, the LD teacher can train the LD student to listen for advance organizers in the content classroom in order to more efficiently identify and process the to-be-learned information. This cueing of students to announce the presence of advance organizers, and the training to identify and use advance organizers may be the most critical factor in affecting student performance. These factors incorporate the aid of the student in learning. Changes in teaching behavior alone, without considering what the learner brings to the learning task may not influence student learning (Ausubel, 1969; Jermstedt, 1976). If special education instruction is designed to promote the independent success of the student, and environmental supports are present in the secondary content classroom, then the effects of advance organizers, as conceptualized in this study, should be positive.

Limitations

There were several limitations in this study.

1. The participation of research subjects in this study was greatly affected by three factors. First, not all students in the test

validation phase were paid incentives. This may have affected their performance on the tests. Second, there was a high rejection rate for the number of students who were asked to participate, especially in the district where no incentive were allowed. Participation was on a voluntary basis rather than on random selection. The expense of obtaining subjects in terms of time and money in future research must be weighed against the generalizability of the data that is generated. Third, the number of LD adolescents who fit the LD identification criteria was limited. Originally, the investigators had proposed using a group of low-achieving students as a comparison group. However, the numbers of students who fit the low-achiever criteria were either in an LD program, or were characterized as being truant. Therefore, those students who actually participated in the phases of this study are a sub group of those students actually served in the LD programs. Furthermore, results are based on LD students in eastern Kansas and western Missouri. This limits the generalizability of the data.

2. The dependent measure used in this study was developed for this study, and was not a standarized test. Therefore, the results of these tests may not be generalizable to other populations.

3. The findings of the preliminary study may not be generalizable to other populations since a single-subject methodology was employed, and time limitations prevented the collection of data that would have documented the durability of training effects.

4. Analysis of student performance on the tests indicated that the test passages were not equivalent in terms of difficulty. The passage on the Aborigines was much easier for all students, especially for NA students.

5. The identification of idea units for the development of the test measure was done by adults who were good readers rather than adolescents who were good readers. Ideally, the identification of the idea units for subsequent item writing should have been done with normally-achieving adolescents.

Future Research

Advance organizers represent only one area that relates to skills needed to assist LD adolescents in the mainstream. Other research to develop a set of techniques that might be available for secondary content teachers via a cooperative planning model or through teacher training programs would be worthwhile.

In the area of advance organizers, research needs to be done on the categories and combinations of categories used to develop advance organizers. It may be that single categories may not influence performance as much as the interaction of these categories.

Finally, a critical element in this study was the training of the student to be aware of advance organizers. Further research and development in training materials for the student are needed. The ultimate goal of research, however, should be on teaching the LD adolescent to generate his/her own advance organizers in the absence of teacher formulated advance organizers. The ability to do this may well be what separates LD adolescents from their normally-achieving peers.

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APPENDIX A

SUBJECT SELECTION AND VALIDATION CRITERIA

Selection and Validation Criteria

Selection of Subjects

Learning Disabled Students. Subjects for this study will be selected from a target population of secondary LD students currently served in senior high school programs. Participants will be enrolled in grades 10-12 and will be receiving special services at least one hour a day in the resource room from a teacher who meets Kansas certification in the area of learning disabilities. No participant will be enrolled in the resource room for more than 3 hours each day. Information regarding age, IQ, grades, retentions, absenteeism, academic achievement and other marker variables listed below will be collected. A Validation Team consisting of one school psychologist and two LD specialists will independently rate the information from school records to determine that their sole handicap is learning disabilities. This approach will insure that all subjects participating in the study are commonly defined using a specified criteria. The criteria to be used will be one of exclusion. Students who demonstrate one or more of the following conditions will be excluded from the sample:

1. Demonstrates reading ability above the 7th grade reading level or has a discrepancy between grade placement and reading achievement of 4 or more years as measured on the most recently administered individual achievement test.

2. Students whose intelligence scores fall below one and a half standard deviations from the mean.

3. Students who fit the definition of "children with personal and social adjustment problems" which were manifested before the student evidenced learning problems. The definition of these children which will be used by the Validation Team is as follows: Personal and social adjustment problems typically manifest themselves as marked behavior excesses and deficits which persist over a period of time. Behavior excesses and deficits include the following:

   a. Agressive and/or anti-social actions which are intended to agitate and anger others or to incur punishment.
   b. Inappropriate and/or uncontrollable emotional responses
   c. Persistent moods of depression and unhappiness
   d. Withdrawal from interpersonal contacts
   e. Behaviors centrally oriented to personal pleasure-seeking with little or no regard to the consequences of any acts

   Singly or in combination, behavior excesses and deficits may be indicative of emotional disturbance, mental illness, or social maladjustment if they are manifested over an extended period of time in various environments, and may interfere with social interactions and learning.

4. Students who are economically disadvantaged. In order to fit this category, a student's family must have financial difficulties so severe that they require substantial assistance from SRS or other government agencies. Examples of youths who may fit this category are: Youths whose parents are on welfare; a youth whose mother receives ADC payments.

5. Students who are environmentally disadvantaged. In order to fit this category, a student's home environment must have been or be substantially different from the family environment of most children and represent a severe level of deprivation or neglect before the learning problems surfaced. Examples of youths who may fit this category are: A youth who has been formally placed outside the natural home; a youth who was abused or neglected to the extent that formal inquiry was made; a youth who was somehow isolated from any life outside the home; a youth whose parents were killed and has lived in several homes since then.

6. Students who are culturally disadvantaged. In order to fit this category, a youth must have been raised in a culture either within or outside the United States which is substantially different from public school education. Examples of youths in this category are: A youth raised within a "cult" or religious sect with schooling which does not approximate public education today; a youth raised in another country with little or no training in reading, speaking, speaking or writing English.

7. Students who are sensorally handicapped. Hearing Impaired. The definition for a primary disability in hearing will be a loss of 26 or more decibels in one ear or both ears. This indicates that a youth needs help from a professional and is considered a primary impairment by audiologists. Visually Impaired. The definition of a visual impairment which may necessitate special programming is visual acuity less than 20/70 in the better eye with correction, or evidence of chronic narrow field of vision or any other cnronic visual problems other than those that have been corrected with glasses or contact lens.

8. Students who are physically handicapped. This category would include any student with a physical impairment (e.g., heart ailment, orthopedic handicap) that has resulted in the student not being able to participate in regular school programming and activities.

In summary, students with no severe deficits and students whose deficits might be linked to some other disability or disadvantage will not be members of the LD population as determined by Validation Team.

Normal Achievers. The criteria for selecting normal achievers will be any student who has never received, or has been referred for special education services, does not meet any criteria listed for the learning-disabled.and does not meet only criteria listed below:

1. Has received an F in the most recent grading period in an academic subject other than math (e.g., social studies, science, English.)

2. Scored below the 33rd %ile on the most recently administered group achievement test.

3. Classified as having average IQ by either a group or individual measure.

APPENDIX B

SCHOOL RECORDS DATA COLLECTION FORM

Date:_____

Recorder:_____

SCHOOL RECORDS DATA SHEET

SECTION I: BASIC INFORMATION

1. Youth's Code No....._____

2. Youth's Birth Date.....____/____/____

3. Youth's Sex
   Male.....1
   Female.....2

4. Youth's Race
   White.....1
   Black.....2
   Hispanic.....3
   Native American.....4
   Asian.....5
   Other (explain).....6

5. Youth's Grade Level 198_-8_ School Year....._____

6. Circle the grades that this subject has repeated.

   None K 1 2 3 4 5 6 7 8 9 10 11 12

7. Circle the grades in which this subject formally received special education services.

   None K 1 2 3 4 5 6 7 8 9 10 11 12

8. Is a language other than English the typical language spoken in the home?

   (Circle one) NO.....1 YES.....2 BILINGUAL.....3

   If yes, what language....._____

9. Youth's Diagnosis

	No	Yes	Date of Diagnosis
Learning disabled	1	2	
Emotionally disturbed	1	2	
Mentally retarded	1	2	
Multiple handicap	1	2	
Physical handicap	1	2	
Non-categorical	1	2	
Other (_____)	1	2	

10. Total number of elementary schools attended (grades 1-6) _____ (elementary schools)

11. Total number of junior high schools attended (grades 7-9) _____ (junior highs)

12. Total number of high schools attended (grades 10-12) _____ (high schools)

13. Total number of grade retentions _____ (retentions)

14. Total number of suspensions (7th grade & up) _____ (suspensions)

15. Number of principal/counselor contacts for disciplary purposes in the 1981-82 school year _____ (contracts)

16. Is there evidence of any of the following in the student 's record?

	No	Yes
Convulsive disorder	1	2
Physical handicap	1	2
Serious illness	1	2
Serious accident	1	2
Drug Therapy	1	2

Please explain each "yes" : _____

---

17. For each of the conditions below are there indications that the condition pertains to this student? These indications would be obtained from sources such as school records or teacher, parent, or other informants' reports. See the Instructions sheet for the definitions of these conditions.

For each condition circle the number under the appropriate column.

	No Information is Available	Information Indicates No Problem	Information Indicates a Problem
Emotional Disturbance or Personal & Social Adjustment Problems	0	1	2
Hearing Impairment	0	1	2
Visual Impairment	0	1	2
Physically Handicapped	0	1	2
Cultural Disadvantage	0	1	2
Environmental Disadvantage	0	1	2
Economic Disadvantage	0	1	2
Youth Obtained a very Low Score on an Ability or IQ Test (i.e.,-2 SD's Below the mean, or worse)	0	1	2

If any of the above conditions are indicated for this subject, what information points to the presence of these conditions? (Please indicate for each whether the problem occurred before or after LD was diagnosed.

_____

_____

_____

Course grades and attendance.....

Subject Title	1st Qtr.		2nd Qtr.		Sem.	

Subject Title	1st. Qtr.		2nd Qtr.		Sem.	

Ability/Aptitude/Intelligence Test Score

Name of Test (including Form)	Name of Subtest(s)	Standard Score	Grade Score	Age Score	%ile Score by Age	%ile Score by Grade	Grade Placement at Testing	Date(s) of Administration mo.	day	yr.

Reading/Achievement Test Data

Name of Test (including Form)	Name of Subtest(s)	Standard Score	Grade Score	Age Score	%ile Score by Age	%ile Score by Grade	Grade Placement at Testing	Date(s) of Administration mo.	day	yr.

APPENDIX C

SAMPLE IDEA UNIT DIVISIONS

Tulipmania

Until 1615/the favorite of all flowers in Europe was the rose./But in a short time/public opinion changed in favor of the tulip./ Tulips had first been brought to Germany from Turkey in 1559./ They were first brought into the Netherlands in 1593./ The general public began to take an interest in this new flower/as the result of a sudden craze for tulips in Paris./ Suddenly the tulip found itself considered an important flower/and a sign of wealth./ At that very moment,/the sudden spread of a plant disease produced several strange changes in its petals./ People took advantage of this plant disease/ by producing many new kinds of tulip./

The rush for tulips had now spread through Europe./The Netherlands,/and in particular the town of Haarlem,/became the main supplier of bulbs./ In 1625/the bulb of a favorite tulip was already worth its weight in gold./The experts created pink,/violet,/yellow tulips,/and others/using many colors in several ways./ Hundreds of different kinds were grown./ The bulbs sold for high prices./ Also,/it was easy to grow them/on the smallest piece of land./ Everyone wanted to get in on this new adventure./

The weavers of Haarlem,/who had an important trade in this town,/threw themselves into this work/even though they knew nothing of tulips./ The flower trade grew and grew to an all time high in the winter of 1636./ It ended quickly just a few months later./This craze has since been named "tulipmania."/ Everybody became involved./ Butchers,/errand-boys,/innkeepers,/ barbers,/chimney-sweeps,/and tax-collectors,/were struck with "tulipmania."/ Not one class of people was left out./The few citizens who kept their near, called the rest /'the hooded ones.'/ This referred to the hoods worn by madmen./

In the town of Hoorn/a house was bought for the price of three tulip bulbs./ When several buyers were after the same bulb/they did not hesitate to offer the seller huge bribes./ They might offer him a coach,/or a fine team of horses./ Buyers and sellers met two or three evenings each week./ They met in bars/where their trading lasted late into the night./ The same bulb might be sold as many as ten times in a single day./

Many people had bought on credit./If they were not able to sell the bulbs/ they found themselves not able to pay their bills./Suddenly the public became scared/because the country's wealth came from a system based on credit./ On the 24th of February/a group met in Amsterdam and decided from that day on/only contracts drawn up before the 30th of November 1636/were to be payed./ Earlier contracts were cancelled./ The buyer could free himself of his contract by paying a small amount/to the seller/and returning the bulb to him./ On the 27th/of April/the States of Holland/approved this decision./ On the following day/the price for the most costly bulbs dropped from one thousand to ten dollars./ Sanity had returned -/at the price of many individual tragedies./

Theme-_____

_____

_____

APPENDIX D

Passages and Idea Units Rating Forms

The Passage used for constructing the tests of important and unimportant information were taken and adapted from the following sources:

Aborigines

Reader's Digest. Great adventures that changed the world. Pleasantville, New York: The Reader's Digest Association, Inc., 1978, 227-230.

Tulipmania

Zumthor, P. Daily life in Rembrandt's Holland. New York: The Macmillan Co., 1963, 49-52.

Greece

Eliot, A. The horizon concise history of Greece. New York: American Heritage Publishing Co., 1972, 183-184.

"I DREAMED THAT GREECE MIGHT STILL BE FREE"

The Turks referred to their alien captives as rayah. The word means "cattle." It was not an insult to the Greeks or any other conquered people. It was simply the expression of an attitude. The Turks had long been people who roamed the Eurasian plains. They lived together with their flocks and herds as long as conditions permitted. Now Constantinople, together with a growing empire, belonged to them. They were very devoted to the spread of Islam. The Christians that they ruled felt no such devotion. Christians within the Turkish rule were seen by their Turk masters as lacking true religion or spirit. That made them "cattle" from the Moslem viewpoint. Christians within the empire were forbidden to carry weapons or to ride on horseback. The Turks felt such things would not be natural for them.

Every Christian had to pay a yearly "head tax" to keep his head on his shoulders. If they didn't they were beheaded. Every Christian family that had five male children had to give one son to the Turks to be raised as a janissary, an important soldier in the Turkish army. The word comes from the Turkish yeniceri. The word means "new soldiers." Janissaries formed a special army. (Moslem parents used to sneak their children into Christian homes in the hope that they would be officers in the army.) They could not marry. All their loyalty was at the kings command. They were the most important guards in Turkey. The only other Christian soldiers were the Knights Templars. This cruel tax at least guaranteed a job for sons who were taken. Christians could only watch when they saw their most beautiful daughters taken away to the Turks' to be harem slaves. Harem slaves were kept in luxury, and might even become the mothers of important Turks and kings.

The prophet Mohammed directed his followers to allow religious freedom to the "People of the Book." That included Jews and Christians. Therefore, the Greek Christian archbishop was carefully respected by the Turks.

With the exception of some taxes on a son or daughter, Greeks of this time gave to the sultan the things that were the sultan's. They gave to God the things that were God's. They were not made to pray to false gods. They were not made to go against the teachings of Jesus and "live by the sword." The Christians' lands were their own to use. They were allowed to teach the children who were not taken away. This protected the growth of the Greek language and faith. Even the gods of old Greece returned as saints and angels ready to help the humble and the wise.

From this view of history, Greece had all but disappeared behind Turkey's heavy curtain. Yet for the Greeks, life went on in a new mood of quiet, peace, small joys, and family sorrows. You might say that Turkish rule actually helped Greeks practice what Christ had preached. They were made to live as a mild flock, like sheep--or "cattle," as the Turks said.

Theme- _____

_____

_____

64 total idea units
32 in each half

16 1's
16 2's
16 3's
16 4's

"I DREAMED THAT GREECE MIGHT STILL BE FREE"

___ 1. The Turks referred to their alien captives as rayah.
___ 2. The word means "cattle."
___ 3. It was not an insult to the Greeks
___ 4. or any other conquered people.
___ 5. It was simply the expression of an attitude.
___ 6. The Turks had long been people who roamed the Eurasian plains.
___ 7. They lived together with their flocks and herds as long as conditions permitted.
___ 8. Now Constantinople,
___ 9. together with a growing empire,
___10. belonged to them.
___11. They were very devoted to the spread of Islam.
___12. The Christians that they ruled felt no such devotion.
___13. Christians within the Turkish rule were seen by their Turk masters
___14. as lacking true religion or spirit.
___15. That made them "cattle"
___16. from the Moslem viewpoint.
___17. Christians within the empire were forbidden to carry weapons
___18. or ride on horseback.
___19. The Turks felt such things would not be natural for them.
___20. Every Christian had to pay a yearly "head tax" to keep his head on his shoulders
___21. If they didn't they were beheaded.
___22. Every Christian family that had five male children had to give one son to the Turks to be raised as a janissary,
___23. an important soldier in the Turkish army.
___24. The word comes from the Turkish yenicari.
___25. The word means "new soldiers."
___26. Janissaries formed a special army.
___27. (Moslem parents used to sneak their children into Christian homes
___28. in the hope that they would be officers in the army.)
___29. They could not marry
___30. All their loyalty was at the kings command.
___31. They were the most important guards in Turkey.
___32. The only other Christian soldiers were the Knights Templars.
___33. This cruel tax at least guaranteed a job for sons who were taken.
___34. Christians could only watch when they saw their most beautiful daughters taken away to the Turks to be harem slaves.

___35. Harem slaves were kept in luxury,
___36. and might even become the mothers of important Turks and kings.
___37. The prophet Mohammed directed his followers to allow religious freedom to the "People of the Book."
___38. That included Jews and Christians.
___39. Therefore, the Greek Christian archbishop was carefully respected by the Turks.
___40. With the exception of some taxes on a son or daughter,
___41. Greeks of this time gave to the sultan
___42. the things that were the sultan's.
___43. They gave to God
___44. the things that were God's.
___45. They were not made to pray to false gods.
___46. They were not made to go against the teachings of Jesus
___47. and "live by the sword."
___48. The Christians' lands were their own to use.
___49. They were allowed to teach the children who were not taken away.
___50. This protected the growth of the Greek language and faith.
___51. Even the gods of old Greece returned as saints and angels
___52. ready to help the humble and the wise.
___53. From this view of history,
___54. Greece had all but disappeared behind Turkey's heavy curtain.
___55. Yet for the Greeks,
___56. life went on in a new mood of quiet,
___57. peace,
___58. small joys,
___59. and family sorrows.
___60. You might say that Turkish rule actually helped Greeks practice what Christ had preached.
___61. They were made to live as a mild flock,
___62. like sheep--
___63. or "cattle."
___64. as the Turks said.

Tulipmania

Until 1615 the favorite of all flowers in Europe was the rose. But in a short time public opinion changed in favor of the tulip. Tulips had first been brought to Germany from Turkey in 1559. They were first brought into the Netherlands in 1593. The general public began to take an interest in this new flower as the result of a sudden craze for tulips in Paris. Suddenly the tulip found itself considered an important flower and a sign of wealth. At that very moment, the sudden spread of a plant disease produced several strange changes in its petals. People took advantage of this plant disease by producing many new kinds of tulip.

The rush for tulips had now spread through Europe. The Netherlands, and in particular the town of Haarlem, became the main supplier of bulbs. In 1625 the bulb of a favorite tulip was already worth its weight in gold. The experts created pink, violet, yellow tulips, and others using many colors in several ways. Hundreds of different kinds were grown. The bulbs sold for high prices. Also, it was easy to grow them on the smallest piece of land. Everyone wanted to get in on this new adventure.

The weavers of Haarlem, who had an important trade in this town, threw themselves into this work even though they knew nothing of tulips. The flower trade grew and grew to an all time high in the winter of 1636. It ended quickly just a few months later. This craze has since been named "tulipmania." Everybody became involved. Butchers, errand-boys, innkeepers, barbers, chimney-sweeps, and tax-collectors, were struck with "tulipmania." Not one class of people was left out. The few citizens who kept their heads called the rest 'the hooded ones.' This referred to the hoods worn by madmen.

In the town of Hoorn a house was bought for the price of three tulip bulbs. When several buyers were after the same bulb they did not hesitate to offer the seller huge bribes. They might offer him a coach, or a fine team of horses. Buyers and sellers met two or three evenings each week. They met in bars where their trading lasted late into the night. The same bulb might be sold as many as ten times in a single day.

Many people had bought on credit. If they were not able to sell the bulbs they found themselves not able to pay their bills. Suddenly the public became scared because the country's wealth came from a system based on credit. On the 24th of February a group met in Amsterdam and decided from that day on only contracts drawn up before the 30th of November 1636 were to be payed. Earlier contracts were cancelled. The buyer could free himself of his contract by paying a small amount to the seller and returning the bulb to him. On the 27th of April the States of Holland approved this decision. On the following day the price for the most costly bulbs dropped from one thousand to ten dollars. Sanity had returned - at the price of many individual tragedies.

Theme-_____

_____

_____

ABORIGINES

An author once described the Australian outback as "either a desert or a flood." In some years it only rains three inches. Temperatures climb nigh into the 100's. In other years, heavy storms turn the desert into sandy swamps. Few early Europeans dared search out this world of stagnant water and dwarf trees.

Until the 1900's only aborigines were able to survive in the bleak deserts of Australia. With their great knowledge of the desert's changing seasons, these people moved constantly to different places for fresh water. They carried almost no belongings with them. Both men and women went naked and slept in simple windbreaks or out in the open. Their food was mostly roots, berries and insects, as well as rats, snakes, and lizards. Food often was eaten raw. From a flour of pounded seeds, women made small cakes that added very little nourishment to their food. When hunting was good, men were able to hunt for meat, usually a large bird or a kangaroo. They also fished.

Hunters drew pictures of the animals on bark shields to insure a large supply of game. They also imitated animals in dances. Charles Darwin watched one such dance in 1836. "One man", he wrote, "acted out the movements of a kangaroo grazing in the woods while a second crawled up, and pretended to spear him." When the explorers Robert Burke and William Wills were in Australia, they were even invited to join a dance. They refused. They did, however, use aborigines as guides. Trips by Europeans into the desert brought about the end of the aborigines' way of life. Smallpox and other new sicknesses killed a great many of them.

Greater damage was done by the shock that the European way of life had on these primitive people. White farmers violated holy places without knowing it. Hunting grounds became large sheep runs. Old laws were replaced by new ones that the natives did not understand. To defend their dying world, some hunters fought armed white intruders with their Stone Age spears. But few could re-create the simple existence that Captain James Cook had described in 1770. "They may appear to some," Cook observed, "to be the most wretched people on earth. But really they are far happier than we Europeans. Being unacquainted not only with the unnecessary but with the necessary comforts so much sought after in Europe, they are happy in not knowing the use of them. They live in peace which is not disturbed by the inequality of their condition. The Earth and Sea give them everything they need for life. They do not wish for great houses or nice furniture. They live in a warm and fine climate, and enjoy clear air. They see no use for clothes. They left behind the cloth that we gave them. In short, they seemed to set no value on anything of their own or any one article we could offer them. This, in my opinion, shows that they think themselves provided with all things they need for life....."

Theme-_____

_____

_____

72 total idea units
36 in each half

18 1's
18 2's
18 3's
18 4's

ABORIGINES

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____ 2. In some years
____ 3. it only rains three inches.
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____ 5. In other years,
____ 6. heavy storms turn the desert into sandy swamps.
____ 7. Few early Europenas dared search out this world of stagnant water and dwarf trees.
____ 3. Until the 1800's
____ 9. only Aborigines were able to survive in the bleak deserts of Australia
____10. With their great knowledge of the desert's changing seasons,
____11. these people moved constantly to different places for fresh water.
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___68. they seem to set no value on anything of their own

___69. or any one article we could offer them.

___70. This,

___71. in my opinion

___72. shows that they think themselves provided with all things they need for life."

APPENDIX E

DIRECTIONS FOR RATING IDEA UNITS

DIRECTIONS

You will find three (3) 500 word passages

1) Read through the passage.

2) At the bottom of the page, write what you feel is the theme of the passage.

3) On the following pages, you will find the same passage broken down into "idea units."

4) Rate each idea unit according to its importance t he passage on a scale from 1 to 4. (1 being of low importance and 4 being of high importance). Follow the steps listed below in rating the idea units.

   STEP A. Check-off half of those idea units that you feel are the least important as compared to the other half of the idea units. In other words, you should rate 50% of the units as least important and 50% as most important to the theme that you have stated. For your reference the number of units you should have in these two groups is printed in the upper corners of the first page of idea units for each passage.

   STEP B. Using only the group of idea units that you have identified as least important to the theme in STEP A, rate 50% of these units as a 1 (the least important), and 50% as a 2 (slightly important).

   STEP C. Now, using only the group of idea units that you indentified as most important in STEP A, rate 50% of these units as a 3 (important), and 50% as a 4 (the most important).

   STEP D. Review your ratings. In the upper corners of the first page of idea units for each passage is a list of idea units that you should have in each ranking (1 thru 4). The number will vary slightly between passages and within passages. (i.e., One passage has 64 idea units, therefore an equal number of 16 idea units are in each of the four rankings. However, another passage has 78 idea units, therefore the number within rankings varies between 19 and 20.)

5) In summary, you should have rated the idea units into two levels of importance, and then subdivided these into two additional levels of importance. The result is the identification of 4 levels of importance for the idea units in each passage. The number of idea units at each level should match the numbers listed in the upper right hand corner of the first page of idea units for each passage.

6) The time that it takes for you to complete this task may vary. The first passage may take you from 20 to 45 minutes. Practice should make the second and third passages go more quickly.

7) If you have any questions please contact Keith Lenz, Rick Marrs, or Vicki Colburn for clarification at the University of Kansas Institute for Research in Learning Disabilities, (913) 864-4780

APPENDIX F

ADVANCE ORGANIZER TEST VALIDATION PACKAGE

As part of your participation in this University of Kansas Study, you will be reading three short stories and answering mutliple choice questions.

By cooperating, you will help provide answers to important questions. Confidentiality will be guarded. Your name will not be connected with your answers in any public or private report of the results.

1. This envelope has the materials you will need to take part in this study. Do not get them out of order. Do not look ahead.

2. Carefully remove the materials from the envelope. There should be a page with the word STORY on top of the materials. Do not read the story until you are told to begin. This is not a timed test so you will not have to rush.

3. Each story has a stapled set of questions that goes with it. Check to make sure that you have three stories and three sets of questions. Check to make sure that the title of the story matches the title of the set of questions.

4. Put your name on the 3 sets of questions right now. Be careful not to mix up the order.

5. You are going to read each story and answer a set of multiple choice questions on each story. As soon as you have read the first story carefully you should put the story back in the envelope. Do not look back.

6. Once you have put the story in the envelope, take the set of questions for that story and answer them.

7. Multiple choice questions require that you select <u>one</u> best answer from several answers. For each multiple choice question you will have <u>5</u> choices. Please CIRCLE the letter of the <u>one</u> answer that <u>best</u> answers or completes the multiple choice item.

<u>EXAMPLE QUESTIONS AND ANSWERS:</u>

Who discovered America for Spain?

a. Cortez
(b.) Columbus
c. Magellan
d. Vespucci
e. Washington

The first president of the United States was

a. Adams.
b. Washington.
c. Lincoln.
d. Jefferson.
e. Franklin.

8. Make sure you CIRCLE a letter for each question.

9. As soon as you answer all the questions for that story, put your set of questions in the envelope.

10. Read the next story, and put it in the envelope after you have read it carefully. Answer the set of questions that goes with that story as before. When you are finished, put the questions in the envelope and go on to the third and final story. Answer the multiple choice questions in the same manner as before.

11. When you are finished with all three passages, bring your envelope of completed materials to the person monitoring the study.

12. Before you leave be sure to get your $2.00!! You must sign a release form before you are paid.

THANKS!!

STORY

Tulipmania

Until 1615 the favorite of all flowers in Europe was the rose. But in a short time public opinion changed in favor of the tulip. Tulips had first been brought to Germany from Turkey in 1559. They were first brought into the Netherlands in 1593. The general public began to take an interest in this new flower as the result of a sudden craze for tulips in Paris. Suddenly the tulip found itself considered an important flower and a sign of wealth. At that very moment, the sudden spread of a plant disease produced several strange changes in its petals. People took advantage of this plant disease by producing many new kinds of tulip.

The rush for tulips had now spread through Europe. The Netherlands, and in particular the town of Haarlem, became the main supplier of bulbs. In 1625 the bulb of a favorite tulip was already worth its weight in gold. The experts created pink, violet, yellow tulips, and others using many colors in several ways. Hundreds of different kinds were grown. The bulbs sold for high prices. Also, it was easy to grow them on the smallest piece of land. Everyone wanted to get in on this new adventure.

The weavers of Haarlem, who had an important trade in this town, threw themselves into this work even though they knew nothing of tulips. The flower trade grew and grew to an all time high in the winter of 1636. It ended quickly just a few months later. This craze has since been named "tulipmania." Everybody became involved. Butchers, errand-boys, innkeepers, barbers, chimney-sweeps, tax-collectors, were struck with "tulipmania." Not one class of people was left out. The few citizens who kept their heads called the rest 'the hooded ones.' This referred to the hoods worn by madmen.

In the town of Hoorn a house was bought for the price of three tulip bulbs. When several buyers were after the same bulb they did not hesitate to offer the seller huge bribes. They might offer him a coach, or a fine team of horses. Buyers and sellers met two or three evenings each week. They met in bars where their trading lasted late into the night. The same bulb might be sold as many as ten times in a single day.

Many people had bought on credit. If they were not able to sell the bulbs they found themselves not able to pay their bills. Suddenly the public became scared because the country's wealth came from a system based on credit. On the 24th of February a group met in Amsterdam and decided from that day on only contracts drawn up before the 30th of November 1636 were to be payed. Later contracts were cancelled. The buyer could free himself of his contract by paying a small amount to the seller and returning the bulb to him. On the 27th of April the States of Holland approved this decision. On the following day the price for the most costly bulbs dropped from one thousand to ten dollars! Sanity had returned - at the price of many individual tragedies.

NAME: _____

GRADE: _____

QUESTION - Tulipmania

Tulipmania

1. What group of people took an interest in tulips after they were first brought to the Netherlands?

   a. the city women
   b. the country farmers
   c. the flower growers
   d. the general public
   e. the foreign traders

2. Why were people in the Netherlands interested in the tulips?

   a. people could buy the tulips more cheaply than roses
   b. people could make tulips into perfumes
   c. people wanted to follow a craze that had started in Paris
   d. the tulip had just been named the national flower of Holland
   e. the Germans had begun to use the tulips as a type of medicine

3. What was the tulip best known for in the Netherlands?

   a. a very fast growing flower
   b. a sign of the new government
   c. a sign of peace, love, and simplicity
   d. a flower that would not get diseases easily
   e. a sign of wealth and importance in society

4. When did the plant disease first spread to the tulips?

   a. at the time they first came to Germany
   b. when they became popular in the Netherlands
   c. at the time they were popular in Paris
   d. at the time of "tulipmania."
   e. when the town of Haarlem began supplying bulbs

5. How did the disease to the tulips affect the people of the Netherlands?

   a. people were able to produce many kinds of tulips
   b. people lost their jobs and their homes
   c. people lost a lot of their savings
   d. people were able to buy the tulips cheaply
   e. people could no longer use tulips cheaply

6. What happened throughout all of Europe as a result of the tulip plant disease?

   a. roses became popular once again
   b. tulips were sold very quickly
   c. tulips were in a great demand
   d. tulips got the disease and died
   e. tulips became very cheap to buy

7. By 1625, a little over 30 years after the tulip had first been brought to the Netherlands, what had happened to tulip bulbs?

a. many could not be found
b. many could be gotten cheaply
c. many would not grow well
d. many had not grown in cost
e. many were very expensive

8. "Tulipmania" lists three colors that the tulip experts created. These three colors included:

a. yellow, pink, and violet
b. red, yellow, and pink
c. violet, orange, and white
d. pink, orange, and red
e. yellow, violet, and orange

9. According to "Tulipmania" in addition to creating new colors for tulips, the experts also created tulips with

a. bulbs that were of different sizes
b. stems that were much stronger
c. colors used in many different ways
d. flowers that lasted longer on the stem
e. leaves that were of different shapes

10. What was one of the results of the development of the new tulips?

a. the price of tulips soon went down
b. the people bought only one color
c. the old tulips were often destroyed
d. the new tulips did not last as long
e. the tulip bulbs sold for higher prices

11. According to "Tulipmania" what was one of the reasons why tulips became popular?

a. they had stems that were sturdy
b. they were very easy to grow
c. they needed very little water
d. they could be grown from seed
e. they could be used in perfumes

12. Another reason that "Tulipmania" gave for why tulips became popular was that

a. they could be grown in small pots
b. they needed very little sunlight
c. they grew best on poor, rocky soil
d. they could be grown on small pieces of land
e. they could be used for fertilizing farm land

13. How did the weavers of Haarlem respond to the tulip craze?

a. they organized the selling and trading of tulip bulbs
b. they organized many tulip growing clubs
c. they felt that people who raised tulips were mad
d. they felt that weaving was more important than tulips
e. they threw themselves into raising and selling tulips

14. According to "Tulipmania" what group in the Netherlands knew nothing about raising tulips?

a. the painters of Amsterdam
b. the clockmakers of Hoorn
c. the florists of Brussels
d. the weavers of Haarlem
e. the farmers of Hoorn

15. What had happened to the flower trade by the winter of 1636?

a. it had fallen to an all time low
b. it was based totally on the rose
c. it had grown to an all time high
d. it was controlled by the government
e. it had just begun to decline

16. According to "Tulipmania" what specific groups of people were affected by tulipmania?

a. fishermen, carpenters, and cooks
b. clock-makers, painters, and bankers
c. butchers, barbers, and chimney sweeps
d. storekeepers, waitresses, and tailors
e. priests, housewives, and children

17. What were people who did not become involved in tulipmania called?

a. "the flower fanatics"
b. "the madmen"
c. "the crazy ones"
d. "the hooded ones"
e. "the tulip maniacs"

18. In which town was a house bought for 3 tulip bulbs?

a. Brussels
b. Holland
c. Haarlem
d. Hoorn
e. Amsterdam

19. What would happen when several tuli, buyers wantad to buy the same bulb?

a. they held public auctions to sell the tulips
b. they often offered the seller huge bribes
c. the buying often ended in vetlence
e. the price of the bulb went down
e. very often the bulb was stolen

20. What would a coach with a team of horses be used for during the tulipmania?

a. to bribe tulip sellers
b. to deliver the tulip bulbs
c. to symbolize the tulip growning trade
d. to collect a tulip tax
e. to transport tul'ps in the city

21. The tulip business was so popular that tulip buyers and sellers

a. were not able to spend time with their families
b. were able to take vacations to many diff. ant countries
c. had to meet everyday in order to do all of the trading
d. had to form tulip trading clubs to conduct business
e. had to meet two or three evenings each week

22. How did the tulip buyers and sellers usually conduct business?

a. they often met in dark alleys and streets
b. they met in bars for their tulip business
c. they met in city council rooms to trade
d. they often ate large meals as they traded
e. they began by naming all the bulbs to be sold

23. How long did the trading of tulip bulbs usually last?

a. until late at night
b. until early morning
c. until late morning
d. until early afternoon
e. until early evening

24. What might happen to a bulb in a single day?

a. it might travel all over Holland
b. it might be sold as many as ten times
c. it might be sold as many as three times
d. it might be sold for ten to a thousand dollars
e. it might be given five different names

25. What happened to the people who had borrowed money to buy tulip bulbs?

a. they could not pay bills because they had no money
b. they held onto their bulbs as long as possible
c. they were protected by the sellers contract
d. they protected themselves through insurance
e. they traded their bulbs for gold and land

26. What happened when many of the people in the Netherlands could not sell their bulbs?

a. the government bought the bulbs from them
b. the council of Hoorn met in an emergency session
c. the price of tulip bulbs rose even higher
d. the national council passed some new laws
e. people met in Amsterdam to discuss the problem

27. What was done to help the people who could not sell the tulip bulbs that they had bought on credit?

a. contracts could be cancelled at any time by the buyer if the seller agreed to the cancellation
b. contracts drawn up before a certain date were the only ones that had to be paid
c. contracts could be cancelled if at least fifty percent of the price had been paid
d. contracts made for tulip bulbs were only good if no payments had been made
e. contracts could be cancelled ten days after the signing if the buyer returned the bulb

28. What happened to the tulip bulb if a tulip buyer wanted to get out of the contract?

a. the bulb was auctioned off
b. the bulb was kept by the buyer
c. the bulb was returned to the seller
d. the bulb became the property of the court
e. the bulb was given to a third party

29. How much money did the buyer have to pay back to get out of a contract?

a. as much as he could afford
b. the full amount was paid
c. a small amount was paid
d. half of what was owed
e. no amount was paid

31. On what date did the States of Holland approve the method for settling contracts?

a. 27th of April, 1637
b. 30th of November, 1636
c. 9th of May, 1593
d. 10th of June, 1636
e. 1st of July, 1637

32. What happened to the price of tulips the day after the States of Holland approved the method for settling contracts?

a. it dropped greatly
b. it dropped a little
c. it stopped rising
d. it rose greatly
e. there were no changes

33. What was the result of the tulipmania?

a. the government of the Netherlands lost all of its money
b. the Netherlands no longer were able to grow tulips
c. tulip bulbs cost more money than ever before
d. many people became very rich and powerful
e. there were many individual tragedies

34. What is an important idea behind the story of tulipmania?

a. tulips are better than roses for making money
b. there is enough money available if you know where to get it
c. buying on credit is usually a good way of making money
d. the price of something is based on how badly people want it
e. the price of flowers is often based on its beauty

35. Which of the following is true of tulipmania?

a. tulips did not become very valuable
b. most people did not go into the tulip business
c. the center of the tulip craze was Paris
d. the tulip became the symbol of Holland
e. people borrowed on credit to buy tulip bulbs

36. Which of the following is most similar to what happened in "Tulipmania"?

a. a new toy that cost $25 last year costs $5 this year
b. a puzzle that cost $4 last year costs $400 this year
c. a used motorcycle that was bought for $1200 last year was sold for $1300 this year
d. a jar of peanutbutter that cost $3.25 last year costs $3.40 this year
e. a new car that was bought for $6,500 last year was sold back to the dealer for $5,00 this year.

STORY

ABORIGINES

An author once described the Australian outback as "either a desert or a flood." In some years it only rains three inches. Temperatures climb high into the 100's. In other years, heavy storms turn the desert into sandy swamps. Few early Europeans dared search out this world of stagnant water and dwarf trees.

Until the 1800's only aborigines were able to survive in the bleak deserts of Australia. With their great knowledge of the desert's changing seasons, these people moved constantly to different places for fresh water. They carried almost no belongings with them. Both men and women went naked and slept in simple windbreaks or out in the open. Their food was mostly roots, berries and insects, as well as rats, snakes, and lizards. Food often was eaten raw. From a flour of pounded seeds, women made small cakes that added very little nourishment to their food. When hunting was good, men were able to hunt for meat, usually a large bird or a kangaroo. They also fished.

Hunters drew pictures of the animals on bark shields to insure a large supply of game. They also imitated animals in dances. Charles Darwin watched one such dance in 1836. "One man", he wrote, "acted out the movements of a kangaroo grazing in the woods while a second crawled up, and pretended to spear him." When the explorers Robert Burke and William Wills were in Australia, they were even invited to join a dance. They refused. They did, however, use aborigines as guides. Trips by Europeans into the desert brought about the end of the aborigines' way of life. Smallpox and other new sicknesses killed a great many of them.

Greater damage was done by the shock that the European way of life had on these primitive people. White farmers violated holy places without knowing it. Hunting grounds became large sheep runs. Old laws were replaced by new ones that the natives did not understand. To defend their dying world, some hunters fought armed white intruders with their Stone Age spears. But few could re-create the simple existence that Captain James Cook had described in 1770. "They may appear to some," Cook observed, "to be the most wretched people on earth. But really they are far happier than we Europeans. Being unacquainted not only with the unnecessary but with the necessary comforts so much sought after in Europe, they are happy in not knowing the use of them. They live in peace which is not disturbed by the inequality of their condition. The Earth and Sea give them everything they need for life. They do not wish for great houses or nice furniture. They live in a warm and fine climate, and enjoy clear air. They see no use for clothes. They left behind the cloth that we gave them. In short, they seemed to set no value on anything of their own or any one article we could offer them. This, in my opinion, shows that they think themselves provided with all things they need for life....."

NAME:_____

GRADE:_____

QUESTIONS - Qborigines

Aborigines

1. In some years the rainfall in the Australian outback may measure as little as

   a. one inch.
   b. three inches.
   c. five inches.
   d. eight inches.
   e. ten inches.

2. In some years the temperatures in the Australian outback may range from

   a. 10 to 30 degrees.
   b. 30 to 50 degrees.
   c. 50 to 80 degrees.
   d. 80 to 100 degrees.
   e. 100 to 120 degrees.

3. In years of heavy rain the desert turns into

   a. swamps.
   b. lakes.
   c. marshes.
   d. rivers.
   e. quicksand.

4. The Aborigines were the only people in Australia who could survive in the

   a. marshes.
   b. jungle.
   c. desert.
   d. mountains.
   e. swamps.

5. The Aborigines knew a lot about

   a. growing food on the plains.
   b. surviving in mountain weather.
   c. growing food in the desert.
   d. hunting jungle animals.
   e. changing seasons in the desert.

6. The Aborigines moved around all the time to find _____.

   a. other Aborigines.
   b. better land for farming.
   c. fresh water for drinking.
   d. food and shelter.
   e. wood for making weapons.

7. What did the Aborigines carry with them as they moved around?

a. holy places for religious services.
b. large bags of food and water.
c. tents and windbreaks.
d. almost nothing.
e. animal skins.

8. The Aborigines did not carry clothing when they traveled because they

a. made new clothing as they traveled.
b. did not think clothes were important to wear.
c. wore the same clothes for many months.
d. had no room to carry extra clothing.
e. could not find animals to skin.

9. For what purpose did the Aborigines use roots?

a. poison.
b. paint.
c. medicine.
d. food.
e. music.

10. What did the Aborigines often eat?

a. marsh grasses.
b. seaweed.
c. snakes.
d. leaves.
e. monkeys.

11. How did the Aborigines get flour for cooking?

a. by trading with Europeans for it.
b. by making it from the grain they grew.
c. by making it from seeds they found.
d. by trading with other Australians for it.
e. by making it from dried marsh grasses.

12. When did the Aborigines find the hunting good?

a. when there was plenty of rain and sunshine.
b. when they could get larger animals for meat.
c. when they could find lizards and snakes.
d. when they could get small animals for meat.
e. when they could find anything to kill.

13. In addition to hunting, how did the Aborigines get food?

a. trading
b. stealing
c. trapping
d. snaring
e. fishing

14. Who was the European who in 1836 watched and later wrote about a dance of the Aborigines?

a. Robert Burke
b. William Wills
c. Captain James Cook
d. Charles Darwin
e. Alfred Pricer

15. The European wrote that one Aborigine acted out the movements of a

a. snake crawling in the grass.
b. large bird attacking a small animal.
c. lizard trying to catch insects.
e. kangaroo grazing in the woods.

16. The European wrote that while the first Aborigine danced a second Aborigine

a. started to do the same thing.
b. played drums.
c. invited the European to dance.
d. sang a hunting song.
e. crawled up to join him.

17. What did the second Aborigine do once he joined the dance?

a. chased the first Aborigine.
b. speared the first Aborigine.
c. climbed onto his back
d. tied the first Aborigine
e. pretended to catch a fish.

18. What was the occupation of Robert Burke and William Wills?

a. doctor
b. sailor
c. hunter
d. scientist
e. explorer

19. When Robert Burke and William Wills were in Australia they were invited

a. to sing with the Aborigines.
b. to eat snakes and lizards.
c. to hunt with the Aborigines.
d. to dance with the Aborigines.
e. to travel with the Aborigines.

20. What did Robert Burke and William Wills do when they were invited to join the Aborigines?

a. they joined them
b. they refused to join them
c. they left for Europe
d. they made a treaty
e. they killed them

21. How did the Aborigines help Robert Burke and William Wills?

a. by giving them food
b. by giving them medicine
c. by trading with them
d. by giving them water
e. by acting as guides

22. What happened when Europeans begain to make a lot of trips into the lands of the Aborigines?

a. The Aborigines began to dress and act like Europeans.
b. The Europeans taught the Aborigines how to build villages.
c. The Aborigines' primitive way of life came to an end.
d. The Aborigines began to build roads.
e. The Aborigines built trade centers at crossroads.

23. What killed many Aborigines after the Europeans came?

a. diseases brought by the Europeans
b. fights with the European soldiers
c. wars with other Aborigine tribes
d. waters poisoned by Europeans
e. travels in the hot Australian desert

24. Why did Europeans violate the holy places of the Aborigines?

a. they did not respect the Aborigines
b. they wanted to take their land
c. they did not understand their religion
d. they did not know what they were doing
e. they wanted to make them into Christians

25. What did the greatest harm to the life of the Aborigines?

a. war with other Aborigine tribes
b. changes in the weather
c. lack of food, water, and shelter
d. diseases brought by the Europeans
e. the shock of the Europeans way of life

26. What happened to the old laws of the Aborigines?

a. they were left unchanged by the Europeans
b. they were kept by the Aborigines
c. they were replaced by new laws
d. they were adopted by many Europeans
e. they were made into a code of Australian laws

27. How did the Aborigines react to the Europeans?

a. they defended their homeland
b. they tried to hide in the desert
c. they did not note the Europeans
d. they accepted the European's ways
e. they would not talk or look at them

28. What happened when the Europeans attacked the Aborigines with guns?

a. they fought them with spears
b. they threw rocks at them
c. they did not fight back
d. they fought them with guns
e. they moved to other areas

29. Why did Captain Cook feel that the Aborigines were happier than Europeans?

a. they did not have to deal with politics or laws
b. they spent their whole lives taking care of each other
c. they did not care about how much money they made
d. they did not know about the many European comforts
e. they never stayed in one place for more than a few months

30. What did Captain Cook believe was the result of not having material goods?

a. a difficult life
b. a lot of travel
c. a lot of trade
d. an early death
e. a life of peace

31. Where did Captain Cook believe that the Aborigines got everything they needed to live?

a. swamps and marshes
b. earth and sea
c. desert plains
d. trading centers
e. Europeans

32. According to Captain Cook, what kind of climate did the Aborigines live in?

a. warm
b. cold
c. dry
d. wet
e. hot

33. What was a resource that Captain Cook felt the Aborigines had?

a. clean air
b. clean water
c. good land
d. minerals
e. forests

34. What did the Aborigines do with the cloth that Captain Cook gave them?

a. made clothes
b. gave it back
c. left it behind
d. traded it for food
e. used it for cleaning

35. It appeared to Captain Cook that the Aborigines put little value on

a. anything of their own.
b. their own families.
c. any type of religion.
d. trying to read the weather.
e. fighting the Europeans.

36. How did the Aborigines respond when Captain Cook gave them gifts?

a. they let their children have them
b. they placed no value on them
c. they carried them with them
d. they traded them for weapons
e. they gave them animal skins

37. According to Captain Cook, what things did the Aborigines feel they had missing in their lives?

a. language
b. nothing
c. culture
d. clothing
e. education

38. What is an important idea in the story of Aborigines?

a. one group should not force their way of life on another.
b. one group can live peacefully with another group.
c. life in Australia can be very difficult and painful.
d. the Aborigines were able to keep others out of Australia.
e. happiness can be measured by how much you own.

39. Which of the following is true of the passage on the Aborigines?

a. The Aborigines needed the help of the Europeans.
b. The Europeans did not want to help the Aborigines.
c. The Aborigines wanted the help of the Europeans.
d. The Aborigines did not want to live or work with the Europeans.
e. The Europeans did not want the Aborigines to be like them.

40. The story of the Aborigines is most similar to which one of the following?

a. the way that men treat women who try to enter into the business world
b. the way that teachers treat students who are in high school
c. the way the American white man has treated the American Indian
d. the way the President of the United States treats members of Congress
e. the way a cat treats her kitten after they are born

STORY

GREECE

The Turks referred to their alien captives as rayah. The word means "cattle." It was not an insult to the Greeks or any other conquered people. It was simply the expression of an attitude. The Turks had long been people who roamed the Eurasian plains. They lived together with their flocks and herds as long as conditions permitted. Now Constantinople, together with a growing empire, belonged to them. They were very devoted to the spread of Islam. The Christians that they ruled felt no such devotion. Christians within the Turkish rule were seen by their Turk masters as lacking true religion or spirit. That made them "cattle" from the Moslem viewpoint. Christians within the empire were forbidden to carry weapons or to ride on horseback. Such things would not be nautral for them, the Turks felt.

Every Christian had to pay a yearly "head tax" to keep his head on his shoulders. If they didn't they were beheaded. Every Christian family that had five male children had to give one son to the Turks to be raised as a Janissary, an important soldier in the Turkish army. The word comes from the Turkish yenicari. The word means "new soldiers." Janissaries formed a special army. (Moslem parents used to sneak their children into Christian homes in the hope that they would be officeers in the army.) They could not marry. All their loyalty was at the kings command. They were the most important guards in Turkey. This cruel tax at least guaranteed a job for sons who were taken. Christians could only watch when they saw their most beautiful daughters taken away to the Turks to be harem slaves. Harem slaves were kept in luxury, and might even become the mothers of important Turks and kings.

The prophet Mohammed directed his followers to allow religious freedom to "People of the Book." That included Jews and Christians. Therefore the Greek Christian archbishop was carefully respected by the Turks.

With the exception of some taxes on a son or daughter, Greeks of this time gave to the sultan the things that were the sultan's. They gave to God the things that were God's. They were not made to pray to false gods. They were not made to go against the teachings of Jesus and "live by the sword." The Christians' lands were their own, to use. They were allowed to teach the children who were not taken away. This protected the growth of the Greek language and faith. Even the gods of old Greece returned as saints and angels ready to help the humble and the wise.

From this view of history, Greece had all but disappeared behind Turkey's heavy curtain. Yet for the Greeks, life went on in a new mood of quiet, peace, small joys, and family sorrows. You might say that Turkish rule actually helped Greeks practice what Christ had preached. They were made to live as a mild flock, like sheep--or "cattle," as the Turks said.

NAME:_____

GRADE:_____

QUESTIONS - Greece

Greece

1. What were alien captives capped by the Turks?

   a. slaves
   b. rayah
   c. janissary
   d. animals
   e. yoradi

2. Where had the Turks long traveled and roamed?

   a. Italy
   b. Constantinople
   c. Turkey
   d. Eurasian plains
   e. Grr

3. How did the Turks live before they became a world power?

   a. they lived with their flocks and herds
   b. they ran small shops and businesses
   c. they were traders and merchants
   d. they lived on fishing boats and ships
   e. they farmed and raised small animals

4. What did the Turks want to do once they controlled Constantinople?

   a. stop spreading their forces.
   b. control the Greeks
   c. move toward control of Asia.
   d. grow in all directions.
   e. control the Indian ocean.

5. To what religion were the Turks devoted?

   a Christianity
   b. Judaism
   c. Islam
   d. Buddhism
   e. Catholicism

6. What was the relationship of the Turks to the Christians'

   a. masters
   b. slaves
   c equals
   d. friends
   e. related

7. What did the Turks think of the Christians?

   a. they knew a lot about science
   b. they lacked an advanced culture
   c. they were good fisherman
   d. they could not be controlled
   e. they lacked true religion

8. While they were in the Turkish empire, the Christians were not supposed to

a. carry weapons.
b. marry Turks.
c. own land.
d. run businesses.
e. accept money.

9. Why did the Turks feel that the Christians should not ride on horseback?

a. it would be against the Islam religion
b. they believed they should only raise horses
c. they might escape their masters
d. they were a symbol of the ruling class
e. it would not be natural for them

10. What kind of tax did the Christians have to pay each year to the Turks?

a. income tax
b. head tax
c. property tax
d. child tax
e. army tax

11. What would happen if the Christians did not pay their taxes?

a. they were put in prison
b. they were placed in the army
c. they had to serve in the palace
d. they would lose their heads
e. they lost their children to the king

12. What word does the term "Janissary" come from?

a. misery
b. jan
c. january
d. necessary
e. yeniçari

13. What does the word "Janissary" mean?

a. "friends of the king"
b. "new soldiers"
c. "good slave"
d. "the loyal"
e. "unloved"

14. Who were the janissaries?

a. a special army
b. the king's farmers
c. the servants of the king.
d. a group of special messengers.
e. the Turks who became Christians.

15. How did Turkish parents prepare their children to become officers in the king's special army?

a. by turning their children over to the king
b. by paying the janissaries to train them
c. by taking their children to the desert to train
d. by training them to fight the Christians
e. by sneaking their children into Christian homes

16. What were the Janissaries <u>not</u> allowed to do?

a. fight
b. shave
c. marry
d. own land
e. leave the palace

17. Who were the most important guards in Turkey?

a. Turkish children
b. rayahs
c. janissaries
d. harem slaves
e. yoradis

18. How could Christian parents be sure that their sons would have jobs?

a. by selling their children to Moslem households for slaves
b. by giving their sons to be raised for the army.
c. by sending them to the king to be traders
d. by training them in the family business
e. by marrying them to a Moslem girl

19. How were Christian harem slaves treated?

a. they were used only as cleaning servants
b. they were often beaten and killed
c. they were killled after one year of service
d. they were often given a position of power
e. they were usually treated very well

20. How did Mohammed say that the "People of the Book" should be treated?

a. they should be treated as cattle.
b. they should have religious freedom
c. they should be the religious leaders
d. they should be killed on sight
e. they should be the defenders of Islam

21. According to "Greece", who did Mohammed feel that the "People of the Book" included?

a. Christians
b. teachers and prophets
c. Jewish people
d. Turkish people
e. Jews and Christians

22. What did the Turks do as a result of Mohammed's teachings?

a. they made the Christians slaves.
b. they gave the Christians complete freedom.
c. they took away all weapons from the Christians.
d. they respected the Greek Christian Archbishop.
e. they killed a certain number of Christians at the first of each year.

23. What was one of the few things that the Christians had to give to the Sultan?

a. one year of service as a soldier or slave
b. a promise to change the Islam faith
c. taxes on a son or daughter
d. a portion of their food
e. horses that they raised

24. What did the Greeks believe they should do with the things that were the sultans?

a. they should sell them to the Turkish people
b. they should give them to the sultan
c. they should keep what they could
d. they should be shared
e. they should be destroyed by fire

25. What were the Greeks <u>not</u> expected to do?

a. pray to false gods
b. serve in the armies
c. teach their children
d. raise their own food
e. work for the sultan

26. What did the Turks do when it came to the teachings of Jesus?

a. they started to follow them
b. they would not allow his teachings
c. they only let a few people study them
d. they would not let the children learn them
e. they did not make the Christians go against them

27. What happened when the Christians were allowed to teach their own children?

a. the sultan began to fear the Christians.
b. the Greek language and arts continually grew.
c. the sultan took away many Christian children.
d. schools soon began to spring up all over Greece.
e. Moslems wanted the Christians to teach their children.

28. What were the saints and angels supposed to do for the Greeks?

a. teach them to bear the Turkish rule
b. make their religion more like Islam
c. destroy their Christian faith
d. help the wise and the humble
e. help them grow better crops

29. Which group of people was <u>not</u> devoted to the Islamic religion?

a. the Turkish army
b. the Islamic people
c. the Christians
d. the Islamic Greeks
e. the Turkish Kings

30. Some people believe that Greece had all but disappeared behind the power of Turkey. This belief is

a. only one view of history.
b. should be considered historical fact.
c. seen by historians in the same way.
d. probably the best view of history.
e. not demonstrated in this story.

31. According to "Greece", the Turkish treatment of the Greeks caused

a. the Greeks to hate the Turks.
b. a war to break out between them.
c. a great love to grow between them.
d. their lives to go on very quietly.
e. the Greek children to love the Turks.

32. What is the best single word that could be used to describe the life of the Greeks under Turkish rule?

a. peace
b. war
c. free
d. love
e. jealousy

33. How were the Greeks made to live under the Turks?

a. as goats.
b. as sheep.
c. as mice.
d. as donkeys.
e. as rabbits.

34. What did the Turks call the Greeks?

a. yoradi
b. janissaries
c. cattle
d. slaves
e. Jews

35. What is an important idea behind the story of the Greeks?

a. people can easily be destroyed by a more powerful group of people
b. people cannot live without another group of people to do their work
c. people can accept a rough life if what is important to them is left alone
d. people can destroy another group of people by taking away freedom of government
e. people can live without freedom of religion if other freedoms are given to them

36. Which of the following is true of the story on the Greeks?

a. the children of Christians could not have good jobs
b. the Christians fought the Turks for freedom
c. the Christians did not value their religious freedom
d. the Turks respected the Christian religion
e. the Turks were usually Christians

37. The treatment of the Greeks in this story is most similar to the treatment of

a. Black slaves in America by plantation owners
b. plants in a greenhouse by gardners
c. women in the job market by employers
d. prisoners in jail by guards
e. persons in the U.S. by their officers

APPENDIX G

ADVANCE ORGANIZER TRAINING MANUAL

Developing Effective Advance Organizers For Learning Disabled Adolescents

February, 1982

B. Keith Lenz

Gordon R. Alley

Rick Marrs

The University of Kansas

Institute for Research in Learning Disabilities

DEVELOPING EFFECTIVE ADVANCE ORGANIZERS

There are ten steps in developing an instructionally sound advance organizer. Each of these ten steps have various subcomponents. Figure 1 lists each of the ten advance organizer steps and their various subcomponents. Each of the ten steps involved in developing an advance organizer will be described.

Figure 1

STEPS IN DEVELOPING AN ADVANCE ORGANIZER

Step 1: Inform students of advance organizers
- a. Announce advance organizer
- b. State benefits of advance organizer
- c. Suggest that students take notes on the advance organizer

Step 2: Identify topics of tasks
- a. Identify major topics or activities
- b. Identify subtopics or component activities

Step 3: Provide an organizational framework
- a. Present an outline, list, or narrative of the lesson's content

Step 4: Clarify action to be taken
- a. State teachers' actions
- b. State student's actions

Step 5: Provide background information
- a. Relate topic to the course or previous lesson
- b. Relate topic to new information

Step 6: State the concepts to be learned
- a. State specific concepts/ideas from the lesson
- b. State general concepts/ideas broader than the lesson's content

Step 7: Clarify the concepts to be learned
- a. Clarify by examples
- b. Clarify by non-examples
- c. Caution students of possible misunderstandings

Step 8: Motivate students to learn
- a. Point out relevance to students
- b. Be specific, short-term, personalized, and believable

Step 9: Introduce vocabulary
- a. Identify new terms and define
- b. Repeat difficult terms and define

Step 10: State the general outcome desired
- a. State objectives of instruction/learning
- b. Relate outcomes to test performance

STEP 1: INFORM STUDENTS OF THE BENEFITS OF THE ADVANCE ORGANIZERS

Rationale. When there is something that a teacher wants students to pay attention to, the teacher must draw attention to it and point out its benefits. In order for students to realize that the advance organizer has a purpose, the teacher must focus student attention on it. Repeated emphasis of the advance organizer will begin to build a mental set that will facilitate learning.

Implementation. Teachers can draw attention to the advance organizer by telling the class that there will be an activity before the lesson begins.

> e.g., "Before we begin today's lesson I want to give you an overview of what we will be talking about today."

Further attention should be drawn to the advance organizer by telling students to take notes on the advance organizer.

> e.g., "Be sure to take notes on the overview."

Finally, the purpose of the advance organizer must be made clear. This should be done by telling students that the advance organizers will help them learn.

> e.g., "The overview will help you understand what we are going to study today."

This advance organizer step in its entirety should be similar to the following:

> e.g., "Before we begin today's lesson I want to give you an overview that will help you understand what we are going to study. Be sure to take notes on the overview."

STEP 2: IDENTIFY TOPICS OR TASKS

Rationale. If any step in the advance organizer process is consistently used by teachers, it is this step. As a rule, teachers usually identify what the class is about in one way or another. However, sometimes teachers assume that students can label the topic or topics either mentally or in their notes. Because of this, some teachers only refer to the topic rather state "this is the topic."

Overtly stating the topics and subtopics is a critical part of the advance organizer for two reasons. First, learning and retention research has consistently demonstrated that long term memory is dependent on a structure on which facts can by attached. Such a structure is represented in student knowledge of topics and subtopics. Second, knowledge of topics provides the student with a mental set for the lesson. The student will know what to expect.

Implementation. Teachers can introduce topics and subtopics most effectively by assuming that students know nothing about the topic and subtopics. The topic may

be a chapter of a book, a specific lecture, the subject of a discussion, or a class activity such as reading aloud, conducting an experiment, or grading a paper. These topics or tasks should be specifically identified for students. The topic or task can be identified in the following manner:

e.g., "Today we are going to continue our discussion of ancient Greece."

"We will be going over the test you took yesterday."

After the major topic has been identified, the subtopics or subcomponents of the task should be identified. These represent subdivisions of the major topic.

e.g., "We will be talking about the Greek cities of Mycenae, Corinth, Sparta, and Athens."

e.g., "We will discuss the essay questions, correct the true-false items, and figure grades."

This advance organizer step in its entirety should be similar to the following:

e.g., "Today we will continue our discussion of ancient Greece. We will be covering the Greek cities of Mycenae, Corinth, Sparta, and Athens."

e.g., "In class today we will be going over yesterday's test. We will discuss the essay questions, correct the true-false items, and figure grades."

STEP 3: PROVIDE AN ORGANIZATIONAL FRAMEWORK

Rationale. The organizational framework for the lesson is closely tied to stating topics and subtopics. Step 2 emphasizes what will be discussed or accomplished, and Step 3 emphasizes when it will be discussed or accomplished. This organizational information further facilitates long term memory and student orientation of what is to come.

The organizational framework is usually supplied when the major topics and subtopics are given. However, this may not always be true. In any event, the actual cues of when should be given.

Implementation. An organizational framework is best provided by an outline or a list of what is to be covered. If an outline is chosen, then the topics and subtopics are presented to the students in hierarchial fashion according to the sequence in which information will be presented.

e.g., I. Ancient Greece

1. Mycenae
   a. government
   b. culture
2. Corinth
   a. government
   b. culture

3. Sparta
   a. government
   b. culture
4. Athens
   a. government
   b. culture
5. Comparisons
   a. governments
   b. cultures

If a list type of organizational framework is selected, then topics and subtopics are listed according to title and sequence only. A list framework usually does not provide as much detail as an outline framework.

e.g., "Today's topic is Greece. First we will talk about Mycenae; second, Corinth; third, Sparta; and fourth, Athens."

An elaboration of the list and outline framework is the organizational narrative. The organizational narrative states the topics and the sequence of subtopics similarly to the list framework. But in the narrative, the list is complimented by a statement about the topic or subtopic.

e.g., "Today we are going to talk about Greece. First, we will talk about Mycenae, one of the earliest settlements of Greece. Second, we will talk about Corinth, a popular trade and cultural center in ancient Greece, Third, we will discuss Sparta, one of the two strongest cities of ancient Greece, Finally, we will discuss Athens, the greatest of all Greek cities."

STEP 4: CLARIFY ACTION TO BE TAKEN

Rationale. When a teacher clarifies the actions that need to be taken, the teacher is telling students what the teacher will be doing and what the students will be doing to complete the task or activity. This is a particularly important step for low-achieving students who commonly rely on concrete cues. However, other students may also benefit from very specific directions related to task completion.

Implementation. Clarification of actions should include references to both the teacher and the student. The clarification should use very specific verbs. Non-specific verbs or non-meaningful filler statements only serve to confuse students regarding what they are to do. An example of a good action clarification statement would be as follows:

e.g., "I am going to lecture and I want you to take notes."

An example of a non-specific action statement is exemplified in the following statement:

e.g., "Today we are going to discuss Greece."

While this statement may be sufficient to announce a topic, it does not tell the students what is actually going to happen in order for them to learn about Greece. Taken literally, the statement implies that "we", the students and the teacher, are going to "discuss" Greece. A series of questions could easily emerge in the student's mind:

> "Do I take notes? (I guess I don't, since we are just going to discuss Greece)."
>
> "Does a discussion mean that we will be giving our opinion?"
>
> "Oh no, I wonder if I have to talk?"
>
> "I wonder if that means that the teacher is going to lecture?"
>
> "Do I need my book out?"

Using verbs loosely does not facilitate learning. Therefore, the teacher should avoid filler statements. In addition, sufficient specific action statements should be given to students to cover the entire lesson. The following is an example of a good action clarification statement.

> "As I lecture on Greece today, I want you to take notes. You will need your books so that you can look at the maps as I refer to them. When I get through lecturing I will be asking some questions about the lesson. I will be calling on students to answer. So you will need to listen carefully to my lecture so you will be prepared for my questions."

STEP 5: PROVIDE BACKGROUND INFORMATION

Rationale. Learning never takes place in a vacuum. Learning and retention are dependent on what the student already knows and how readily he/she can relate old information to new information. If a student does not have a sufficient base of background knowledge, then new learning will either be limited or not occur at all. For example, the student who fails a test in science on photosynthesis, may never have learned the principles of photosynthesis because he/she didn't understand the needs of plants and animals in general. Therefore, the lesson on photosynthesis may have been meaningless or confusing. Such a situation would encourage the student to focus on rote learning of terms, facts, etc. Limited meaningful learning would occur.

If the information to be presented to the student is relatively unfamiliar to the student, it is important that the teacher attempt to provide some new information that will supply background information. Every attempt should be made to relate the new information to what is familiar to the student. By doing this, the

teacher promotes meaningful learning. However, this background information may not be considered part of the lesson, nor be considered information that students will be tested over.

Implementation. The types of background knowledge that a teacher can relate is based on either previous lessons or unfamiliar information. If background information is based on previous lessons, the lessons referred to should be recent. This is especially important if new learning is dependent on student use of prior learning. If older information is crucial, then more extensive reviews should become part of the lesson and not be considered part of the advance organizer. An example of a previous lesson serving as the basis for background information would be as follows:

> e.g., "Yesterday we discussed how adjectives modify nouns. As you recall, adjectives tell us more about nouns. They make us think differently about the nouns. Today as we talk about adverbs, we will see how adverbs make us think differently about verbs."

In addition to referencing a previous lesson, the example relates the previous lesson to the present lesson. This transition statement is critical. A relationship between prior information and the to-be-learned information must be clear to the students.

An elaboration on the idea of building on a previous lesson would be to point out how the present topic or information fits into the overall framework or context of the course. This would be analogous to referring a student to the table of contents of his/her textbook. The teacher would briefly tell the student how this topic logically fits into the course, how it fits with past topics, and possibly how it fits with topics that will come later.

> e.g., "The first part of this course covered the countries of Asia and Africa. Now we are talking about the countries of Europe. First we talked about the northern and middle European countries. Now we are going to talk about the countries that surround the Mediterranean sea. Greece is one of those countries."

The second method of providing background information is to actually give the students new information that will make the new learning more meaningful. This method is used when a new topic is being introduced, especially an initial introduction of a new area of study.

> e.g., "We are going to discuss the Aborigines of Australia. The Aborigines are a group of people who have lived on the plains of Australia for thousands of years without changing a great deal. The life of the Aborigines is similar to some of the early Indian cultures in this country 200 years ago.

This background information introduces a topic that is unfamiliar to most students in this country. The information briefly lets students know who the Aborigines are, and provides a context that students can identify with, i.e., the American Indian.

STEP 6: STATE THE CONCEPTS TO BE LEARNED

Rationale. Teachers often love a great revelation, students often do not feel the same way. If a teacher wants her/his students to know something, then the students should be told in advance what that something is. By stating the concepts that are to be learned, the teacher gives the student an additional framework on which to attach new information. This approach to teaching is based on research that indicates that students learn and retain information much better during initial learning when the parameters and structure of the information are clear and apparent. After the student has mastered the basic concepts and organization of the information, then the teacher can utilize more inductive methods during instruction. Therefore, presenting the to-be-learned concepts before the lesson should facilitate learning more so than only revealing the concepts during or after the lesson Optimally, however, concepts should be pointed out before, during, and after the actual lesson.

Implementation. There are two types of concepts that teachers can present to students in the advance organizer. First, the teacher can present to the students the concepts which are directly demonstrated in the lesson.

> e.g., "We will demonstrate that wood is a much better insulator than stone."

This concept is the major target of the activity or experiment. The concept to be learned is part of the content of the lesson. These concepts are the result of conclusions that can be or are drawn from information in the lesson. Information in the lesson is specifically used to support the conclusions.

> e.g., "The reading shows us that the Aborigines' simple way of life was destroyed by the influx of Europeans."

The second type of concepts are those that are of a much more general or broader scope than presented specifically in the lesson. These concepts are illustrated by the content of the lesson, but do not refer to any specific content presented in the lesson. These concepts represent the next higher level of abstraction than specific content based concepts. For example, the content specific example on the Aborigines could be used as one example of the following general concept.

> e.g., "The existence of one culture may be dependent on completely different standards than what another culture can tolerate."

STEP 7: CLARIFY THE CONCEPTS TO BE LEARNED

Rationale. Simply telling students the concepts to be learned does not insure that students will understand them. Information of an explanatory nature should be provided so that the concepts become more meaningful to the student. By clarifying the concepts the teacher relates what the student knows to what the student must learn. In addition, when broad concepts are provided to students, sometimes confusions might occur because of overgeneralizations drawn by the student. If this is possible, then the teacher must clarify concepts to prevent possible misunderstandings.

Implementation. Concepts can be clarified by examples, non-examples or cautions. Examples clarify concepts by giving other instances of the concept and pointing out similarities. This is done by illustrating the concept in other contexts or by drawing analogies to the concepts. A statement of clarification should follow each concept.

> e.g., "The invasion of Europeans into the culture of the Aborigines is similar to what happened when Europeans invaded the Indian cultures of North America."
>
> e.g., "The tulip craze in Holland in the 1700's is an example of price inflation caused by excessive demand. Similar price inflation has occurred with blue jeans, real estate, and most recently, gold."

A second method of clarifying concepts is by specifying non-examples of the concept. The teacher gives instances where the concept is not exemplified. This is done by pointing out differences between the instances.

> e.g., "The increase in tulip prices in Holland in the 1700's is not an example of depression."

An additional type of clarification statement can be made through cautions. Caution statements are attempts to clarify a possible misunderstanding of the concept. The misunderstanding could result from the examples or non-examples that were given.

> e.g., "Be careful not to confuse the culture of the Aborigines with the American Indian. Although there are a few similarities, there are many differences."

STEP 8: MOTIVATE STUDENTS TO LEARN

Rationale. Although student motivation is more complex than a couple of sentences in an advance organizer, the advance organizer can include some motivational elements. Within the advance organizer the teacher should relate the to-be-learned information to the learner. This information will either directly motivate the student to learn, or will provide the student with knowledge that will enable the student to decide whether the learning is worth his/her effort. Motivation statements usually express relevance through rationales. Good rationales are characterized as being short term, specific, personalized, and believable.

Implementation. Once the concepts have been presented to the student, the teacher should relate these concepts to the student. The teacher does this by relating the information to the student's immediate experience.

> e.g., "By understanding how others have been treated, we may begin to understand how to treat others. For example, we may begin to understand why some countries don't want the United States to help them."
>
> e.g., "Everyday we use electricity. If we understand electricity we will be able to use it more safely."

Motivational statements that relate directly to the student's experiences or life will have a greater impact than futuristic motivational statements. For example, the following type of motivational statement has limited immediate impact on the student.

e.g., "If you learn how to write good paragraphs it will help you get a better job when you graduate."

STEP 9: INTRODUCE VOCABULARY

Rationale. Students should be presented with important vocabulary before the lesson begins for two reasons. First, students need time to think about a word and its meaning before it is used. Defining a vocabulary term as it is being used does not allow the student sufficient time to understand the new term, and limits the understanding of the context in which it is being used. Second, the introduction of new vocabulary terms during the lesson results in a mental conflict in the learner. The student does not know whether to concentrate on understanding the new vocabulary word, or on the content in which the vocabulary is being used. Introduction of crucial vocabulary before the lesson, followed by elaboration of the vocabulary during the lesson allows the student time to think about the vocabulary and more readily understand the use of it in the appropriate context.

Implementation. Introduction of new vocabulary should be very specific and clear. The teacher should identify the terms as new vocabulary that students will be held responsible for, and define each term. Simply identifying the words as new vocabulary is not enough. A concise and understandable definition should be included with each new term.

e.g., "There are some vocabulary words you should know for this chapter. The first word is 'indictment'. An Indictment is a formal charge against someone. The second word is..."

e.g., "A few moments ago I said that we were going to talk about civil rights. That's a term you should know. Civil rights means..."

The following are examples of introducing vocabulary inefficiently for learning in an advance organizer.

e.g., "Be familiar with the words at the end of the chapter."

e.g., "The new vocabulary words today are 'radical', 'progressive', and 'militant'. Watch for them as we read."

STEP 10: STATE THE GENERAL OUTCOME DESIRED

Rationale. One way to facilitate learning is to tell students what you want them to learn. Another way is to tell students what you want them to be able to do with what they learn. Students perform better on tests when they know what types of responses they are to make. Providing this information enables students to study more efficiently and allows them to better reach the expected outcome that the teacher desires.

Implementation. The best way for a teacher to let students know the general outcomes desired is to include a statement such as this at the beginning of every class period.

e.g., "When we finish with today's activities I will want you to be able to..."

or

"When we finish today's lesson you should be able to..."

The following statements could complete such a statement:

e.g., "...state the names and functions of each of the body parts."

e.g., "...write a one page summary of the major issues."

e.g., "...read a poem and describe the devices used to catch the reader's imagination."

e.g., "...read a speech of the politician and describe why his argument for gun control would not convince most people."

Most teachers are able to identify the types of objectives that they wish to accomplish by their instruction. However, it is important that this information be shared with students so that they can prepare for these expectations.

EXAMPLES OF ADVANCE ORGANIZERS ACTUALLY PREPARED BY SECONDARY CLASSROOM TEACHERS

DEVELOPING AN ADVANCE ORGANIZER

TOPIC: The House of Representatives

STEP 1: Inform students of advance organizers a. Announce advance organizer b. State benefits of advance organizer c. Suggest that students take notes on the advance organizer	Today before we start our American Government lesson I will give you a brief overview of how we are going to approach the lesson. You should take notes on this overview.
STEP 2: Identify topics or tasks a. Identify major topics or activities b. Identify subtopics or component activities	We are going to continue our study of the Federal Government by focusing in on Congress, specifically the House of Representatives.
STEP 3: Provide an organizational frame-work a. Present an outline, list or narrative of the lesson's content	We will first look at the structure of the House of Representatives; second, who the representatives represent; and third, what it does or how it can have an effect on you.
STEP 4: Clarify action to be taken a. State teacher's actions b. State student's actions	I will supplement the textbook reading assignment which you had for homework with a lecture. You should have your books out and we will read parts together. I'll make comments as we go along. If you have any comments raise your hand and I'll answer questions.
STEP 5: Provide background information a. Relate topic to the course or previous lesson b. Relate topic to new information	As you recall yesterday we looked at the Senate, what it does and how it represents us. The House of Representatives is the other part of the Congress. Remember that Congress is the branch of the government called the Legislative or law making branch and is one of the three major parts of the Federal Government.

STEP 6: State the concepts to be learned a. State specific concepts/ideas from the lesson b. State general concepts/ideas broader that the lesson's content	There are a couple of themes that you should see in today's lesson. First, the House of Representatives has special responsibilities which acts as a check on other parts of our government. Second, the House of Representatives is considered the least important of the parts of Congress by many people.
STEP 7: Clarify the concepts to be learned a. Clarify by examples b. Clarify by non-example c. Caution students to possible misunderstandings	However, do not get the idea that the House of Representives is not an important part of our law-making body. The House does play an important role in the governing process.
STEP 8: Motivate students to learn a. Point out relevance to students b. Be specific, short-terms, personalized and believable	Ther are several reasons why this lesson is particularly relevant to you. First, there will be at least 10 question on the chapter test over the House of Representatives. Second, the taxes you pay, and will pay, are a direct result of the legislation of Congress.
STEP 9: Introduce vocabulary a. Identify new terms and define b. Repeat difficult terms and define	A word you should know is session. A session is a period of time during meetings of a court, council, or law-making body.
STEP 10: State the general outcome desired a. State objectives of instruction/learning b. Relate outcome to test performance	After this lesson you should be able to explain, 1) how long a representative's term lasts, 2) how he or she is elected, 3) how the House of Representatives is structured, and 4) what responsibilities the House has.

DEVELOPING AN ADVANCE ORGANIZER

TOPIC: Political Party Spending

STEP 1: Inform students of advance organizers a. Announce advance organizer b. State benefits of advance organizer c. Suggest that students take notes on the advance organizer	Today we are going to continue to discuss American Citizenship. Before I start, I will give you an overview of the lesson to enable you to understand more clearly. You should take notes on this overview.
STEP 2: Identify topics or tasks a. Identify major topics or activities b. Identify subtopics or component activities	Today we will turn our attention to the question - how do political parties get and spend their money?
STEP 3: Provide an organizational frame-work a. Present an outline, list or narrative of the lesson's content	First, we will concern ourselves with the first part of the question - how do political parties get their money? Then we will try to fit this question with the overall concept of an election.
STEP 4: Clarify action to be taken a. State teacher's actions b. State student's actions	While I'm lecturing I want you to take notes and if you have any questions raise your hand and I'll try to answer them for you.
STEP 5: Provide background information a. Relate topic to the course or previous lesson b. Relate topic to new information	Yesterday we saw what is needed to win the election. We saw that it takes experience, a lot of support, and a lot of money. Today we will expand on the last area - money - to see how it fits specifically into winning an election.

STEP 6: State the concepts to be learned a. State specific concepts/ideas from the lesson b. State general concepts/ideas broader that the lesson's content	We will see that while support and experience are important, money and how it is used is the driving force behind an election.
STEP 7: Clarify the concepts to be learned a. Clarify by examples b. Clarify by non-example c. Caution students to possible misunderstandings	An example might make this point a little clearer. Two candidates have the same amount of support (or workers) and experience but one has much more money. The one with the money can do T.V. ads and have nice, pretty posters, but the other can't. So when people who aren't sure who they will vote for only see the guy with the money they like him better. This shows how money can decide an election.
STEP 8: Motivate students to learn a. Point out relevance to students b. Be specific, short-terms, personalized and believable	By studying and understanding how and where election money comes from, you will understand the election process better. This will help you to understand the upcoming election that some of you may be voting in.
STEP 9: Introduce vocabulary a. Identify new terms and define b. Repeat difficult terms and define	Two words you should know before we start are: 1. <u>telethons</u> - special fund raising program on T.V. 2. <u>deduct</u> - this means to take away
STEP 10: State the general outcome desired a. State objectives of instruction/learning b. Relate outcome to test performance	At the end of the lesson you should be able to state the different ways candidates get money from supporters.

DEVELOPING AN ADVANCE ORGANIZER

TOPIC: The Eye

STEP 1: Inform students of advance organizer a. Announce advance organizer b. State benefits of advance organizer c. Suggest that students take notes on the advance organizer	Before we get to the specifics of today's Biology lesson I will give you an overview of the lesson to help you understand the specifics better, so you should take notes on the overview.
STEP 2: Identify topics or tasks a. Identify major topics or activities b. Identify subtopics or component activities	Today we'll continue our discussion of the human sensory system by starting on how the human body uses its eyes to see.
STEP 3: Provide an organizational frame-work a. Present an outline, list or narrative of the lesson's content	First we will cover how the eye works in general and then we will focus in on the specific parts of the eye and how they work together to enable us to see. Lastly, we will see how sight and sound combine to form the most important parts of the sensory system.
STEP 4: Clarify action to be taken a. State teacher's actions b. State student's actions	While I'm lecturing I want you to take notes. If you have questions or comments raise your hand and I'll answer them for you. You will need your biology books to follow along in the eye diagram.
STEP 5: Provide background information a. Relate topic to the course or previous lesson b. Relate topic to new information	Yesterday in our lesson on learning we learned that the human ear is a very complex and sensitive instrument. Today we will see how the human eye is even more remarkable than the ear. Remember, we originally began our study of human biology with the digestive system then we moved to the reproductive system and now we are focusing in on the sensory system.

STEP 6: State the concepts to be learned a. State specfic concepts/ideas from the lesson b. State general concepts/ideas broader that the lesson's content	You will learn that the eye is a very important part of the human sensory system, and that it provides information that clarifies information received from the other senses.
STEP 7: Clarify the concepts to be learned a. Clarify by examples b. Clarify by non-example c. Caution students to possible isunderstandings	As an example, it will be helpful if you think of the eye as being similar to a camera, but not exactly because the eye is much more complex. The picture that a camera takes cannot always stand alone. Sometimes you need someone to tell you what the picture is about. This is how the eye works with the other senses.
STEP 8: Motivate students to learn a. Point out relevance to students b. Be specific, short-terms, personalized and believable	By understnding how sight fits into the overall picure of the sensory system we can begin to understand how you might perceive things differently form others. This causes us to have different attitudes about the world which may account for why we are different from one another.
STEP 9: Introduce vocabulary a. Identify new terms and define b. Repeat difficult terms and define	As you will see in the book, there are some important terms for you to know. First, <u>pupil</u> which is the opening that lets light through the eye. Second, is the <u>lens</u> which is the transparent cover that the light passes through. Thirdly, the <u>retina</u> is the part where the light hits making a little photograph to be sent to the brain. Fourthly, the <u>optic nerve</u> takes the photograph to the brain.
STEP 10: State the general outcome desired a. State objectives of instruction/learning b. Relate outcome to test performance	When we finish this lesson on how the eyes see you should be able to explain what each part is, what it does, and also how each part works together to give your brain a picture of the world.

DEVELOPING AN ADVANCE ORGANIZER

TOPIC: The Cell

STEP 1: Inform students of advance organizers a. Announce advance organizer b. State benefits of advance organizer c. Suggest that students take notes on the advance organizer	Today we are going to start a new topic in Biology, but before we start I would like to give you an overview to help us organize and understand more clearly. You should take notes on the overview.
STEP 2: Identify topics or tasks a. Identify major topics or activities b. Identify subtopics or component activities	We are going to start to learn about the cell and its functions and parts. We will do this in various ways - our book, films, and experiments, as well as lectures.
STEP 3: Provide an organizational frame-work a. Present an outline, list or narrative of the lesson's content	First we are going to study animal cells (the building blocks of our bodies, and their parts and what they do. Second, we'll try to get an overall feeling for how cells fit into the bigger picture of how our bodies work.
STEP 4: Clarify action to be taken a. State teacher's actions b. State student's actions	While I'm lecturing I want you to take notes and if you have any comments or questions I'll be glad to answer them. You will need your book for the diagram and definition of the parts of the cell.
STEP 5: Provide background information a. Relate topic to the course or previous lesson b. Relate topic to new information	Everybody is made up of cells but they are very, very small and you can't see individual ones, but they are what make us - you are all a bunch of cells. To give you an idea of the size, 1000 cells could fit on the head of a pin.

STEP 6: State the concepts to be learned a. State specfic concepts/ideas from the lesson b. State general concepts/ideas broader that the lesson's content	We will be looking in the book at a diagram that will show us the different parts of the cell and what they do. This will allow us to see that cells are the most important parts of our bodies.
STEP 7: Clarify the concepts to be learned a. Clarify by examples b. Clarify by non-example c. Caution students to possible misunderstandings	For example, it will help uou to understand cells if you picture them as bricks (only very small) and they from a house on your body.
STEP 8: Motivate students to learn a. Point out relevance to students b. Be specific, short-terms, personalized and believable	Because cells are the basic building blocks of life, they are important to you. Diseases, colds, allergic reactions are by-products of cell activity. Anyone who wants to understand how plants and animals live and die must first understand the working of cells.
STEP 9: Introduce vocabulary a. Identify new terms and define b. Repeat difficult terms and define	Before we start there are a few terms you should know. The cell wall is the boundry of the cell. The cell membrane is just inside the cell wall and is another thinner membrane.
STEP 10: State the general outcome desired a. State objectives of instruct-:on/learning b. Relate outcome to test performance	When we finish today's lesson you should be able to describe the following things about the cell. 1) Its structure 2) Its different parts 3) Give a general pecture of how it works and how it fits inot the overall scheme of your body.

GENERIC

ADVANCE ORGANIZER

FRAMEWORK

DEVELOPING AN ADVANCE ORGANIZER

TOPIC: _____

STEP 1: Inform students of advance organizers a. Announce advance organizer b. State benefits of advance organizer c. Suggest that students take notes on the advance organizer	I am going to describe what we will (do, cover) to help you better understand today's lesson.
STEP 2: Identify topics or tasks a. Identify major topics or activities b. Identify subtopics or component activities	(M. Topic) Remember that (we are still on, or will be starting on) (M. Topic) today. (S. Topic) The topics or subjects that we will (go through, cover, or discuss) will be _____, _____, and _____. (whatever number of topics.
STEP 3: Provide an organizational frame-work a. Present an outline, list, or narrative of the lesson's content	First, we will discuss _____, second _____ and third _____. Here is an outline for you to follow. (hand out or on the board).
STEP 4: Clarify action to be taken a. State teacher's actions b. State student's actions	I will (give a lecture, lead a discussion) over this material. I want you to (take notes, listen to my lecture, do this homework).
STEP 5: Provide background information a. Relate topic to the course or previous lesson b. Relate topic to new information	Yesterday we talked about (topic) . These three ideas were brought out 1. _____, 2. _____, and 3. _____. With this background we are ready for (today's topic). This topic is related (relevant information). Understanding this will help you better understand today's topic.

STEP 6: State the concepts to be learned a. State specific concepts/ideas from the lesson b. State general concepts/ideas broader than the lesson's content	The topic trat we are going to discuss today illustrates the idea (general concept). Specifically, in today's lesson the fact that (specific concept), (specific concept), and (specific concept), occur shows this.
STEP 7: Clarify the concepts to be learned a. Clarify by examples b. Clarify by non-example c. Caution students of possible misunderstandings	An example of this concept would be example? This concept is not the same as example. Be careful not to confuse (examples of concept) with (example of dissimilar concept).
STEP 8: Motivate students to learn a. Point out relevance to students b. Be specific, short-terms, personalized and believable	You will use this (concept) everytime you need to (example of concept). This may be surprising to learn this but ..... This will help you to (positive consequences). If you you don't understand this will (negative consequences
STEP 9: Introduce vocabulary a. Identify new terms and define b. Repeat difficult terms and define	These are the words/terms that I want you to know today. This word means (definition). The word (word) means (definition), etc.....
STEP 10: State the general outcome desired a. State objectives of instruction/learning b. Relate outcomes to test performance	At the end of this lesson I want you to be able to (know, write, define, explain, compare, contrast) on the (next test, quiz, assignment). or Now that you know this, you should be able to (outcome) if I asked you to (performance).

OBSERVATIONAL SYSTEM FOR EVALUATING THE ORGANIZATIONAL BEHAVIORS OF CLASSROOM TEACHERS

February 21, 1982

B. Keith Lenz

Gordon R. Alley

APPENDIX H

ADVANCE ORGANIZER OBSERVATION SYSTEM

OBSERVATION ENTRY PROCEDURES

1. Arrive at the target class early and get materials organized.

2. Make sure the teacher knows you are there. Introduce yourself if you have not met the teacher.

3. Select a seat at the back or side of the room. Check with the teacher to make sure that the seat you have chosen is acceptable. Remind the teacher you will need to talk to the participating student for 5 minutes at the end of the period.

4. As soon as possible turn on the tape recorder. Make sure it works, and is at a proper volume level to pick up the teacher's speech.

5. Fill out the class description information on the bottom right hand corner of the second page of the Observation sheets.

6. As soon as the first student has entered the class, and the teacher addresses the class, record the Start time in the Pre-Lesson Period box. The criteria for recording times and behavior occurances should be referred to if there are any questions.

7. If the teacher writes down anything on the board before the class starts or during the class period, this should be copied down on a piece of paper and attached to the observation sheets.

OBSERVATION SCORING PROCEDURES

1. The start time for the Pre-Lesson Period should be recorded as soon as the first student enters the class and the teacher starts talking to the class as a group. All comments of an organizational nature, prior to the actual lesson are scored here.

2. The start time for the Lesson Period should be recorded when the teacher begins to give the class new information, related to the present topic or activity.

3. The start time for the Post-Lesson Period should be recorded when the teacher stops presenting new information and begins to repeat, summarize, or make assignments. If any new information is presented then the Post-Lesson Period has not started. This period ends when the teacher dismisses the class or has announced that the lesson is finished.

4. When "behavior" that fits into one of the categories is observed the time should be recorded. Since the hour has been specified in the "Started" box, only the minute that the behavior occurred needs to be recorded.

5. If any problems are noted, or any behaviors need additional comment, write down notes in the "General Comments" column in the right hand margin on the second page of the Observational Sheets.

6. The "Presentation Mode" of the behavior being displayed should be noted. For every occurance a check should be made in the proper "Presentation Mode" column. The following criteria will be applied for the scoring of the Presentation Mode.

Verbal:	speech, tape recording
Visual Aid:	chalkboard, overhead projector, pictures
Writing:	paper, book
Elicited:	student response to teacher question
Other:	film, song

   If more than one mode is used, then all presentation modes will be scored, but each check that represents the use of simultaneous presentation modes will be circled.

7. In Step 2 the Response Mode must be scored. A response mode will be scored for each behavior observed in Step 2. The Response Mode will be scored using the appropriate Response Mode Symbol listed in the right hand column of the first page of the Observation sheets.

8. In Step 6 each concept that is clarified should be identified as content based or content free. This should be easy because the concept is categorized for this in Step 5. Step 6 cannot be scored unless a concept has been scored in Step 5.

OBSERVATION EXIT PROCEDURES

1. When the teacher has stopped talking, or has indicated that the lesson is over, the scoring should stop, and the tape recorder should be turned off.

2. The observer should quietly rise and leave the classroom. A pre-arranged signal should be agreed upon by both the teacher and student so that the student can also leave. A place at the rear of the class may be an equally appropriate place for the observer to go with the student.

3. The observer should take the student into a quiet part of the hallway, an empty classroom, or the library. Care should be taken not to waste time because hallways will become impossible to use if the period bell rings. If any additional time can be gained at the end of class, this should be done. Make sure arrangements have been made to get the student to his/her next class if it appears he/she will be late. TRY TO COMPLETE THE INTERVIEW WHENEVER POSSIBLE. If the interview is not completed, another observation/interview date must be scheduled.

4. Turn the cassette tape over and record the interview. Write down the student's comments verbatim. Make sure the tape recorder is working and is recording at the proper level.

5. When the interview is over turn off the tape recorder, thank the student. If necessary, make arrangements to get the student to his/her next class.

6. Label the cassette tape with the same descriptive information listed in the lower right-hand corner of the second page of the Observation Sheets.

7. Proceed to next class.

Step 1: Inform of the purpose of advance organizers

Definition: This step will be recorded when the teacher has defined, explained, or referred to an advance organizer, and makes a statement regarding what its possible benefits are. The statement of benefits may take place before, during, or after the advance organizer. This will most generally be done verbally, but may also be aided by written instructions on the chalkboard or handouts. This step does not include the giving of information about the subject matter about to be discussed, but only about the advance organizer (AO) itself, and how it can aid in learning the subject matter.

Examples:

A. "I am going to give you an overview of today's lesson that will help you understand what we are going to study."

B. "Okay, listen up. Before we start I want to give you a brief outline that will help you in following my lecture."

C. "On the chalkboard is a list of topics that I will cover that will help you in today's lesson."

D. "The teacher has written on the chalkboard: "Write these events in your notes. They will help you understand the reading today."

Categories:

A. This step is recorded if the teacher makes a statement that indicates advance organizers will be beneficial in some way.

Step 2: Clarify the task's physical parameters

Definition: This step will be recorded when the teacher informs the students of what the students and teacher will be doing (physically). in order for the lesson to be completed. Anytime it is assumed that the students know what they are to do and it is not specifically stated, this is not recorded (e.g., "Get your notebooks out"). Also, statements are only scored when they occur in advance of a task. Directions or directives given during the task are not scored. For example, step by step instructions given by the teacher in a science lab, or directions of how to do something are not to be scored. (e.g., "Put the water into the solution", "underline the verb in that sentence, open your books, write this down"). Do not score statements that repeat the action to be taken.

Examples:

A. "I am going to lecture and I want you to take notes.

B. "I'm going to show you a film today.

C. "I am going to grade papers for a while, so you have some free time to do what you want.

D. The teacher has written on the chalk board: "Write down these words so that you can study them for homework.

Categories:

A. Teachers' Actions. This category will be recorded when the teacher makes reference to what he/she will be doing (physically) in order for the lesson to be completed. Examples A, B, and C would be scored on this category.

B. Student's Actions. This category will be recorded when the teacher makes reference to what the student will be doing (physically) in order for the lesson to be completed. Examples A, C, and D would be scored on this category.

Response Mode:

A. Write. This mode will be recorded when any advance direction is made to write on notebook paper, a worksheet or via a typewriter.

B. Listen. This mode will be recorded when any advance direction is made to listen to a lecture film, or other presentation.

C. Observe. This mode will be recorded when any advance direction is made to observe a visual, a film, a demonstration, or an activity.

D. Talk. This mode will be recorded when any advance direction is made to talk by making a presentation, answering questions, or participating in a discussion.

E. Read. This mode will be recorded when any advance direction is made to read material. This mode will include directions to skim, look something over, review etc.....

F. Test/quiz. This mode will be recorded when any advance direction is made that a test or quiz will take place. If the teacher does not specifically use terms that indicate some type of evaluation will take place, this is not scored (e.g., "Put your books away. Take out paper and pencil and get ready to write." This would be recorded as the write mode and not the test/quiz mode.)

G. Homework. This mode will be recorded when any advance direction is made that a task should be completed outside of the classroom. Phrases such as before class tomorrow read pages..... or For tomorrow read the next chapter on ..." should be recorded on the homework mode. Phrases that should not be counted include: read the section on the tobacco industry" or Keep up on your reading." These would only be recorded on the read mode.

H. Study. This mode will be recorded when the word study" is actually used in any advance direction given to students.

I. Think. This mode will be recorded when the word think" is actually used in any advance direction given to students.

J. Other. This mode will be recorded when advance direction is made that does not fit into any other response mode. The observer should describe other" in the comments" section of the observational checklist.

Step 3: Identify the topic of the task

Definition: This step will be recorded when the teacher gives the task to be done a name by making a brief statement that serves to describe or define the task. The task can cover what the student and/or the teacher will be doing.

Examples:

A. "Today we are going to begin a unit on Greece. Today we will cover the Mycenean settlements.

B. We are going to study the Battles of the Civil War. The first battle we will talk about is Gettysburg. Now we will talk about the battle of Shilo.

C. We will be talking about nouns, verbs, and adjectives.

D. Today we will talk about Parts of Speech.

E. Now, we are going to study the economic problems of the Southern states during the Civil War.

Categories:

Major topics: This category will be recorded when the teacher provides a topic under which a large share of information in the activity can be grouped (Example D). Topics that cover several days of instruction would also be recorded in this category (The topic on Greece given in Example A provides an example of this. The topic on Mycenean settlements would also be recorded as a major topic because it constitutes a major topic for the day's lesson. Several major topics could be scored in one class period if they are relatively independent of each other. (Examples B and E). Examples A, B, D, and E all would be scored in this category.

Subtopics: This category will be recorded when the teacher provides a name for information which is a subdivision of a larger topic. Even if the major topic is not identified, topics that could be clustered under a major topic should be scored in the Subtopic category (Example C). A subtopic would not be scored if the whole class period was spent discussing one topic (Example A, i.e., Mycenaean settlements). Sometimes teachers intend a topic to be a subtopic, but lose track of time and discuss it for an entire period. If this happens, then the teacher's intentions should be used to judge the recording. If the teachers intended something to be a subtopic, then it should be scored as such. Examples B and C would be scored on this category. If in doubt, ask the teacher.

Step 4: Provide background information necessary for new learning.

Definition: This step will be recorded when the teacher provides the student with information that is not part of the to-be-learned material, but serves to clarify the information to be learned. Background information is designed to assist the student in understanding the to-be-learned material. This can be accomplished by reviews of previous lessons or by putting the information to come into the framework of the total course, or part of the course. In general information that clarifies the lesson material, but is not to be tested over should be scored.

Examples:

A. Yesterday we discussed how the people of Egypt traveled all over the Mediterranean sea area to start colonies. One place they established colonies was Greece.

B. Today we will discuss verbs. Yesterday we talked about how nouns names a person, place, or thing. A noun must have a verb with it to make a complete thought.

C. Here are two vocabulary terms that you will not be held responsible for, but you should be familiar with before you do your reading.

D. In our discussion of European countries, we have discussed the Scandinavian, Eastern, and Western countries. Today we will begin looking at the countries that line the Mediterranean. The first country that we will discuss is Spain.

E. Today we begin our discussion on electricity, but before we begin I want to tell you a little about some of the dangers of electricity.

Categories:

A. New Information: This category will be recorded when the teacher presents information that has not been presented by the teacher in a past presentation, but is given to the student to assist understanding of forthcoming material. If the teacher makes any reference to having covered this information in the past, this category would not be scored. If the teacher makes any inferences that the student will be tested over the background information then this category would not be scored. Examples C and E would be scored in this category.

B. Previous Lesson. This category will be recorded when the teacher refers to any one lesson that has been presented to the student in the past. This reference constitutes a review of what the student already knows in an attempt to relate prior learning to present learning. A review of topics covered in the past, however, would not be scored in this category. Examples A and B would be scored in this category.

C. Course Context. This category will be recorded when the teacher refers to how the present topic fits into at least two past topics from the course, or the course in general. If the teacher places the present information in the context of only one past topic, then this category would not be scored. Example D would be scored in this category.

Step 5: State concepts to be learned

Definition: This category will be scored when the teacher informs the student of the major concepts that are to be learned in the lesson. These are broad statements that encompass ideas rather than details such as terms, names, datas, etc.....Concepts may be either specific to what the student will learn and be tested on in the lesson's content, or be concepts that are demonstrated in the lesson, but are not specifically part of the lesson's concept.

Examples:

A. In today's reading you will learn that the major reason that the German's lost World War II was that they split their forces on two fronts, rather than concentrating on one front.

B. This experiment will demonstrate that wood is a much better insulator than stone.

C. We will demonstrate that the denser a material is, the better it will insulate.

D. This reading shows us that the Aborigines' simple way of life was destroyed by the influx of Europeans.

E. This reading demonstrates the idea that the existance of one culture may be dependent on completely different standards than what another culture can tolerate.

Categories:

A. Content Based. This category will be recorded when the concept to be learned is part of the content of the lesson. These concepts are the results of a conclusion that can be or is drawn from information in the lesson, and information in the lesson is specifically used to support the conclusion. Examples A, B, and D would be scored in this category.

B. Content Free. This category will be recorded when the concept to be learned is illustrated in the content of the lesson, but does not refer to any specific content presented in the lesson. This category represents the next higher level of abstraction than Content Based concepts. This category is generally scored when a Content Based concept can be used as one example, of a possible number of examples, that illustrate a broader principle. Example B is a Content Based concept that could be one example of many from which to illustrate the concept stated in Example C. Example C is a Content Free concept Examples C and E would be scored in this category. Some knowledge of the text or material may be needed to score this category. If the scoring cannot be discerned from listening to the lecture, ask the teacher.

Step 6: Clarify Concepts

Definition: This category will be recorded when the teacher attempts to help the student understand the to-be-learned concept by providing information of an explanatory nature. For this to be recorded the concept must have been one that was recorded in Step 5 If the concept was not stated then, no clarificatin would be recorded in this step.

Examples;

A. The invasion of Europeans into the culture of the Aborigines is similar to what happened when Europeans invaded the indian cultures of North America.

B. The denser a material is, the better it will insulate. Wood will insulate better than concrete. Concrete will insulate better than water.

C. The invasion of Europenas into the culture of the Aborigines is like Christmas in America. Something simple can be tainted because people overlook the fact that simplicity can be enough.

D. The tulip craze in Holland in the 1700's is an example of price inflation caused by excessive demand. Similar price inflation has occured with blue jeans, real estate, and most recently, gold.

E. The tulip craze in Holland would not be considered a depression.

F. (As related to Example C). Be careful not o think of the Aborigines as not being as good as the Europeans because I have described them as simple. They were merely different from the Europeans. This was the mistake that the Europeans made.

Categories:

Examples. This category will be recorded when the teacher attempts to promote understanding of the concept by giving other instances of the concept and pointing out similarities. This can be done by illustrating the concept in other contexts or by drawing analogies. Examples A, B, C, & D would be recorded on this category.

Non-Examples. This category will be recorded when the teacher attempts to promote understanding of the concept by giving instances where the concept is not exemplified. This is done by pointing out differences between the two instances on the important variables. Example E would be recorded on this category.

Cautions. This category will be recorded when the teacher attempts to clarify a possible misunderstanding generated by examples or non-examples. Example F would be recorded on this category.

Step 7: Motivate students

Definition: This step will be recorded when the teacher provides information to students that is intended to make the student want to engage in the to-be-learned material.

Examples:

A. If you understand the problems of the Aborigines that were caused by the Europeans, this will help you understand how you might affect other people who are different from yourself.

B. If you can identify these major concepts you should do well on the exam.

C. You will have to know these terms or I can promise you that you will do poorly on the exam.

D. For those of you who like baseball, this reading will be of interest.

E. This is an exciting story.

F. This story is about young people very much like yourselves.

G. Everyday you use electricity. We will be talking about how electricity is brought to our homes.

H. If you do well on this assignment, we will not have a test.

I. Why are we studying this? Because you need to know about this to be a good citizen.

Categories:

A. Positive Consequences. This category will be scored when the teacher provides information that is intended to make students believe something good will happen by learning the information. This category is only scored when the good consequence is directly specified. positive consequences usually include rationales indicating that

general or specific acquisition of information is beneficial to the individual. Examples A, B, H, and I would be scored on this category.

B. Negative Consequences. This category will be scored when the teacher provides information that is intended to make students believe something bad will happen if they do not learn the information. Example C would be scored on this category.

D. Interest Statements. This category will be scored when the teacher provides information that is intended to relate the to-be-learned material to students, but does not infer any positive or negative consequences as a result of learning the material. Examples D, E, F, and G would be scored on this category.

Step 8: Introduce new terms/vocabulary

Definition: This step will be recorded when the teacher provides information to students in the form of new terms or vocabulary. These terms/word must be words needed for understanding the content of the lesson. For this to be scored a definition or explanation of term/word must be included. A clear intent of the activity must be to present to the student information about particular terms/words that will be part of the to-be-learned material. When substantial parts of the class period are spent on vocabulary words, then the vocabulary words are considered the actual lesson, and would not be scored.

Examples:

A. This word is Mesopotamia. Mesapotamia is located in the Middle East.

B. Progressives is the name for people making progress.

C. An indictment is a formal charge against someone.

D. Here is a list of words that will be in today's lesson. Let me pronounce them and tell you what each word means.....

E. A few minutes ago I said we were going to talk about civil rights As you recall from yesterday's discussion, civil rights means that .....

Categories:

A. New Terms/Words. This category will be recorded when the term/word presented has not been presented before to the students. (Examples A, B, C, & D would be scored on this category.)

B. Repeated Terms/Words. This category wil be scored when the term/word has been presented elsewhere to the student and reviewed

or redefined at this point. This category would also be scored if the definition is repeated or is elaborated. Example E would be scored on this category.

Step 9: Organizational Framework

Definition: This step will be recorded when the teacher provides the student with some idea of the structure of the information that is to be presented. This framework must take place either during or after the presentation of major topics or subtopics.

Examples:

A. First we will talk about the battles of the Civil War. We will cover the battles of Antietam and Gettsburg. Next we will cover the surrender of the Confederacy. That will include the actual surrender, and the signing of the peace treaty.

B. We will cover today the following topics: Gettysburg, Crittenden Compromise, the Emancipation Proclamation, and the Confederate Surrender.

C. First I want to talk about Chief Justice Taney, who handed down the Dred Scott decision. Then I want to talk about the Emancipation Proclamation, which was Lincoln's method of freeing the slaves.

D. Look through the table of contents of the text book and review the subtopics of the chapter to see what we are going to cover today.

Categories:

A. Outline. This category will be recorded when the teacher provides students with the names of the major topics, subtopics, and supporting informational categories that will be presented. There must be some hierarchial structure to the list of information presented. A list of names or topics would not be scored on this category. Example A would be scored on this category.

B. Lists. This category will be recorded when the teacher provides students with a list of information that will be covered in the lesson.

Step 10: State the general outcome desired

Definition: This step will be scored when the teacher lets the students know what will be expected of them on the completion of the lesson or task. This can be in the form of objectives, goals, etc..... However, these do not always have to be tasks that the student actually does to demonstrate mastery. Information to students regarding what the student should be able to do would also be scored.

Examples:

A. When you are done with this lesson, state the names and functions of each of the body parts.

B. In your own words, write a one paragraph summary of the plot.

C. When you are finished, read a poem and describe the devices used to catch the reader's imagination.

D. Write a term paper on one of the topics we have discussed.

E. When you are done with the lesson you should be able to read the speech of the politician and describe why his argument for gun control would not convince most people.

F. Using the types of city government that we talked about today, find communities within fifty miles of here for each one of the types of city government.

G. For tomorrow, solve the math story problems given at the end of today's lesson on page 27.

Categories:

A. Knowledge: this category will be recorded if the teacher specifies that the student must recall or recognize ideas, or phenomena in essentially the same form in which they were learned. Common terminology used to signal this category are included in Appendix A. Example A would be scored on this category.

There is no hierarchial relationship to the information. This can include lists of names, places, events, etc. If additional information is provided about each item in the list this category would not be scored (See Narrative). Example B would be scored on this category.

C. Narrative. This category will be scored when the teacher provides a list of information about accompanying comments to denote an organizational framework. Some type of framework must be denoted, i e., chronology, importance. If definitions of terms are included then Step B would also be recorded. Example C would be scored on this category.

D. Other. This category will be scored when the teacher provides any other kind of organizational information other than A, B, and C. Comments should be made on the observational record describing this framework. Example D would be scored on this category.

MAJOR CATEGORIES OF THE THREE DOMAINS

by Norman E. Gronlund

MAJOR CATEGORIES IN THE COGNITIVE DOMAIN OF THE TAXONOMY OF EDUCATIONAL OBJECTIVES (BLOOM, 1956)

Descriptions of the Major Categories in the Cognitive Domain
1. Knowledge. Knowledge is defined as the remembering of previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information. Knowledge represents the lowest level of learning outcomes in the cognitive domain.
2. Comprehension. Comprehension is defined as the ability to grasp the meaning of material. This may be shown by translating material from one form to another (words to numbers), by interpreting material (explaining or summarizing), and by estimating future trends (predicting consequences or effects). These learning outcomes go one step beyond the simple remembering of material, and represent the lowest level of understanding.
3. Application. Application refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories. Learning outcomes in this area require a higher level of understanding than those under comprehension.
4. Analysis. Analysis refers to the ability to break down material into its component parts so that its organizational structure may be understood. This may include the identification of the parts, analysis of the relationships between parts, and recognition of the organizational principles.

involved. Learning outcomes here represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material.

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5. Synthesis. Synthesis refers to the ability to put parts together to form a new whole. This may involve the production of a unique communication (theme or speech), a plan of operations (research proposal), or a set of abstract relations (scheme for classifying information). Learning outcomes in this area stress creative behaviors, with major emphasis on the formulation of new patterns or structures.

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6. Evaluation. Evaluation is concerned with the ability to judge the value of material (statement, novel, poem, research report) for a given purpose. The judgments are to be based on definite criteria. These may be internal criteria (organization) or external criteria (relevance to the purpose) and the student may determine the criteria or be given them. Learning outcomes in this area are highest in the cognitive hierarchy because they contain elements of all of the other categories, plus conscious value judgments based on clearly

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EXAMPLES OF GENERAL INSTRUCTIONAL OBJECTIVES AND BEHAVIORAL TERMS FOR THE COGNITIVE DOMAIN OF THE TAXONOMY

Illustrative General Instructional Objectives	Illustrative Behavioral Terms for Stating Specific Learning Outcomes
Knows common terms Knows specific facts Knows methods and procedures Knows basic concepts Knows principles	Defines, describes, identifies, labels, lists, matches, names, outlines, reproduces, selects, states
Understands facts and principles Interprets verbal material Interprets charts and graphs Translates verbal material to mathematical formulas Estimates future consequences implied in data Justifies methods and procedures	Converts, defends, distinguishes, estimates, explains, extends, generalizes, gives examples, infers, paraphrases, predicts, rewrites, summarizes
Applies concepts and principles to new situations Applies laws and theories to practical situations Solves mathematical problems Constructs charts and graphs Demonstrates correct usage of a method or procedure	Changes, computes, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses
Recognizes unstated assumptions Recognizes logical fallacies in reasoning Distinguishes between facts and inferences Evaluates the relevancy of data Analyzes the organizational structure of a work (art, music, writing)	Breaks down diagrams, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, points out, relates, selects, separates, subdivides.

writes a well organized theme Gives a well organized speech Writes a creative short story (or poem, or music) Proposes a plan for an experiment Integrates learning from different areas into a plan for solving a problem Formulates a new scheme for classifying objects (or events, or ideas)	Categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes
Judges the logical consistency of written material Judges the adequacy with which conclusions are supported by data Judges the value of a work (art, music, writing) by use of external standards of excellence	Appraises, compares, concludes, contrasts, criticizes, describes, discriminates, explains, justifies, interprets, relates, summarizes, supports

Page 2

STEPS	CATEGORIES	PRESENTATION MODE					OCCURANCES (r = repeated)			General Comments
		Verbal	Visual Aid	Writing	Pictures	Other	Pre-Lesson Period started:	Lesson Period started:	Post-Lesson Period started:	
7. Motivated Students	Positive Consequences									
	Negative Consequences									
	Interest Statements									
8. Introduced New Terms/Words	New Terms/Words									
	Repeated Terms/ Words									
9. Provided Organizational Framework	Outline									
	Lists									
	Narrative									
	Other									
10. Stated the General Outcome Desired	Knowledge									
	Comprehension									
	Application									
	Analysis									
	Synthesis									
	Evaluation									

Teacher _____ Period _____ Date _____
Student _____
Subject _____
Topic _____

APPENDIX J

ADVANCE ORGANIZER INTERVIEW QUESTIONS

APPENDIX I

ADVANCE ORGANIZER OBSERVATION RECORDING FORM

Page 1 STEPS	CATEGORIES	PRESENTATION MODE					OCCURANCES (r = repeated)			PHYSICAL RESPONSE	PAR MODE
		Verbal	Visual Aid	Written	Directed	Other	Pre-Lesson Period started:	Lesson Period started:	Post-Lesson Period started:		
1. Informed of purpose of AO	AO will Provide Some Benefit										
2. Clarified the tasks physical parameters	Teacher's Actions										
	Student's Actions										
3. Identified the topic of the task	Major Topics										
	Subtopics										
4. Provided background information	New Information									write listen observe vocalize read quiz/test homework study think misc./other	N L O V R Q H S T M
	Previous Lesson										
5. Stated the concepts to be learned	Content Based									CONCEPTS content based	content free
	Content Free										
6. Clarified the concepts	Examples										
	Non Examples										
	Cautions										

INTERVIEW QUESTIONS

General Question

Tell me as many things as you can about what you learned in today's class.
Tell me about ideas you learned as well as facts.

Advance Organizer Questions

1. What background information did the teacher give you that helped you today?

2. Tell me how the information covered in past lessons helped you to understand what was covered in class today.

3. Did you find today's lesson interesting? Why? Why not?

4. Tell me the new words that you learned today.

5. Tell me the main ideas or concepts that the teacher presented today.

6. Tell me how the teacher organized today's lesson.

7. Did the teacher summarize or review what was covered today when the lesson was finished?

8. Tell me the things that the teacher did today that helped you learn more.

9. Tell the things that you actually had to do today in class.

10. Tell me what you are supposed to do for homework.

11. Did the teacher give you an outline?
    Did the teacher give you a list of things to be covered?
    Did the teacher tell you what was going to be covered first, second, third, etc.

12. Tell me the topics that were covered in class today.

13. Tell me what will happen if you do not learn the information presented today.

14. Tell me what will happen if you learn the information presented today.

15. When you get done learning all of the information presented to you today, what do you think the teacher wants you to be able to do?

16. Did the teacher give you an overview of what was to be covered today before he/she started the lesson?

17. Give me example of the ideas or concepts that you covered in class today.

18. On a scale of 1 to 7, I want you to rate how confident you feel about your understanding of today's lesson. (Read/show student ratings)

    7 I feel very confident
    6 I feel fairly confident
    5 I feel a little confident
    4 I do not feel one way or another
    3 I feel a lillitle unconfident
    2 I feel fairly unconfident
    1 I feel very unconfident

19. Is there anything else you want to tell me about your class today?

APPENDIX K

ADVANCE ORGANIZER WORKSHEET

DEVELOPING AN ADVANCE ORGANIZER TOPIC: _____	
STEP 1: Inform students of advance organizers a. Announce advance organizer b. State benefits of advance organizer c. Suggest that students take notes on the advance organizer	
STEP 2: Identify topics or tasks a. Identify major topics or activities b. Identify subtopics or component activities	
STEP 3: Provide an organizational frame-work a. Present an outline, list, or narrative of the lesson's content	
STEP 4: Clarify action to be taken a. State teacher's actions b. State student's actions	
STEP 5: Provide background information a. Relate topic to the course or previous lesson b. Relate topic to new information	

STEP 6: State the concepts to be learned a. State specific concepts/ideas from the lesson b. State general concepts/ideas broader than the lesson's content	
STEP 7: Clarify the concepts to be learned a. Clarify by examples b. Clarify by non-example c. Caution students of possible misunderstandings	
STEP 8: Motivate students to learn a. Point out relevance to students b. Be specific, short-terms, personalized and believable	
STEP 9: Introduce vocabulary a. Identify new terms and define b. Repeat difficult terms and define	
STEP 10: State the general outcome desired a. State objectives of instruction/learning b. Relate outcomes to that performance	

APPENDIX L

USING ADVANCE ORGANIZERS WORKSHEET

USING ADVANCE ORGANIZERS

TOPIC _____

Did the teacher let you know:	Information
1. that an... outline preview advance organizer ....will be given?	
2. the topic? the subtopics?	
3. what would be covered 1st 2nd 3rd?	
4. what he/she was going to do? what you are going to do?	
5. how today's lesson relate to what you covered in another lesson? how today's lesson relates to anything else?	

6. the <u>idea</u> or <u>concepts</u> to be learned?	Information?
7. some <u>examples</u> of these ideas or concepts?	
8. how this lesson relates to you?	
9. what are the <u>new words</u>?	
what these words mean?	
10. what the teacher wants you to <u>be able to do</u> at the end of this lesson?	

APPENDIX M

ADVANCE ORGANIZER PRIMARY INVESTIGATION TEST PACKAGE

SOCIAL STUDIES BACKGROUND TEST

Name: _____

Grade: _____

SOCIAL STUDIES BACKGROUND TEST

1. _____

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2. _____

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ADVANCE ORGANIZER

TULIPMANIA

This advance organizer will help you understand and remember more information in the story of Tulipmania. As I read the advance organizer I want you to underline the words that you think will be the most important in helping you understand Tulipmania.

This passage is about tulips in the Netherlands in the 1600's. The reading will tell you (a) how the tulipmania happened, and (b) what happened in the Netherlands because of the tulipmania.

The story of Tulipmania points out that the tulip itself, as well as a plant disease, caused the tulipmania. The tulipmania affected almost everyone in the Netherlands in one way or another, and had a bad effect on the money system of the country.

A major idea is that a fad or a craze can quickly affect a whole country. More recent fads have included bellbottom pants and country and western music. This passage also shows you a good example of price inflation. The price of something is affected by how badly people want it. You know inflation has hit when the bicycle you bought last year for $100 can be sold for $200 this year.

When you get done with this passage I want you to be able to identify the most important information in Tulipmania.

STORY

Tulipmania

Until 1615 the favorite of all flowers in Europe was the rose. But in a short time public opinion changed in favor of the tulip. Tulips had first been brought to Germany from Turkey in 1559. They were first brought into the Netherlands in 1593. The general public began to take an interest in this new flower as the result of a sudden craze for tulips in Paris. Suddenly the tulip found itself considered an important flower and a sign of wealth. At that very moment, the sudden spread of a plant disease produced several strange changes in its petals. People took advantage of this plant disease by producing many new kinds of tulip.

The rush for tulips had now spread through Europe. The Netherlands, and in particular the town of Haarlem, became the main supplier of bulbs. In 1625 the bulb of a favorite tulip was already worth its weight in gold. The experts created pink, violet, yellow tulips, and others using many colors in several ways. Hundreds of different kinds were grown. The bulbs sold for high prices. Also, it was easy to grow them on the smallest piece of land. Everyone wanted to get in on this new adventure.

The weavers of Haarlem, who had an important trade in this town, threw themselves into this work even though they knew nothing of tulips. The flower trade grew and grew to an all time high in the winter of 1636. It ended quickly just a few months later. This craze has since been named "tulipmania." Everybody became involved. Butchers, errand-boys, innkeepers, barbers, chimney-sweeps, tax-collectors, were struck with "tulipmania." Not one class of people was left out. The few citizens who kept their heads called the rest 'the hooded ones.' This referred to the hoods worn by madmen.

In the town of Hoorn a house was bought for the price of three tulip bulbs. When several buyers were after the same bulb they did not hesitate to offer the seller huge bribes. They might offer him a coach, or a fine team of horses. Buyers and sellers met two or three evenings each week. They met in bars where their trading lasted late into the night. The same bulb might be sold as many as ten times in a single day.

Many people had bought on credit. If they were not able to sell the bulbs they found themselves not able to pay their bills. Suddenly the public became scared because the country's wealth came from a system based on credit. On the 24th of February a group met in Amsterdam and decided from that day on only contracts drawn up before the 30th of November 1636 were to be payed. Later contracts were cancelled. The buyer could free himself of his contract by paying a small amount to the seller and returning the bulb to him. On the 27th of April the States of Holland approved this decision. On the following day the price for the most costly bulbs dropped from one thousand to ten dollars! Sanity had returned - at the price of many individual tragedies.

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As part of your participation i this University of Kansas study, you will be reading three short stories and answering multiple choice questions.

By cooperating, you will help provide answers to important questions. Confidentiality will be guarded. Your name will not be connected with your answers in any public report of the results.

1. This envelope has the materials you will need to take part in this study. Do not get them out of order. Do not look ahead.
2. Carefully remove the materials from the envelope. There should be a page with the word "STORY" on top of the materials. Do not read the story until you are told to begin. This is not a timed test so you will not have to rush.
3. Each story has a stapled set of questions that goes with it. Check to make sure that you have three stories and three sets of questions. Check to make sure that the title of the story matches the title of the set of questions.
4. Put your name on the 3 sets of questions right now. Be careful not to mix up the order.
5. You are going to read each story and answer a set of multiple choice questions on each story. As soon as you have read the first story carefully you should put the story back in the envelope. Do not look back.
6. When you are done with a set of questions you should wait until all other students are finished. DO NOT GO ON UNTIL YOU ARE TOLD.
7. Before each story I want to talk to you a little about the reading passage. So it is important that you do not go on till I have had a chance to talk to you.
8. Before I tell you about the first reading passage, I want to go over the kind of questions you are going to have.
9. Multiple choice questions require that you select one best answer from several answers. For each multiple choice question you will have 5 choices. Please CIRCLE the letter of the one answer that best answers or completes the multiple choice item.

SAMPLE QUESTIONS AND ANSWERS:

Who discovered America for Spain?

a. Cortez
(b.) Columbus
c. Magellan
d. Vespucci
e. Washington

The first president of the United States was....

a. Adams
(b.) Washington
c. Lincoln
d. Jefferson
e. Franklin

10. Make sure you CIRCLE a letter for each question.
11. As soon as you answer all the questions for that story, put your set of questions in the envelope. Then wait quietly. Put your pencils down to show me that you are finished.
12. Before you leave make sure your name is on your envelope. You must sign your name as you go out in order to get your $2.00.

THANKS!!!

NAME: _____

GRADE: _____

QUESTION - Tulipmania

Tulipmania

1. When did the plant disease first spread to the tulips?

   a. at the time they first came to Germany.
   b. when they became popular in the Netherlands.
   c. at the time they were popular in Paris.
   d. at the time of "tulipmania".
   e. when the town of Haarlem began supplying bulbs.

2. How did the disease to the tulips affect the people of the Netherlands?

   a. people were able to produce many kinds of tulips.
   b. people lost their jobs and their homes.
   c. people lost a lot of their savings.
   d. people were able to buy the tulips cheaply.
   e. people could no longer use tulips cheaply.

3. What happened throughout all of Europe as a result of the tulip plant disease?

   a. roses became popular once again.
   b. tulips were sold very quickly.
   c. tulips were in a great demand.
   d. tulips got the disease and died.
   e. tulips became very cheap to buy.

4. "Tulipmania" lists three colors that the tulip experts created. These three colors included:

   a. yellow, pink, and violet
   b. red, yellow, and pink
   c. violet, orange, and red
   d. pink, orange, and red
   e. yellow, violet, and orange

5. According to "Tulipmania," in addition to creating new colors for tulips, the experts also created tulips with

   a. bulbs that were of different sizes.
   b. stems that were much stronger.
   c. colors used in many different ways.
   d. flowers that lasted longer on the stem.
   e. leaves that were of different shapes.

6. According to "Tulipmania" what was one of the reasons why tulips became popular?

   a. they had stems that were sturdy.
   b. they were very easy to grow.
   c. they needed very little water.
   d. they could be grown from seed.
   e. they could be used in perfumes.

7. How did the weavers of Haarlem respond to the tulip craze?

   a. they organized the selling and trading of tulip bulbs.
   b. they organized many tulip growing clubs.
   c. they felt that people who raised tulips were mad.
   d. they felt that weaving was more important than tulips.
   e. they threw themselves into raising and selling tulips.

8. According to "Tulipmania" what group in the Netherlands knew nothing about raising tulips?

   a. the painters of Amsterdam
   b. the clockmakers of Hoorn
   c. the florists of Brussels
   d. the weavers of Haarlem
   e. the farmers of Hoorn

9. What would a coach with a team of horses be used for during the tulipmania?

   a. to bribe tulip sellers.
   b. to deliver the tulip bulbs.
   c. to symbolize the tulip growing trade.
   d. to collect a tulip tax.
   e. to transport tulips in the city.

10. The tulip business was so popular that tulip buyers and sellers

   a. were not able to spend time with their families.
   b. were able to take vacations to many different countries.
   c. had to meet everyday in order to do all of the trading.
   d. had to form tulip trading clubs to conduct business.
   e. had to meet two or three evenings each week.

11. How did the tulip buyers and sellers usually conduct business?

   a. they often met in dark alleys and streets.
   b. they met in bars for their tulip business.
   c. they met in city council rooms to trade.
   d. they often ate large meals as they traded.
   e. they began by naming all the bulbs to be sold.

12. How long did the trading of tulip bulbs usually last?

   a. until late at night.
   b. until early morning.
   c. until late morning.
   d. until early afternoon.
   e. until early evening.

13. What might happen to a bulb in a single day?

   a. it might travel all over Holland.
   b. it might be sold as many as ten times.
   c. it might be sold as many as three times.
   d. it might be sold for ten to a thousand dollars.
   e. it might be given five different names.

14. What happened when many of the people in the Netherlands could not sell their bulbs?

a. the government bought the bulbs from them.
b. the council of Hoorn met in an emergency session.
c. the price of tulip bulbs rose even higher.
d. the national council passed some new laws.
e. people met in Amsterdam to discuss the problem.

15. What was done to help the people who could not sell the tulip bulbs that they had bought on credit?

a. contracts could be cancelled at any time by the buyer if the seller agreed to the cancellation.
b. contracts drawn up before a certain date were the only ones that had to be paid.
c. contracts could be cancelled if at least fifty percent of the price had been paid.
d. contracts made for tulip bulbs were only good if no payments had been made.
e. contracts could be cancelled ten days after the signing if the buyer returned the bulb.

16. What happened to the tulip bulb if a tulip buyer wanted to get out of the contract?

a. the bulb was auctioned off.
b. the bulb was kept by the buyer.
c. the bulb was returned to the seller.
d. the bulb became the property of the court.
e. the bulb was given to a third party.

17. How much money did the buyer have to pay back to get out of a contract?

a. as much as he could afford.
b. the full amount was paid.
c. a small amount was paid.
d. half of what was owed.
e. no amount was paid.

18. On what date did the States of Holland approve the method for settling contracts?

a. 27th of April, 1637
b. 30th of November, 1636
c. 9th of May, 1593
d. 10th of June, 1636
e. 1st of July, 1637

19. What was the result of the tulipmania?

a. the government of the Netherlands lost all of its money.
b. the Netherlands no longer were able to grow tulips.
c. tulip bulbs cost more money than ever before.
d. many people became very rich and powerful.
e. there were many individual tradegies.

20. Which of the following is true of tulipmania?

a. tulips did not become very valuable.
b. most people did not go into the tulip business.
c. the center of the tulip craze was Paris.
d. the tulip became the symbol of Holland.
e. people borrowed on credit to buy tulip bulbs.

ADVANCE ORGANIZER

ABORIGINES

This advance organizer will help you understand and remember more information in the story of the Aborigines. As I read the advance organizer I want you to underline the words that you think will be the most important in helping you understand Aborigines.

This passage is about a group of people who lived happily in Australia until the 1800's. The reading will tell you (a) how the aborigines lived, and (b) what happened when the Europeans came to Australia.

The story points out that the Europeans did not feel that they were doing anything wrong. Although some of the Europeans who visited the aborigines in the 1800's really liked the life of the aborigines, not all Europeans felt that way.

A major idea in this story is that one group of people can affect another group of people just by being there. Another idea is that often one group believes that they have the better way of doing things. They may then try to change the other group. When this happens usually one or both of the groups can be hurt or made unhappy. Many people think that one group of people should never force their way of life on another. The treatment of the aborigines is similar to the way the American white man treated the Native American Indians.

When you get done with this passage I want you to be able to identify the most important information in the story Aborigines.

STORY

ABORIGINES

An author once described the Australian outback as "either a desert or a flood." In some years it only rains three inches. Temperatures climb high into the 100's. In other years, heavy storms turn the desert into sandy swamps. Few early Europeans dared search out this world of stagnant water and dwarf trees.

Until the 1800's only aborigines were able to survive in the bleak deserts of Australia. With their great knowledge of the desert's changing seasons, these people moved constantly to different places for fresh water. They carried almost no belongings with them. Both men and women went naked and slept in simple windbreaks or out in the open. Their food was mostly roots, berries and insects, as well as rats, snakes, and lizards. Food often was eaten raw. From a flour of pounded seeds, women made small cakes that added very little nourishment to their food. When hunting was good, men were able to hunt for meat, usually a large bird or a kangaroo. They also fished.

Hunters drew pictures of the animals on bark shields to insure a large supply of game. They also imitated animals in dances. Charles Darwin watched one such dance in 1836. "One man", he wrote, "acted out the movements of a kangaroo grazing in the woods while a second crawled up, and pretended to spear him." When the explorers Robert Burke and William Wills were in Australia, they were even invited to join a dance. They refused. They did, however, use aborigines as guides. Trips by Europeans into the desert brought about the end of the aborigines' way of life. Smallpox and other new sicknesses killed a great many of them.

Greater damage was done by the shock that the European way of life had on these primitive people. White farmers violated holy places without knowing it. Hunting grounds became large sheep runs. Old laws were replaced by new ones that the natives did not understand. To defend their dying world, some hunters fought armed white intruders with their Stone Age spears. But few could re-create the simple existence that Captain James Cook had described in 1770. "They may appear to some," Cook observed, "to be the most wretched people on earth. But really they are far happier than we Europeans. Being unacquainted not only with the unnecessary but with the necessary comforts so much sought after in Europe, they are happy in not knowing the use of them. They live in peace which is not disturbed by the inequality of their condition. The Earth and Sea give them everything they need for life. They do not wish for great houses or nice furniture. They live in a warm and fine climate, and enjoy clear air. They see no use for clothes. They left behind the cloth that we gave them. In short, they seemed to set no value on anything of their own or any one article we could offer them. This, in my opinion, shows that they think themselves provided with all things they need for life....."

NAME: _____

GRADE: _____

QUESTIONS - Aborigines

Aborigines

1. The Aborigines knew a lot about

   a. growing food on the plains.
   b. surviving in mountain weather.
   c. growing food in the desert.
   d. hunting jungle animals.
   e. changing seasons in the desert.

2. The Aborigines moved around all the time to find

   a. other Aborigines.
   b. better land for farming.
   c. fresh water for drinking.
   d. food and shelter.
   e. wood for making weapons.

3. What did the Aborigines often eat?

   a. marsh grasses.
   b. seaweed.
   c. snakes.
   d. leaves.
   e. monkeys.

4. How did the Aborigines get flour for cooking?

   a. by trading with Europeans.
   b. by making it from the grain they grew.
   c. by making it from seeds they found.
   d. by trading with other Australians.
   e. by making it from dried marsh grasses.

5. When did the Aborigines find the hunting good?

   a. when there was plenty of rain and sunshine.
   b. when they could get larger animals for meat.
   c. when they could find lizards and snakes.
   d. when they could get small animals for meat.
   e. when they could find anything to kill.

6. Who was the European who in 1836 watched and later wrote about a dance of the Aborigines?

   a. Robert Burke
   b. William Wills
   c. Captain James Cook
   d. Charles Darwin
   e. Alfred Pricar

7. The European wrote that one Aborigine acted out the movements of a

a. snake crawling in the grass.
b. large bird attacking a small animal.
c. lizard trying to catch insects.
d. monkey in the trees.
e. kangaroo grazing in the woods.

8. The Europeans wrote that while the first Aborigine danced a second

a. started to do the same thing.
b. played drums.
c. invited the European to dance.
d. sang a hunting song.
e. crawled up to join him.

9. What did the second Aborigine do once he joined the dance?

a. chased the first Aborigine.
b. speared the first Aborigine.
c. climbed onto his back.
d. tied the first Aborigine.
e. pretended to catch a fish.

10. What was the occupation of Robert Burke and William Wills?

a. doctor
b. sailor
c. hunter
d. scientist
e. explorer

11. When Robert Burke and William Wills were in Australia they were invited

a. to sing with the Aborigines.
b. to eat snakes and lizards.
c. to hunt with the Aborigines.
d. to dance with the Aborigines.
e. to travel with the Aborigines.

12. What did Robert Burke and William Wills do when they were invited to join the Aborigines?

a. they joined them.
b. they refused to join them.
c. they left for Europe.
d. they made a treaty.
e. they killed them.

13. How did the Aborigines help Robert Burke and William Wills?

a. by giving them food.
b. by giving them medicine.
c. by trading with them.
d. by giving them water.
e. by acting as guides.

14. Why did Europeans violate the holy places of the Aborigines?

a. they did not respect the Aborigines.
b. they wanted to take their land.
c. they did not understand their religion.
d. they did not know what they were doing.
e. they wanted to make them into Christians.

15. How did the Aborigines react to the Europeans?

a. they defended their homeland.
b. they tried to hide in the desert.
c. they did not notice the Europeans.
d. they accepted the European's ways.
e. they would not talk or look at them.

16. What happened when the Europeans attacked the Aborigines with guns?

a. they fought them with spears.
b. they threw rocks at them.
c. they did not fight back.
d. they fought them with guns.
e. they moved to other areas.

17. Where did Captain Cook believe that the Aborigines got everything they needed to live?

a. swamps and marshes
b. earth and sea
c. desert plains
d. trading centers
e. Europeans

18. According to Captain Cook, what kind of climate did the Aborigines live in?

a. warm
b. cold
c. dry
d. wet
e. hot

19. What was a resource that Captain Cook felt the Aborigines had?

a. clean air
b. clean water
c. good land
d. minerals
e. forests

20. It appeared to Captain Cook that the Aborigines put little value on

a. anything of their own.
b. their own families.
c. any type of religion.
d. trying to read the weather.
e. fighting the Europeans.

ADVANCE ORGANIZER

GREECE

This advance organizer will help you understand and remember more information in the story of Greece. As I read the advance organizer I want you to underline the words that you think will be the most important in helping you understand the story Greece.

This reading is about the people who were living in Greece about 500 years ago. At that time the people of Turkey had taken over Greece and ruled over the Greeks. This reading will tell you (a) about how the Turks treated the Greeks and (b) how the Greeks took this treatment.

The story points out that the Turks and Greeks did have differences. They were two different groups with two different religions. Religion was one of the most important things to both the Turks and Greeks.

A major idea of this reading is that freedom is defined differently by different people. As you read the passage you will see that the Greeks gave up one type of freedom for another. The treatment of the Greeks in this story is somewhat similar to the treatment of the Black slaves in America by the better southern plantation owners.

When you get done with this passage I want you to be able to identify the most important information in the story Greece.

STORY

GREECE

The Truks referred to their alien captives as rayah. The word means "cattle." It was not an insult to the Greeks or any other conquered people. It was simply the expression of an attitude. The Turks had long been people who roamed the Eurasian plains. They lived together with their flocks and herds as long as conditions permitted. Now Constantinople, together with a growing empire, belonged to them. They were very devoted to the spread of Islam. The Christians that they ruled felt no such devotion. Christians within the Turkish rule were seen by their Turk masters as lacking true religion or spirit. That made them "cattle" from the Moslem viewpoint. Christians within the empire were forbidden to carry weapons or to ride on horseback. Such things would not be nautral for them, the Turks felt.

Every Christian had to pay a yearly "head tax" to keep his head on his shoulders. If they didn't they were beheaded. Every Christian family that had five male children had to give one son to the Turks to be raised as a janissary, an important soldier in the Turkish army. The word comes from the Turkish yenicari. The word means "new soldiers." Janissaries formed a special army. (Moslem parents used to sneak their children into Christian homes in the hope that they would be officers in the army.) They could not marry. All their loyalty was at the kings command. They were the most important guards in Turkey. This cruel tax at least guaranteed a job for sons who were taken. Christians could only watch when they saw their most beautiful daughters taken away to the Turks to be harem slaves. Harem slaves were kept in luxury, and might even become the mothers of important Turks and kings.

The prophet Mohammed directed his followers to allow religious freedom to "People of the Book." That included Jews and Christians. Therefore the Greek Christian archbishop was carefully respected by the Turks.

With the exception of some taxes on a son or daughter, Greeks of this time gave to the sultan the things that were the sultan's. They gave to God the things that were God's. They were not made to pray to false gods. They were not made to go against the teachings of Jesus and "live by the sword." The Christians' lands were their own, to use. They were allowed to teach the children who were not taken away. This protected the growth of the Greek language and faith. Even the gods of old Greece returned as saints and angels ready to help the humble and the wise.

From this view of history, Greece had all but disappeared behind Turkey's heavy curtain. Yet for the Greeks, life went on in a new mood of quiet, peace, small joys, and family sorrows. You might say that Turkish rule actually helped Greeks practice what Christ had preached. They were made to live as a mild flock, like sheep—or "cattle," as the Turks said.

NAME: _____

GRADE: _____

QUESTIONS - Greece

Greece

1. Where had the Turks traveled and roamed for a long time?

   a. Italy
   b. Constantinople
   c. Turkey
   d. Eurasian plains
   e. Greece

2. What was the relationship of the Turks to the Christians?

   a. masters
   b. slaves
   c. equals
   d. friends
   e. related

3. What did the Turks think of the Christians?

   a. they knew a lot about science.
   b. they lacked an advanced culture.
   c. they were good fishermen.
   d. they could not be controlled.
   e. they lacked true religion.

4. Why did the Turks feel that the Christians should not ride on horseback?

   a. it would be against the Islam religion.
   b. they believed they should only raise horses.
   c. they might escape their masters.
   d. they were a symbol of the ruling class.
   e. it would not be natural for them.

5. Who were the janissaries?

   a. a special army.
   b. the king's farmers.
   c. the servants of the king.
   d. a group of special messengers.
   e. the Turks who became Christians.

6. How did Turkish parents prepare their children to become officers in the king's special army?

   a. by turning their children over to the king.
   b. by paying the janissaries to train them.
   c. by taking their children to the desert to train.
   d. by training them to fight the Christians.
   e. by sneaking their children into Christian homes.

7. How could Christian parents be sure that their sons would have jobs?

a. by selling their children to Moslem households for slaves.
b. by giving their sons to be raised for the army.
c. by sending them to the king to be traders.
d. by training them in the family business.
e. by marrying them to a Moslem girl.

8. How did Mohammed say that the "People of the Book" should be treated?

a. they should be treated as cattle.
b. they should have religious freedom.
c. they should be the religious leaders.
d. they should be killed on sight.
e. they should be the defenders of Islam.

9. According to "Greece", who did Mohammed feel that the "People of the Book" included?

a. Christians
b. teachers and prophets
c. Jewish people
d. Turkish people
e. Jews and Christians

10. What did the Turks do as a result of Mohammed's teachings?

a. they made the Christians slaves.
b. they gave the Christians complete freedom.
c. they took away all weapons from the Christians.
d. they respected the Greek Christian Archbishop.
e. they killed a certain number of Christians at the first of each year.

11. What was one of the few things that the Christians had to give to the Sultan?

a. one year of service as a soldier or slave.
b. a promise to change to the Islam faith.
c. taxes on a son or daughter.
d. a portion of their food.
e. horses that they raised.

12. What did the Greeks believe they should do with the things that were the sultans?

a. they should sell them to the Turkish people.
b. they should give them to the sultan.
c. they should keep what they could.
d. they should be destroyed by fire.
e. they should be shared.

13. What did the Turks do when it came to the teachings of Jesus?

a. they started to follow them.
b. they would not allow his teachings.
c. they only let a few people study them.
d. they would not let the children learn them.
e. they did not make the Christians go against them.

14. What happened when the Christians were allowed to teach their own children?

a. the sultan began to fear the Christians.
b. the Greek language and arts continually grew.
c. the sultan took away many Christian children.
d. schools soon began to spring up all over Greece.
e. Moslems wanted the Christians to teach their children.

15. What were the saints and angels supposed to do for the Greeks?

a. teach them to bear the Turkish rule.
b. make their religion more like Islam.
c. destroy their Christian faith.
d. help the wise and the humble.
e. help them grow better crops.

16. Some people believe that Greece had all but disappeared behind the power of Turkey. This belief is

a. only one view of history.
b. should be considered historical fact.
c. seen by historians in the same way.
d. probably the best view of history.
e. not demonstrated in this story.

17. According to "Greece", the Turkish treatment of the Greeks caused

a. the Greeks to hate the Turks.
b. a war to break out between them.
c. a great love to grow between them.
d. their lives to go on very quietly.
e. the Greek children to love the Turks.

18. What is the best single word that could be used to describe the life of the Greeks under Turkish rule?

a. peace
b. war
c. freedom
d. love
e. jealousy

19. What is an important idea behind the story of the Greeks?

a. people can easily be destroyed by a more powerful group of people.
b. people cannot live without another group of people to do their work.
c. people can accept a rough life if what is important to them is left alone.
d. people can destroy another group of people by taking away freedom of government
e. people can live without freedom of religion if other freedoms are given to them

20. Which of the following is true of the story on the Greeks?

a. the children could not have good jobs.
b. the Christians fought the Turks for freedom.
c. the Christians did not value their religious freedom.
d. the Turks respected the Christian religion.
e. the Turks were usually Christians.

APPENDIX N

ADVANCE ORGANIZER
TRAINING NARRATIVE
FOR
PRIMARY INVESTIGATION

ADVANCE ORGANIZER TRAINING NARRATIVE FOR PRIMARY INVESTIGATION

"Before each of the three reading passages I want to go over what you will be reading. The little introduction that I will give before each story is an advance organizer. The advance organizer is like a little ""pep" talk. It lets you know a little more about the reading, tries to get you interested in the reading, and in general, helps you to get organized and prepared for learning."

"There are 7 steps that I will use in giving you an advance organizer. The advance organizer, or introduction, that I will give you before each reading will follow these steps. I want to tell you these steps so that you will see how the advance organizer will help you in your reading. (Show overhead and go over the 7 steps.)

STEP 1 Introduce The Advance Organizer

In this step I will point out that I am using an advance organizer to help you in the reading.

STEP 2: Give The Topics To Be Covered

I will go over the topics that will be covered in the reading. This will give you an idea of what you will be reading.

STEP 3: Give The Order In Which The Topics Will Be Presented

I will let you know the order in which the reading talks about the topic by listing them for you as A, B, C.

STEP 4: Give Background Information

Next, I will try to relate the reading to things that you might already be familiar with.

STEP 5: Give The Main Ideas That Are To Be Learned

This reading has several ideas or concepts that are very important. I will point these out for you so that as you read you can gather information about them that will help you on the test.

STEP 6: Give Examples Of The Main Ideas

In order to make the main ideas more understandable, I will give you some examples. Hopefully, the examples will be ones that are familiar to you so you can see how it relates to the main ideas of the reading.

STEP 7: Tell Students What you Want Them To Be Able to Do

Finally, at the end of the advance organizer I will tell you what I want you to be able to do when you are finished reading the passage."

"Okay, do you have any questions?"

"The advance organizer should help you learn more from the passage, and because of this you should do better on the test."

"Okay, I am going to give you the advance organizer for the first reading. Get Ready."

APPENDIX O

CONSENT FORMS

The University of Kansas

Institute for Research in Learning Disabilities
Emphasis on Adolescents and Young Adults

Carruth-O'Leary Hall
Room 313
Lawrence, Kansas 66045
(913) 864-4780

January 5, 1982

Dear Parent(s) and Student,

We would like to ask you to allow your son/daughter to take part in a study which has been approved by the Olathe School District. The purpose of the overall study is to determine how teachers can improve learning by the way they present information. We wish to determine the effects of teacher presentations with students of varying abilities. In this way we can begin to determine which teaching methods can be used for all students with specific learning characteristics.

If you decide to let your son/daughter participate, he/she will be asked to spend one hour of school time reading a short passage and then taking a test over its content. This reading passage and test will become the means by which we will measure the effectiveness of teacher presentations.

We will need to gain access from school records on such things as your son/daughter's grades, test scores, and attendance. All information will be kept in confidence and will be reported as group information only.

Your permission to allow your daughter/son to participate is requested, but is strictly voluntary. You or your daughter/son are both free to withdraw at any time without fear of prejudice. Please do not hesitate to call one of us listed below if you have any questions.

Please sign below to show your permission. Return one permission form with your daughter/son to the school. Please keep one form for your reference. We very much appreciate your cooperation. This study holds the promise of allowing educators to provide instruction better suited to each student's needs.

Sincerely,

Gordon R. Alley, Ph.D.
Professor of Special Education

B. Keith Lenz
Research Associate
(913) 864-4700 (collect)

Date_____/_____/_____

I hereby give my permission for _____ to take part in the study.

_____
(Parent's signature)

I hereby agree to take part in the study. _____
(Student's signature)

The University of Kansas

Institute for Research in Learning Disabilities
Emphasis on Adolescents and Young Adults

Carruth-O'Leary Hall
Room 313
Lawrence, Kansas 66045
(913) 864-4780

February 18, 1982

Dear parent/student:

We would like to ask your son/daughter to take part in a study which has been approved by the school district. The purpose of the overall study is to determine how teachers can improve learning by the way they present information. We wish to determine the effects of teacher presentations with students of varying abilities. In this way, we can begin to determine which teaching methods can be used for all students, and which methods should be used for students with specific learning characteristics.

If you decide to let your son/daughter participate, he/she will be asked to take 5 minutes at the end of various class periods to take a short quiz over material the classroom teacher has assigned. The classroom teachers are also involved in this project and will be using several different methods of presenting information to students. The study will take place during the spring semester. Your son/daughter will be paid $10.00 for assisting us in this study.

Permission to allow your son/daughter participate is requested, but is strictly voluntary. You may withdraw your permission at any time without fear of future prejudice. Please do not hesitate to call one of us listed below if you have any questions.

Please sign below to show your permission. Return one permission form in the enclosed, self-addressed and stamped envelope. Please keep one for for your reference. We very much appreciate your cooperation. This study holds the promise of allowing educators to provide instruction better suited to each student's needs.

Sincerely,

Gordon R. Alley, Ph.D.
Professor of Special Education
Co-Principal Investigator

B. Keith Lenz
Co-Principal Investigator
(913) 864-4780-call collect

I have read this consent form and agree to take part in this study.

Date ____/____/____ _____

(parent's signature)

_____

(student's signature)

The University of Kansas

Institute for Research in Learning Disabilities
Emphasis on Adolescents and Young Adults

Carruth-O'Leary Hall
Room 313
Lawrence, Kansas 66045
(913) 864-4780

February 21, 1982

Dear Teacher:

We would like to ask you to take part in a study which has been approved by the Olathe school district. The purpose of the study is to determine how teachers can improve learning by the way they present information. We wish to determine the effect of teacher presentations with students of varying abilities. In this way, we can begin to determine which teaching methods can be used for all students, and which methods would be used for students with specific learning characteristics.

If you decide to participate, you will be asked to learn and use a method for presenting information to students. You will be asked to use this method in teaching regularly presented content, and your use of the method in your classroom will be observed. Student learning will be measured by giving the students oral tests over the classroom material. While you will be asked to assist us in judging the relative "importance" of the material that the student recalls, we will be conducting the oral tests at the end of the period. The training and observations will take place during the spring semester. You will be paid $50.00 for your assistance in this study.

Your permission to participate is requested, but is strictly voluntary. You may withdraw your permission at any time without fear of future prejudice. Please do not hesitate to call one of us listed below if you have any questions.

Please sign below to show your permission. Return one permission form in the enclosed, self-addressed and stamped envelope. Please keep one form for your reference. We very much appreciate your cooperation. This study holds the promise of allowing educators to provide instruction better suited to each students' needs.

Sincerely,

Gordon R. Alley, Ph.D.
Professor of Special Education
Co-Principal Investigator

B. Keith Lenz
Co-Principal Investigator
(913) 864-4780-call collect

I have read this consent form and agree to take part in this study.

Date ____/____/____ _____
(Participant's signature)

APPENDIX P

Preliminary Investigation

Student Response

Scoring Criteria

Specific Scoring Criteria

1. Advance Organizer

Award 1 point for any indication that the student was aware of an advance organizer. There must be some reference to a pre-instructional activity.

Scoring Examples:

1 point "The teacher told us what we were going to learn today."

1 point "We had an overview."

1 point "She told us what we were going to do."

1 point "The teacher gave us a worksheet as an overview."

1 point "Told you what he was going to cover."

No point "The teacher went over the information."

No point "He put the stuff on the board."

2. Topics

Award 1 point for each Topic and/or subtopic that the student could identify.

Score

3 points "We covered rocks, plants, and minerals."

3 points "She told us about the New Deal and how President Roosevelt helped us and how his wife helped."

Do not score subtopics separately from topics. Score topics as one category. However, whether the student can identify topics from subtopics will be scored under organization.

3. Organization

Score 1 point for each categorization attempt made. If a student identified something as a major topic with 3 subtopics then 1 point would be scored.

Scoring Examples

0 points "He talked about the theme, the parts of a story, the plot, and how to finish.

In the 0 point example, the topics are a list of topics with no apparent hierarchial relationship.

1 point "The subject today was WW II. We talked about generals and battles and other things that were boring.

0 points "We talked about the New Deal, radios, movies, Eleanor Roosevelt, and Okies."

4. Teacher's and Student's Actions.

Score 1 point for each specific action that the teacher actually did or was supposed to do. Score 1 point for each specific action that the student did or was supposed to do.

Scoring Examples

2 points "We discussed Greece"

1 point "I took notes over the lectures"

No point "I messed around during the lecture"

5. Provide Background Information

Score 1 point for each statement that the student makes about a previous lesson or related information not in the lesson.

Scoring Examples

Current topic: Adverbs

1 point "Yesterday we talked about how adjectives modify nouns. Adverbs modify verbs.

Current topic: Columbus

4 points "She told us that before Columbus came to America the Indians in parts of America were very advanced. Some ha: cities. Some people think they came from Asia. They walked across to here from Asia across the frozen oceans between Alaska and Russia"

Current topics: Greece

No points We studied Greece today and how Greece became great"

6. Concepts

Score 1 point for each statement identifying ideas or concepts that were covered in the lesson. Topics are not Concepts.

Scoring Examples

1 point "Wood is a better conductor of electricity than stone."

1 point "Eleanor Roosevelt made a lot of Franklin Roosevelt's decisions."

No points "We learned about Eleanor Roosevelt and what she did"

7. Clarification

Score 1 point for each supporting statement that serves to elaborate or clarify one of the concepts identified. If no concept was stated, then no supporting information can be scored. Statements connected by and", "but", "however", and other conjunction should be scored separately (1 point each).

Scoring Examples

Concept: The power of Eleanor Roosevelt

3 points "Eleanor Roosevelt used her power for the good of many people and to protect her husband. She is very respected for her courage."

No points "The poor treatment of the American Indian

3 points "Not all of the white men were cruel to them. Some tried to help. Many good things happened between some white men and the Indians, (and is not used as a conjunction in this statement)

Motivation

Score 1 point if the student can state how the information relates to him/her, or can give a rationale as to why this is important to know. Score 1 point if the student can state any positive or negative results of learning--or not learning the information covered in class.

Example Scoring

1 point "If I learn this I will do better on test"

1 point "I have to deal with this problem every day with my friends"

No point "I liked this, it was interesting"

Vocabulary

Score 1 point for each vocabulary word the student can identify. Score an additional point if the student defines any of the vocabulary words.

Example Scoring

3 points "progressive, militant, radical""

5 points "civil rights, legislative,appeal, indictment. Indictment means to make a formal complaint against someone"

No points We learned the words on the chalkboard and in the book"

No points The teacher told us the new words we were to learn"

Outcomes

Score 1 point for each outcome the student is able to identify. Outcomes are related to goals and objectives. Assignments are not scored unless they are tied directly to the class.

1 point "We are supposed to know the names of the presidents"

1 point "We have to write a one page paper over the causes of the civil war that we covered today"

No point "I have to write a one page paper over a general of the civil war"

No point "I have to read the next chapter"

No point "We have a test tomorrow"

General Rules

1. Do not score repeated statements, unless they are used in a different context
2. Probe for clarification of any answers
3. Elicit as much information through prompts such as:

   "Tell me some more"

   "What else"

   "Could you explain that"
4. Probe ""yes" and ""no" answers
5. Score conservatively. If in doubt write down your concern and discuss the scoring with me as soon as possible. Make sure to bring a tape recording if you have it.

GTOOD LUCK.

Keith

APPENDIX Q

INTEROBSERVER AGREEMENT DATA

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Interobserver Agreements

		Across All Periods	Pre-Lesson Period
Observer 1 (Joe)	(1)	96%	95%
	(2)	94%	100%
	(3)	100%	100%
	(4)	85%	86%
Observer 2 (Dave)	(1)	96%	100%
	(2)	100%	100%
	(3)	100%	84%
Observer 3 (Bill)	(1)	100%	100%
	(2)	94%	100%
	(3)	96%	86%
	(4)	85%	87%
Observer 4 (Don)	(1)	100%	100%
	(2)	96%	100%
	(3)	94%	92%
TOTALS		95%	95%

Interobserver Agreement
by AO Category

Categories	Per Cent Agreement
1. Informed of purpose of AO	67%
2. Clarified the tasks' physical parameters	98%
3. Identified the topic of the task	100%
4. Provided background information	100%
5. Stated the concepts to be learned	50%
6. Clarified the concepts	100%
7. Motivated students	100%
8. Introduced new terms/words	77%
9. Provided organizational framework	100%
10. Stated the general outcome desired	92%

APPENDIX R

RAW DATA SUMMARY FOR PRELIMINARY INVESTIGATION

RAW DATA TOTALS

TOTAL ORGANIZER USE ACROSS ALL PERIODS

ADVANCE ORGANIZER CATEGORIES	Before T/After T	TEACHERS T 1	T 2	T 3	T 4	T 5	T 6	T 7	T 8	Total	Average # used per obs. before/after training
	1	0/11	1/5	0/4	2/0	0/10	1/6	0/4	0/4	4/44	.36/.72
	2	20/17	12/11	21/16	47/18	15/12	13/18	16/11	18/11	157/114	2.31/1.87
	3	50/69	46/48	34/30	128/31	78/52	27/63	52/26	30/23	442/342	7.52/14.60
	4	8/17	3/8	5/6	45/4	4/12	5/22	8/6	4/5	82/80	1.21/1.31
	5	17/28	0/3	3/14	12/3	4/15	13/57	7/12	0/16	56/148	.82/2.43
	6	43/38	4/3	8/4	15/2	10/10	24/19	15/14	5/10	124/100	.35/1.64
	7	15/42	3/11	14/11	19/3	9/22	15/32	13/8	41/6	129/135	1.90/3.85
	8	13/51	3/20	2/8	12/13	8/33	5/22	62/20	3/32	108/199	1.59/3.28
	9	0/0	0/0	0/1	0/0	0/0	1/8	0/0	0/0	1/9	.01/ .15
	10	9/43	0/8	4/5	10/6	6/15	14/12	7/17	1/16	51/122	.75/2.0
	11	1/7	0/1	0/0	2/0	0/1	0/1	0/7	0/1	3/18	.05/ .29
	12	0/0	0/0	0/0	0/4	0/3	0/0	0/1	0/0	0/8	0/ .13
	13	12/12	4/20	3/8	17/9	4/10	3/8	8/5	4/4	53/69	.78/1.13
	14	4/2	5/9	5/1	14/5	3/2	2/2	2/3	10/4	46/28	.66/ .46
	15	23/25	2/12	3/2	22/6	3/14	7/49	12/30	5/25	77/163	1.13/2.67
	16	41/54	4/18	2/21	9/2	3/13	1/13	18/12	24/33	102/172	1.50/2.82
	17	10/9	1/3	1/2	0/1	0/2	0/1	8/3	15/0	35/21	.51/ .34
	18	3/8	0/2	0/4	10/1	2/1	2/13	2/3	0/3	19/35	.28/ .57
	19	6/8	0/2	0/3	11/1	4/3	0/0	2/1	4/1	27/20	.40/ .33
	20	0/10	0/1	0/7	1/0	0/5	9/2	0/1	1/0	2/26	.03/ .43
	21	3/1	0/5	0/0	0/4	0/1	0/0	1/3	0/5	3/19	.04/ .31
	22	2/9	1/8	8/15	2/1	2/3	5/9	10/3	1/10	38/58	.53/ .95
	23	0/3	0/3	1/1	1/0	0/4	1/0	6/0	5/2	14/13	.21/ .21
	24	3/0	0/2	0/0	2/0	0/2	0/1	2/2	0/0	4/7	.06/ .11
	25	0/0	0/0	0/0	1/0	0/0	0/0	2/3	0/0	3/3	.04/ .05
	26	0/0	0/1	0/0	4/3	0/0	0/1	0/0	1/0	5/5	.07/ .08
	27	0/1	0/0	0/0	0/1	0/0	0/0	0/0	1/0	1/2	.01/ .03
	Before T	284	88	114	384	158	139	249	170	1583	23.7
	After T	466	204	160	114	245	359	201	211	1960	32.13
	# of Obs. Before T	9	8	7	12	7	7	8	10	68	
	After T	14	8	7	3	10	10	5	4	61	
	Avg. # of Org. used per obs. Before T	31.56	11.0	16.0	32.0	22.1	19.86	24.9	17		
	After T	33.21	25.5	24.28	38.33	24.5	35.9	40.2	52.8		

RAW DATA INFORMATION

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The raw data for this research has not been included because of lack of space. Researchers interested in obtaining the raw data for the cost of duplication should contact one of the following:

B. Keith Lenz
Department of Exceptional Student Education
Florida Atlantic University
Boca Raton, Florida 33431

or

Gordon Alley or Donald D. Deshler
Department of Special Education
The University of Kansas
Lawrence, Kansas 66045