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ABSTRACT

This curriculum guide for vocational teacher education focuses on change in the public schools and more specifically, on how to help teachers understand: (1) the reform movement; and (2) the interrelationship between the reform movement and the movement to integrate basic skills into education. Introductory materials include a project overview, mission and goals of the curriculum, belief statements, curriculum format, information on preparation and time issues, definition of new basic skills, and a guide to lesson categories. This book contains four lessons: School Reform; Rules, Roles, and Relationships in Schools; Dynamics of Change; and Partnerships Involving the Community. Each lesson format is identical, and each category within a lesson has its own icon, for ease in locating the category in any lesson. Lesson categories are as follows: (1) perennial problem (for this curriculum, what should be done about integrating the new basic skills into vocational education?); (2) practical problem (action that can help address the perennial problem); (3) justification for lesson; (4) learner outcome; (5) instructor resources; (6) teaching strategy modeled; (7) lesson plan (content, new basic skills, process, application objectives); (8) teaching-learning interaction (introduction and steps to guide the teacher educator through the lesson); (9) debriefing strategies (options for summarizing the lesson); (10) evaluation options; and (11) individualized learning plan. Handouts are provided at the end of each lesson. An instructor resources section at the end of the book contains transparencies and handouts suitable for photocopying. (YLB)

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VOCATIONAL
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Integrating

Basic Skills Into

Vocational Teacher

Education Curricula

Cathleen T. Love
Gene W. Gloeckner

School of Occupational
& Educational Studies
Colorado State University

CHANGE IN THE PUBLIC SCHOOL

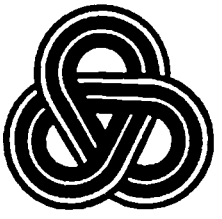

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TABLE OF CONTENTS

Lessons are paginated separately.

Integrating Basic Skills into Vocational Teacher and Counselor Education Curricula

PROJECT OVERVIEW

The goal of this project was to develop, field test, and disseminate curricula that would help preservice vocational education teachers and school guidance counselors learn how to integrate basic skills instruction into their work. One curriculum was designed for use by vocational teacher educators, the other for school guidance counselor educators.

The project staff followed four steps in developing these curricula. First, the staff developed field test materials with the help of two Working Group teams of national experts. (The Working Groups assisted throughout the project, identifying competencies, suggesting field test sites, recommending and helping to locate potential curriculum materials, reviewing materials chosen for inclusion in the curricula, and guiding the dissemination of draft curricula to field test sites.) Second, the project staff compiled two reviews of literature, one in vocational teacher education and the other in school counselor education, to help identify decisionmakers' current views on the importance of teaching basic skills to secondary and postsecondary students preparing to enter the workforce. Third, the project staff conducted site visits at nine vocational teacher education and nine school counselor education institutions. The Working Groups had identified these institutions as sites in which some emphasis was being given to basic skills in preservice curricula. Finally, the project staff used Working Group comments, the literature reviews, and the results of their site visits to produce draft sets of the two new basic skills curricula.

The project staff then field tested the draft curricula at nine teacher education and nine school counselor education institutions. (None of these were the same institutions at which site visits had been made.) At each field test location, project staff members worked with a Site Liaison to integrate the draft curricula into existing vocational teacher or school counselor education instruction. The project staff used the resulting field test reports to improve the lessons, formats, and teacher instructions of the new basic skills curricula.

Final versions of the two curricula have been sent to all site visit and field test locations and to major curriculum clearinghouses and teaching-materials dissemination sites. Information about the curricula has been sent to vocational and industrial teacher education programs and school counselor education programs nationwide. The procedures used in developing the curricula will be reported to major journals in vocational, counselor, home economics, industrial, and technology education. These procedures will also be summarized at presentations to state, regional, and national conferences in the same professional areas.

ACKNOWLEDGEMENTS

A United States Department of Education Contract through the Office of Vocational and Adult Education provided the funding for the development and production of this Integrating Basic Skills curriculum. The staff in the Office of Vocational and Adult Education provided valuable input and support. Special thanks for the leadership provided by Jackie Friederich, Richard Di Cola, Bernice Anderson, Laura Johns, Gisela Harkin, and Susan Webster.

Faculty and staff at Colorado State University, and particularly in the College of Applied Human Sciences, have been willing to provide necessary technical skills and assistance whenever needed throughout the contract. The School of Occupational and Educational Studies and the Department of Industrial Sciences were particularly instrumental in the success of this curriculum effort.

The Integrating Basic Skills curriculum was developed and written with guidance from experts in the field who have shown commitment and dedication to integrating basic skills into vocational education. We sincerely thank the members of our Working Group for their contributions. The members of the Teacher Education Working Group were: Kay Clayton, A & I University, Kingsville, TX; George H. Copa, University of Minnesota, Minneapolis, MN; Thomas H. Crumbaker-Smith, Boltz Junior High School, Fort Collins, CO; Jim Hubbard, Colorado Alliance for Science; Michael W. Neden, Delta County Schools, Delta, CO; Leno S. Pedrotti, Center for Occupational Research and Development, Waco, TX; L. Allen Phelps, University of Wisconsin—Madison, Madison, WI; Jane Plihal, University of Minnesota, Minneapolis, MN; and Sally Yahnke, Colorado State University, Fort Collins, CO.

Vocational teacher education programs at universities across the country assisted as visitation and field test sites. The input provided by both groups expanded and improved the final product. We are indebted to faculty, teachers, and students at the following institutions for the insights they shared.

Teacher Education Sites: Bemidji State University, Corpus Christi State University, Idaho State University, Illinois State University, Indiana University of Pennsylvania, Michigan Consortium, North Carolina Central University, Northwest Regional Educational Laboratory, The Ohio State University, University of California—Long Beach, University of Georgia, University of Maryland, University of Minnesota, University of Missouri, University of Wyoming, and Virginia Polytechnic Institute and State University.

During our site visit to the University of Maryland, Dr. Francine Hultgren shared the Perennial and Practical Problem approach used in the Home Economics Curriculum in Maryland. This was a turning point for our curriculum effort. We hope our curriculum model reflects the impact of Dr. Hultgren's work.

Dr. Donald Cruickshank, Professor Emeritus from The Ohio State University, graciously permitted us to use two Reflective Teaching Lessons. We hope that this curriculum project helps teachers and teacher educators reflect on their teaching in the manner which Dr. Cruickshank modeled so well.

The School of Occupational and Educational Studies at Colorado State University has an integrated faculty of vocational and general educators. The vocational teacher educators on this contract want to recognize the contributions of our general education faculty member, Dr. Barbara Nelson. Barbara's expertise in teaching models and lesson planning enhanced the curriculum and increased our commitment to the integration of vocational and general teacher education.

The leadership, guidance, and support provided by Dr. R. Brian Cobb, Project Director, facilitated our work on the project. Dr. Nancy Hartley and Dr. Jaime Stefan, Project Coordinators, kept progress running smoothly as we traveled and wrote. Dr. Joseph Daly and Dr. Rich Feller provided insights into the counselor's role in integration as we worked as an integration team.

In the two years in which we have been working, many people have been an important part of this team effort. Staff, graduate students, and student workers have contributed time and energy. Special thanks to: Len Albright, Bart Beaudin, Betty Bloom, Sheila Bowman, Lynn Butler, Susan Cipolla, Barbara Cisneros, Terry Deniston, Jackie Friederich, Jody Gerst, Betty Grant, Stephen Jaouen, Nathalie Kees, Katy Koenen, Jean Lehmann, Jon Lewis, Jeff Lovejoy, Dawn Mallette, Carmen Manning, Laura McIntyre, Fawn Milliken, Laura Myers, Kathy Phifer, Laurie Pierce, Tracey Seltzer, Dee Spaulding, John Sutton, Janet Trever, and Ron Warren. We appreciate the efforts of each of you.

Cathleen T. Love and Gene W. Gloeckner

MISSION AND GOALS

Mission Statement

The mission of this vocational education curriculum is to empower preservice teachers with the skills necessary to model, plan, and facilitate the acquisition of the new basic skills necessary for learners to be successful family members, workers, and learners.

Goals

To develop understanding of the new basic skills.

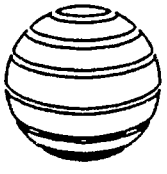
To generate integrated efforts to assist learners in achieving new basic skills.

To develop understanding of the multiple roles learners play in their work, family, and educational lives.

To promote public school teachers as leaders in school reform.

To develop an appreciation of the forces affecting change in the public school system.

To model through the teacher education program the integration of basic skills into the curriculum.



Perennial Problem

What should be done about integrating the new basic skills into vocational education?

BELIEF STATEMENTS

The following beliefs guided the development of the curriculum.

We Believe:

- The teacher is no longer a "walking encyclopedia." The teaching-learning model no longer resembles an assembly line in which the student enters kindergarten and progresses through the system in a "linear" fashion with "parts" being added to create a complete product. Instead, the teaching-learning model focuses on integrating content and process so that the teacher is a facilitator of learning.

- It is the responsibility of vocational teachers to assume a leadership role in the facilitation of the change process from the assembly line model to an integration model.

- The vocational teacher educator is a role model for the preservice teacher in curriculum areas such as these: the teaching of basic skills, teaching methods and content, evaluation techniques, and the value placed on positive learner outcomes.

- The preservice teacher is capable of developing the basic skills, teaching methods and content, and evaluation techniques necessary to facilitate positive learner outcomes in the vocational classroom.

- The vocational teacher must have ownership of the new basic skills to model those skills.

- Debriefing of each lesson is key to enabling the preservice teacher to internalize the concepts of the lesson.

- Learning to know must never be separated from learning to do. Knowledge is derived from both content and process. The acquisition of knowledge requires the active participation of the learner. Knowledge is dynamic, it is continuously reconstructed by the learner, and it is affected by constant change.[1]

- The aim of education is to develop individuals who are active participants in the acquisition of knowledge and in the formation of healthy systems in a democratic society.

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[1]Adapted form Hultgren, F. (Project Director). (1989). A conceptual guide framework for home economics curriculum in Maryland. College Park, MD: University of Maryland.

CURRICULUM FORMAT

The curriculum has been organized into five books and a review of literature. The review of literature can be used as an instructor resource in preparing to teach this curriculum and/or as a reading for students.

Each lesson developed for the vocational teacher education Integrating Basic Skills curriculum was written to stand alone. No lesson requires that students have participated in a prior lesson in the curriculum to understand the lesson you choose to teach. However, Book One, The Initial Steps, offers a knowledge base for the integration of basic skills if your students are unfamiliar with the concept.

The chart which follows summarizes the five curriculum books. The titles of the lessons in each book are provided in the second column. The last column states the practical problem that each lesson addresses.

Teacher Education Curriculum

BOOK	LESSON	PRACTICAL PROBLEM
One: The Initial Steps	Conceptualizing Basic Skills	What should be done to help teachers own the new basic skills?
	Models of Integration	What should be done to help teachers own integration?
	Keys to Integration	What should be done to promote the integration process and help remove the natural competitive barriers within schools?
Two: Changing Attitudes	Affective Domain: Changing Attitudes	What should be done to help teachers better understand how to assess student attitudes?
	Lifelong Learning	What should be done to help motivate future teachers to maintain their quest for knowledge and to broaden their concept of education beyond classroom learning?
	Student/Teacher Expectations	What should be done to help teachers recognize how student and teacher expectations affect learning?

BOOK	LESSON	PRACTICAL PROBLEM
Three: Reality of Learners	Social Conditions of Youth	What should be done to help teachers understand how societal conditions and stereotyping affect youth in the public schools?
	Learning Styles	What should be done to help teachers respond to the learning style differences of their students?
	Special Populations	What should be done to help teachers facilitate the success of *all* students in their classrooms?
	Teaching the Adult Learner	What should be done to help teachers better understand the needs of the adult learner?
Four: Change in the Public School	School Reform	What should be done to help teachers understand the school reform movement?
	Rules, Roles, and Relationships in Schools	What should be done about "turf" issues between vocational and academic education?
	Dynamics of Change	What should be done about recognizing the impact of information age technology on the learner's preparation for work, family, and further education?
	Partnerships: Involving the Community	What should be done to help teachers build relationships with healthy boundaries for themselves and others?
Five: Challenges for the Teacher	The Curriculum Challenge	What should be done to help teachers accept change as a constant in curricula?
	School Culture	What should be done to facilitate integration of the new basic skills given the power structure that exists in the public schools?
	Modeling Integration of Work and Family	What should be done to help teachers recognize how making personal lifestyle choices requires similar skills as making professional choices?

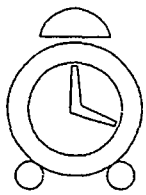
A similar set of materials has been produced by Dr. Richard W. Feller and Dr. Joseph L. Daly in the area of School Counselor Education. All materials are available by writing to: School of Occupational and Educational Studies, Education Building, Room 209, Colorado State University, Fort Collins, CO 80523.

PREPARATION AND TIME ISSUES

Preparation Time

Faculty who field tested these materials recommend **at least one hour** of preparation for each lesson. Although you are acting only as a facilitator in these lessons, the content and teaching strategy may be new and/or different. Taking the time to prepare will foster delivery of both the content and process. It is particularly important to note that some lessons have an assignment that must be given to students the day prior to the lesson.

Each lesson contains a list of the materials needed to teach the lesson, and copies of any transparencies or handouts which are part of that lesson. Be sure to check for any additional teaching materials, e.g., audiovisual equipment, flipcharts, etc., which are needed to facilitate the lesson.



Time For Lesson Plan Delivery

In the field testing of the curriculum, these lessons were offered in classes which ranged in time from one to three hours. The students who were part of the field testing were adamant about the need to allow students time to discuss the topics in each lesson. Often the discussions were seen as critical to the lesson impact.

Lesson content and process throughout this curriculum are driven by the needs and interests of the students. You know the unique needs and interests of the students with whom you are working. As you review the lesson, think about the time your students will need to experience the lesson, and divide the steps in the Lesson Plan into time allotments which meet the needs of your students.

Transparencies and Handouts

Transparencies and handouts are duplicated at the end of each book, in the Instructor Resources section. The transparencies and handouts can easily be pulled out of this section and photocopied.

NEW BASIC SKILLS DEFINED

Basic skills are often defined as skills that were once referred to as the academic skills of reading, writing, and arithmetic. However, studies conducted during the last decade have focused on a broader definition of basic skills. The lack of these "new basic skills" has been associated with America's decline in productivity.

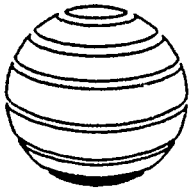
As part of the U.S. Department of Education project that funded the development of this curriculum, an extensive literature review was completed: Integrating Basic Skills into Vocational Teacher Education Curricula: Review of Literature, (Gloeckner, G., Cobb, B., Love, C., & Grant, B.).[2] One goal of the literature review was to provide an operational definition of the "new basic skills" for vocational teacher education. The authors sought to answer the question, *What knowledge and principles in liberal arts and occupational skill training help lead to success in work, family, and education?* The literature supported ten categories of new basic skills. In this curriculum, the new basic skills are defined as the knowledge and skills associated with these ten categories:

1. Learning to Learn
2. Reading, Writing, and Mathematics
3. Communication
4. Adaptability (creative and critical thinking and problem solving)
5. Personal Management (self-esteem, goal setting/motivation, and personal/career development)
6. Group Effectiveness (interpersonal skills, negotiation, and teamwork)
7. Influence (organizational effectiveness and leadership)
8. Technology
9. Science
10. Home/Family Management and Relationships

[2]Copies of the complete literature review are available from: School of Occupational and Educational Studies, Education Building, Room 209, Colorado State University, Fort Collins, CO 80523.

GUIDE TO LESSON CATEGORIES

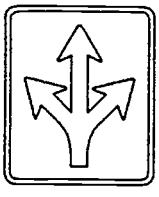
Each lesson format is identical, and each category within a lesson has its own icon, for ease in locating the category in any lesson. Lesson categories are described below.



Perennial Problem

A Perennial Problem is one faced over and over by successive generations of teachers. Perennial Problems include enduring questions about how to improve the quality of education. Posing curriculum lessons as Perennial Problems avoids focusing on time-specific problems. Developers of this curriculum have used the Perennial Problem approach throughout the curriculum. This approach provides a convenient framework for addressing issues involved in integrating new basic skills into vocational education.

The Perennial Problem informing this curriculum is: **What should be done about integrating the new basic skills into vocational education?**



Practical Problem

A Practical Problem identifies an action that can help address the Perennial Problem. This action is born of reasoned thought and sound judgment. Posing a Practical Problem in a curriculum is a way of focusing on both affective and cognitive processes, on both knowledge and values, on life experiences, and on thought and action. The Practical Problem approach can be used to help analyze a teaching situation, identify and address an education dilemma, generate and critique alternatives, and make value judgments.

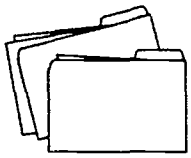
Justification for Lesson

To develop this curriculum, teachers integrating the new basic skills into vocational education were asked the question, "What would you have liked to have studied/discussed in your preservice education that would have prepared you to do a better job of integrating these skills into your work?" Their responses framed the lessons developed. The Justification for Lesson describes the contribution each lesson can make

in preparing teachers for integrating the new basic skills into vocational education.

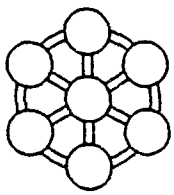
Learner Outcome

A Learner Outcome is a competency, level of knowledge, or quality that students should be able to demonstrate when they complete the lesson. Outcome-based education requires organizing the curriculum so that all students can reach the outcome. It demands a different approach to pedagogy, with emphasis on active modeling, expecting success, intensive engagement, diagnostic assessment, and frequent feedback to students.



Instructor Resources

This section lists all materials and supplies needed for the lesson, and gives guidelines for copying, adapting, and distributing necessary resources.

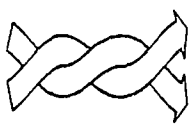


Teaching Strategy Modeled

Because knowledge is derived from both content and process, the teaching strategy modeled in the delivery of each lesson is critical to the expected outcome. A short synopsis of the "what," "why," "when," and "how" for each strategy is provided as a handout in each lesson. If you are unfamiliar with the teaching strategy, there is a source given on the handout for further exploration.

Lesson Plan

The Lesson Plan provides the content, new basic skills, process, and application objectives for each lesson. The step-by-step delivery of the lesson is given in the Teaching-Learning Interaction and the Debriefing. The final part of the Lesson Plan offers options for evaluation.



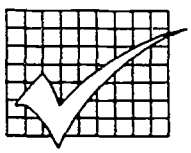
Teaching-Learning Interaction

The Teaching-Learning Interaction is the heart of the Lesson Plan. It includes an introduction and a series of steps to help guide the teacher educator through the lesson.

Debriefing Strategies

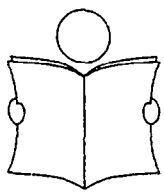
Debriefing Strategies are options for summarizing the lesson. In teacher education classes, students need the opportunity to discuss the content learned and the process (teaching strategy) in which they learned it. In addition, students are given the opportunity through debriefing to analyze what new basic skills they were practicing while participating in the lesson.

Debriefing helps education students critically examine how this lesson applies to their role as vocational teachers. Debriefing is an important part of the Lesson Plan. Planning time for debriefing is essential.



Evaluation Options

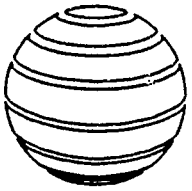
Evaluation Options for each lesson are based on the lesson's content, process, and application objectives. These options are meant to be adapted to meet the needs of your students.



Individualized Learning Plan

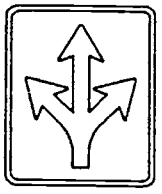
The plan for individualizing the lesson was provided by field test sites with individualized programs. The demonstration of competency required in the Individualized Learning Plan is the teaching of the lesson to a designated group.

SCHOOL REFORM



Perennial Problem

What should be done about integrating the new basic skills into vocational education?



Practical Problem

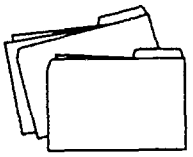
What should be done to help teachers understand the school reform movement?

Justification for Lesson

The movements to reform schools and to integrate basic skills into education are gaining influence. Teachers can benefit from knowing how these two movements interrelate.

Learner Outcome

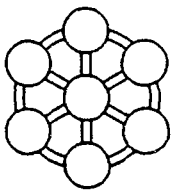
The learner will recognize the components of the school reform and integration movements.



Instructor Resources

Handouts:
- Key — School Reform
- Concept Sheets (8 pages; large print; untitled)
- Concept Attainment Strategy

Supplies:
- Board, chalk, markers, etc.



Teaching Strategy Modeled

Concept Attainment Strategy

LESSON PLAN

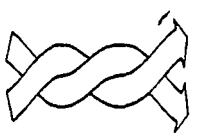
Objectives:

Content:
The learner will give examples of school reform practices.

New Basic Skills:
The learner will identify the new basic skills practiced in this lesson.

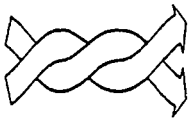
Process:
The learner will evaluate the Concept Attainment Strategy.

Application:
The learner will be able to identify school reform practices.



Teaching-Learning Interaction

Introduction:
Explain that in the lesson today the Concept Attainment Strategy will be used. Before the Teaching-Learning Interaction activity, a warm-up may be necessary to help students understand how the strategy works.



Teaching-Learning Interaction, continued

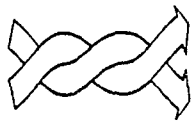
Introduction, continued:
An example of a warm-up is given below:

Write YES and NO on separate areas of the board. Silently select a concept which is visible in the students' dress (e.g., shoes with laces, striped shirts/blouses, glasses, buttoned shirts/blouses, jeans, etc.). Without explaining the concept, ask students to stand under either the YES or NO sign, beginning with a YES example, followed by a NO example, followed by another YES example. Once there are two YES examples, the students have clues as to the concept and can begin suggesting individuals to stand in either the YES or NO category.

When students think they know what the concept is, ask them to please *don't* tell the answer. Instead, ask them to suggest an individual to stand in either the YES or NO category. If no one is ready to try, continue to direct students to either the YES or NO category, asking the group where they think an individual should go. Periodically, remind students to concentrate on the YES category, identifying what all these individuals have in common. Poll students occasionally as to who thinks they have the concept and wants to determine the next example. End the activity when it appears that most students have the concept. Ask a student to state the concept.

At the conclusion of the activity, have students examine their thinking processes by asking questions like the following: What were some of your initial conclusions as to the concept? Which clues made you change your mind? For those of you who determined the concept, which clue made it clear? What went through your mind as you considered the clues? How did you deal with the frustration of not knowing the concept? If frustration had gotten the best of you, what could you have done to continue productively with the activity?

Learning Activities:
Step 1:
When students are familiar with the Concept Attainment Strategy, begin presenting the Concept Sheets. Cut the sheets where marked. (A key titled School Reform is provided at the end of the lesson and in the Instructor Resources at the end of this book. It can be passed out to students as a summary of School Reform criteria.)



Teaching-Learning Interaction, continued

Step 1, continued:
Follow the same procedure as in the warm-up activity. When most students have an idea of the concept, have them state it. With this particular Concept Attainment lesson, they may understand the concept but be unable to come up with the specific title of School Reform. The following questions can be used to prompt students:

1. What are the similarities among the items on the YES list?
2. Whose interests are served by the items on the YES list?
3. What is the image of schools reflected in the YES list?

Accept those answers that are in tune with the concept of School Reform, helping students to recognize the relationships of their concepts to School Reform.

Step 2:
Have students discuss their thinking strategies, comparing the efficiency of their thinking in this activity with the efficiency of their thinking during the warm-up activity.

Debriefing Strategies

Content:
Ask the following questions:

1. What examples would you add to the YES and NO categories?
2. Describe your understanding of the items on the YES list.
3. Have you seen any of these practices in schools? What were the effects?
4. What are the implications of instituting these practices in schools?

New Basic Skills:
During the lesson today, what new basic skills did you practice?

- Communication
- Adaptability
- Influence

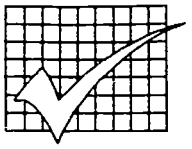
Debriefing Strategies, continued

Process:
Distribute the handout titled Concept Attainment Strategy and ask the following questions:

1. Based on your experience with this strategy, what are the important components of implementing it? (Share those components of planning which are not readily apparent to the students.)

    - Do a warm-up activity using students as examples.
    - Differentiate at least eight positive examples and eight negative examples of the concept, making sure that each positive example contains all critical attributes of the concept.
    - When presenting new or difficult concepts, avoid distractors. When reviewing material or presenting relatively easy concepts, use distractors to challenge the students.
    - Avoid clues which have nothing to do with the concept.
    - Alert students that they must not "blurt out" the concept. Instead, students who think they know the concept should volunteer to place the next example in the correct category.
    - Sequence examples YES — NO — YES, then randomly. It is sometimes helpful to present the examples of medium difficulty first, the more difficult examples next, and the easiest examples last.
    - Keep reminding students to focus their attention on the YES category, looking for what these examples have in common.
    - Poll students periodically to see who has the concept. If students become frustrated, clues can be helpful.
    - At the conclusion of the activity, if students are having trouble stating the concept, you may want to provide clues.

2. What did you like and dislike about the Concept Attainment Strategy?
3. What are the advantages and disadvantages of using this strategy?



Evaluation Options

Content:
Have each student write a one page paper identifying three School Reforms that the student believes will have a positive effect on teaching and learning. Have the student write why he or she selected these three School Reforms and ask the student to give examples of their potential positive effects. Ask for an explanation of how these School Reforms could facilitate integration of the new basic skills into education.

Process:
Have the students develop a Concept Attainment Activity in their subject areas following the outline below:

Name of Concept _____

Essential Attributes of the Concept _____

_____

_____

_____

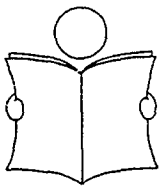
_____

Rule or Overriding Principle _____

_____

Examples	Non-Examples
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Application:
Have each student interview two teachers, asking them what School Reforms they believe are important and what efforts they have made to integrate the new basic skills into their instruction. Have the student write a one page summary of the two interviews.



Individualized Learning Plan

If a student is learning this content in an individualized program, the student should be given the entire lesson. The student should read all materials. The college supervisor will designate which Evaluation Options will be required of the student. To demonstrate competency, the student should prepare to teach the lesson to a group designated by the college supervisor. Suggestions for such groups include: teacher groups, service organizations, youth groups, etc.

KEY

School Reform

YES	NO
Interdisciplinary Teaching	Teacher as Expert
Process-Oriented Teaching	Competition
Teacher as Facilitator	Principal as Leader
Outcome-Based Education	Lecture
Integration of Basic Skills	Product-Oriented Teaching
Flexible Scheduling	Carnegie Units
Site-Based Management	Content-Based Education
Empowered Learners	Desks in Rows
Portfolios	Seat Time as a Constant
Seat Time as a Variable	Testing as Evaluation
Cooperation	Transcripts

Interdisciplinary Teaching

(cut here)

Competition

(cut here)

Teacher as Expert

Process-Oriented Teaching

(cut here)

Product-Oriented Teaching

Principal as Leader

(cut here)

Lecture

(cut here)

Teacher as Facilitator

Outcome-Based Education

(cut here)

Cooperation

(cut here)

Integration of Basic Skills

Flexible Scheduling

(cut here)

Portfolios

(cut here)

Carnegie Units

Site-Based Management

(cut here)

Transcripts

(cut here)

Content-Based Education

Empowered Learners

(cut here)

Desks in Rows

(cut here)

Seat Time as a Constant

Seat Time as a Variable

(cut here)

Testing as Evaluation

Concept Attainment Strategy

What is the Concept Attainment Strategy?

The Concept Attainment Strategy compares and contrasts items (sometimes called exemplars) that contain certain characteristics (sometimes called attributes) with items that do not contain those characteristics. It is a method of categorizing information — identifying and placing items into classes by using certain clues (criteria) and ignoring others.

Why Use the Concept Attainment Strategy?

The Concept Attainment Strategy helps students (a) recognize examples of key concepts or definitions, (b) use information to form and test hypotheses, (c) separate the relevant from the irrelevant, and (d) correctly explain definitions and examples.

When Should You Use the Concept Attainment Strategy?

Teachers can use this strategy to help students develop definitions correctly, separate important and unimportant information on any topic, and use critical thinking to determine relevant examples of a concept.

How to Use the Concept Attainment Strategy

This strategy includes three steps: presenting examples, refining understanding, and providing practice.

In the first step, the teacher should select a concept and organize exemplars into two groups: positive (those that are like the concept) and negative (those that are not like the concept). The teacher should present these as Yes and No exemplars.

In the second step, the teacher should ask students to describe the attributes of the concept after they generate a list of attributes from the exemplars. Students should then be able to name the concept.

In the third step, the teacher should ask students to identify additional exemplars of the concept.

Concept Attainment Strategy, continued

Things to Remember

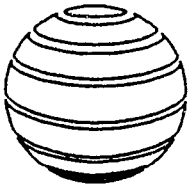
1. Each positive exemplar must contain all the essential attributes of the concept.
2. Arrange the exemplars so that students can distinguish the essential attributes from the nonessential attributes.

References

Association for Supervision and Curriculum Development. (1987). Teaching strategies library: Research-based strategies for teachers. Alexandria, VA: Author.

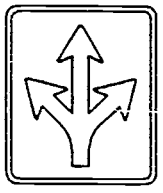
Dalton, M., & Dodd, J. (1986, April). Teacher thinking: The development of skill in using two models of teaching and model-relevant thinking. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

RULES, ROLES, AND RELATIONSHIPS IN SCHOOLS



Perennial Problem

What should be done about integrating the new basic skills into vocational education?



Practical Problem

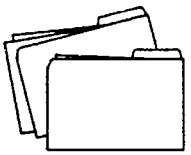
What should be done about "turf" issues between those in vocational and academic education?

Justification for Lesson

Over time, "turf" issues can develop in schools or school districts. These issues can impede efforts to integrate basic skills instruction into academic and vocational curricula. The purpose of this lesson is to help learners better understand the origins of "turf" issues. By gaining an understanding of these issues, they can be empowered to address them in a way that facilitates the integration process.

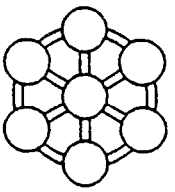
Learner Outcome

The learner will better understand these areas related to school structure: (1) "turf" issues of faculty and staff and (2) tracking of students.



Instructor Resources

Handouts:
A Dual-Track Plan for High Schools
Thelen's Group Investigation Strategy



Teaching Strategy Modeled

Thelen's Group Investigation Strategy

LESSON PLAN

Objectives:

Content:
The learner will analyze the structure of school programs and curricula.

The learner will consider these particular areas related to school structure: (1) "turf" issues of faculty and staff and (2) tracking of students.

New Basic Skills:
The learner will identify the new basic skills practiced in this lesson.

Process:
The learner will evaluate Thelen's Group Investigation Strategy.

Application:
The learner will have a better understanding of how relationships among students, faculty, and staff define school structure.

Teaching-Learning Interaction

Introduction:
Ask the students to imagine themselves as the teachers making the following statements:

1. "If we offer the new applied academic course next fall, my English class will probably not make minimum enrollment, and I'll be out of a job."
2. "Because of student academic requirements in this school, my vocational classes aren't making minimum enrollment. I'm likely to lose my job."

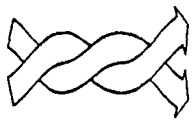
Ask the students how they would react if they were these teachers who felt in danger of being let go.

Learning Activities:
Step 1:
Distribute the handout titled A Dual-Track Plan for High Schools. Give the students a few minutes to read it.

Ask for student responses to the information in the handout. Draw attention to the differences in responses — the stances taken, the feelings expressed.

Pose the following questions to elicit students' personal reactions to the handout:

1. Opinion:
   What do you think of tracking?
   Would you be in favor of sending your tenth grader to a school that required students to select a track? Why or why not?
   What type of program — vocational or academic — would you prefer your tenth grader complete?
   Who should decide what type of program your child takes?
2. Relevance:
   What relevance does the high school tracking issue have for you as a taxpayer, future parent, and member of society?



Teaching-Learning Interaction, continued

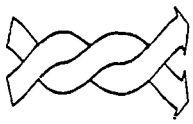
Step 2:
Pose the following questions to elicit students' perceptions of the social issues addressed in the handout:

1. Descriptive:
   What is the purpose of a high school education?
   - Is it to train the future workforce?
   - Is it to prepare students for college?
   - Is it an inexpensive way to keep teenagers off the street?

   Who benefits from a student's high school education besides the student?
   Is there evidence that high school has any real advantage?
2. Comparative:
   Should there be vocational high schools and academic high schools? Justify your response.
   Do high school students memorize or learn to think?
   Are high school students becoming increasingly engaged in education, or are more and more of them dropping out?
3. Historical:
   How has the focus of education changed over time?
   How has legislation affected the tracking of students?
   Why is there a push to integrate subject matter?
4. Causal:
   What hidden messages do parents give their children about tracking?
   What indirect messages do teachers give students about vocational education? liberal arts education?
5. Predictive:
   What would society be like if everyone had a college education?
   What tasks would fail to get done if everyone had a college education?

Step 3:
Divide the class into four groups. Give each group one of the following questions. Tell them that their tasks are to: (1) list ways to find data which will answer the question, and (2) create a plan for using these data to foster cooperation and teamwork within schools.

1. If my students receive a vocationally and academically integrated high school education, will they be more successful in life? earn more money? have happier families?



Teaching-Learning Interaction, continued

Step 3, continued

2. What would happen if:
   a. I agree to integrate my classroom, but no one else does?
   b. I lose my program due, in part, to integration?
   c. we concentrated more on students' needs rather than on vocational or liberal arts programs?

Encourage students to suggest other questions they would like to explore related to integration. Assign groups to those questions.

Debriefing Strategies

Content:
Ask the following questions:

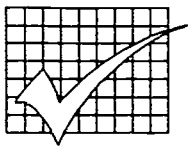
1. What can you do as a teacher to help address "turf" issues among faculty members?
2. How can you as a teacher facilitate the integration of basic skills instruction into vocational and academic curricula?
3. Is a combined vocational and academic curriculum incorporating basic skills instruction the best curriculum for all students?
4. What conflicts do you think will arise if your school implements such a curriculum?

New Basic Skills:
During the lesson today, what new basic skills did you practice?

- Communication
- Group effectiveness (interpersonal skills, teamwork)
- Adaptability (critical thinking)

Process:
Distribute the handout titled Thelen's Group Investigation Strategy and ask the following questions:

1. What are the advantages and disadvantages of Thelen's Group Investigation Strategy?
2. Do you think that a line-of-questioning teaching technique would be successful in a high school class?



Evaluation Options

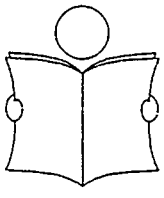
Content:
Have the students write a list of ten teacher actions that could help reduce tensions related to "turf" issues.

Process:
Have the students develop a lesson for a high school vocational education class using Thelen's Group Investigation Strategy.

Application:
Have the students interview several teachers at a local school and ask the following questions:

1. What are the key "turf" issues in your school?
2. What can be done to reduce tensions related to these issues?

Have the students write a one page summary of their findings.



Individualized Learning Plan

If a student is learning this content in an individualized program, the student should be given the entire lesson. The student should read all materials. The college supervisor will designate which Evaluation Options will be required of the student. To demonstrate competency, the student should prepare to teach the lesson to a group designated by the college supervisor. Suggestions for such groups include: teacher groups, service organizations, youth groups, etc.

A Dual-Track Plan for High Schools

Your state has approved an education bill to establish a statewide apprenticeship program. This program will require students to choose between a job training curriculum and a college preparatory curriculum after the eighth grade.

The education bill was inspired by concern among legislators and educators that public schools were poorly serving students not bound for college.

The bill also provides for discontinuing the process of giving grades to primary school students. It calls for grouping kindergarten through third grade students by ability rather than age. It also provides for expanded early childhood education programs and allows parents to send their children to any public school in the state.

The bill calls for the creation of a state monitoring committee to ensure that a student is not steered in a certain educational direction based on socioeconomic factors. All tenth graders will be required to demonstrate competency in mathematics, science, reading, and other academic coursework. Student assessment will be performed using tools designed by the state; the usual standardized tests will not be used. Students who do not demonstrate competency in the academic subjects will receive extra attention and continue to work until they do.

After demonstrating competency, the students will receive a certificate of initial mastery. They will then proceed, with advice from parents and school guidance counselors, into either a college preparatory curriculum or one of several vocational, business, or professional curricula in health, computer operations, or other fields.

Once students enroll in their chosen curriculum, they will be free to move between the academic and the job training curricula if they are unhappy with their initial decision and if they possess the prerequisite knowledge required in the program to which they are switching.

Upon completing the twelfth grade, each student will receive a certificate of advanced mastery. (It may take some students an additional length of time to earn this certificate.) The certificate of advanced mastery will clearly indicate whether the student has completed the academic or the job training curriculum.

Despite its support by the state legislature and governor, the bill, particularly the dual-track idea for high schools, has drawn much criticism. Many educators have expressed concern that the bill could potentially stigmatize students guided into the job training track or discourage students from pushing themselves to attempt the academic track.

Supporters of the bill believe it will help improve the quality of the state's workforce, partly by providing technical programs that will prepare students to meet today's high performance work requirements. Supporters also believe that this bill will fight the dropout problem by (1) encouraging youth to get up to speed academically by the ninth grade and (2) giving them options for pursuing personal career goals.

Thelen's Group Investigation Strategy

What is Thelen's Group Investigation Strategy?

Thelen's Group Investigation Strategy is a teaching technique based on the democratic process. After the teacher describes a dilemma, groups explore their reactions to the dilemma, formulate and organize study tasks to learn more about the dilemma, participate in independent and group study, analyze their progress in devising a way to address the dilemma, review the problem solving process, and evaluate their solution in terms of how well it addressed the original dilemma. Instead of focusing on information processing skills, this strategy helps develop students' idea formulating and problem solving skills.

Why Use Thelen's Group Investigation Strategy?

This strategy can nurture interpersonal warmth and trust. It can promote respect for the contributions of others and for negotiated rules and policies. It can also foster independent thinking. It is an effective way to impart academic knowledge using social process learning.

When Should You Use Thelen's Group Investigation Strategy?

This strategy blends elements of academic inquiry, social interaction, and social process learning. Teachers can use Group Investigation when they want to combine the form and dynamics of the democratic process with the process of academic inquiry. A lesson employing Group Investigation should be experience based, with the outcome being easily transferrable intellectually to other situations. It should also call for a vigorous level of inquiry. Group Investigation works well when students are (1) conducting a scientific inquiry into the nature of a social process or (2) exploring solutions to a social or interpersonal problem.

How to Use Thelen's Group Investigation Strategy

After the teacher poses the dilemma, students:

1. explore their personal reactions to it;
2. explore social issues relevant to it;
3. formulate and organize study tasks to learn more about it;
4. participate in independent and group study to help find the best solution to it;
5. analyze their progress in addressing it;
6. review their problem solving process;
7. evaluate their solution in terms of how well it addressed the original dilemma.

Thelen's Group Investigation Strategy, continued

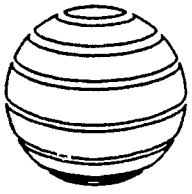
Things to Remember

1. The teacher's role in a Group Investigation activity is one of counselor, consultant, and friendly critic.
2. Support systems for group investigation should be extensive and responsive to the needs of learners (e.g., libraries, media, community resources, etc.).
3. The teacher must stay flexible.
4. Group Investigation may require rearranging the classroom.
5. Learners may need assistance with the content of the lesson as well as with this teaching technique's requirements for social interaction, decisionmaking, and independent inquiry.

Reference

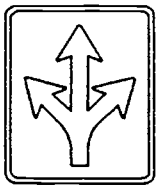
Joyce, B., & Weil, M. (1986). Models of teaching. Englewood Cliffs, NJ: Prentice-Hall, Inc.

DYNAMICS OF CHANGE



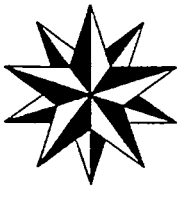
Perennial Problem

What should be done about integrating the new basic skills into vocational education?



Practical Problem

What should be done about recognizing the impact of information age technology on the learner's preparation for work, family, and further education?



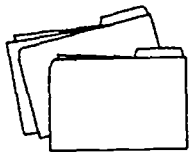
Justification for Lesson

Change is a constant in today's fast-paced world. Understanding the dynamics of change will help teachers appreciate the steps needed to facilitate the integration of the new basic skills.

Learner Outcomes

The learner will understand how change affects education today.

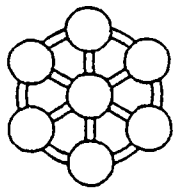
The learner will know how to update teaching practices so that these practices keep current with changes in society.



Instructor Resources

Handouts:
- Expert Sheets (Major Trend 1 through 5)
- Cooperative Learning Strategy

Transparency:
- Evaluation



Teaching Strategy Modeled

Cooperative Learning Strategy

LESSON PLAN

Objectives:

Content:
The learner will recognize how large-scale trends affect schools.

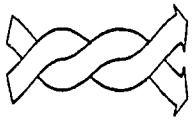
New Basic Skills:
The learner will identify the new basic skills practiced in this lesson.

Process:
The learner will evaluate the Cooperative Learning Strategy.

Application:
The learner will list ways to facilitate change within schools.

The learner will observe how change presently occurs within schools.

Teaching-Learning Interaction



Day Prior to Lesson:
Divide the class into five groups (cooperative teams). Distribute the handout titled Cooperative Learning Strategy. Explain that each student's grade will be based on the fulfillment of his or her individual tasks within the group and on how well the group does overall.

Day of Lesson
Introduction:
Review with the class the handout titled Cooperative Learning Strategy. Explain that the goal of this activity is for each cooperative team to develop a technique that will help teachers implement positive change in their schools.

Give each cooperative team one handout titled Expert Sheet. Tell the teams to read their sheet. Ask them to develop a technique that will help class members answer this question as it relates to the large-scale trend described on their Expert Sheet: How can I, as a teacher, help my school change to keep current with this large-scale trend?

Learning Activities:
Step 1:
Have each cooperative team complete its work.

EVALUATION

From the presentations just given by your peers, list as many change-facilitating techniques as you can.

Transparency 1

Step 2:
Have each cooperative team present its technique to the class. (You may want to set a time limit for these presentations.)

Step 3:
Show the transparency titled Evaluation and have each student complete an evaluation independently. Have the students meet in their cooperative teams to determine how many correct answers each team member received. Ask the students to determine an average or mean score for their team. Tell the students that this mean score will be each team member's grade for this lesson.

Debriefing Strategies

Content:
Ask the following questions:

1. Was it easy or difficult to think of techniques for improving school procedures?
2. Do you believe these techniques can work?
3. Where will the resistance to change come from?

New Basic Skills:
During the lesson today, what new basic skills did you practice?

- Communication
- Group effectiveness
- Learning to learn
- Technology

Process:
Have students refer to their handouts titled Cooperative Learning Strategy and ask the following questions:

1. Cooperative learning involves four basic elements: interdependence, face-to-face interaction, group and individual accountability, and the use of interpersonal and small group skills. To what extent did today's activity use these elements?
2. What are the benefits of the Cooperative Learning Strategy?

    - Student achievement increases.
    - Students improve in social skills and verbal abilities.
    - Student self-esteem increases.
    - Students receive ongoing assistance in solving a problem.
    - Students are more positive about the subject and the teacher.
    - Students are more motivated.

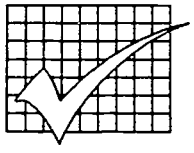
Debriefing Strategies, continued

Process, continued

3. What are the drawbacks of the Cooperative Learning Strategy?

   - Cooperative learning takes more time.
   - Cooperative learning increases classroom noise.
   - The teacher must plan for group and individual accountability.
   - Unmotivated, disliked, and lazy students can be challenges.
   - The teacher sacrifices some control over learning.
   - The teacher must monitor each group.

4. What methods can be used to evaluate whether cooperative learning works?
5. How would education be different if the entire class received the lowest score?
6. Is cooperative learning used in the university classes you're taking?
7. How often have you seen cooperative learning used in public schools?
8. What content areas in your field lend themselves to use of cooperative learning?

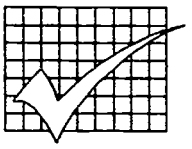


Evaluation Options

Content:

Have students observe at a public school for one day. Have them list the ways public school has changed since they were students in such a school.

Have the students identify experts who could potentially help them expand their strategies for effecting change in schools. Have the students interview these experts as if they were considering them for an advisory committee. Assign a one page paper summarizing reasons the students would or would not choose each expert they interviewed.



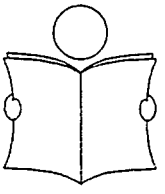
Evaluation Options, continued

Process:
Have students volunteer to teach a Cooperative Learning lesson with a teacher in the public schools. (Effective cooperative learning activities take extensive advanced planning. Be sure that students consider all elements of planning when preparing their lessons.)

Application:
Have students attend a meeting of the advisory committee for a vocational program. Ask them to note the following:

1. Who were the members of the advisory committee?
2. How was the meeting helpful to the program?
3. Were they excited or disappointed by the meeting?

Assign a one page paper summarizing the answers to these questions.



Individualized Learning Plan

If a student is learning this content in an individualized program, the student should be given the entire lesson. The student should read all materials. The college supervisor will designate which Evaluation Options will be required of the student. To demonstrate competency, the student should prepare to teach the lesson to a group designated by the college supervisor. Suggestions for such groups include: teacher groups, service organizations, youth groups, etc.

EXPERT SHEET

Major Trend 1: Societal Change

1. Nations are becoming more interdependent. This is evident in the expansion of technological, political, cultural, economic, and ecological networks connecting different peoples, cultures, and regions.

2. Due to rapid changes in technology, other changes are occurring at a faster pace and at increasing levels of complexity.

3. The "half-life" for knowledge is decreasing. The rapidity with which new technological and scientific discoveries are occurring is making it difficult to keep abreast of new knowledge.

4. The business world is shifting from big to small firms. People are also going from "big" to "small" when in need, using more self-help measures in a range of areas, from crime prevention to consumerism.

5. Communication and transportation are getting easier, leading to (a) greater cultural mixing, (b) more rapid extinction of existing cultures, and (c) the evolution of new cultures.

References

Alley, J. (1985). Future research data and general education reform. Paper presented at the annual forum of the Association for Institutional Research, Portland, OR. (ERIC Document Reproduction Service No. CD 259 674)

American Association for the Advancement of Science. (1989). Project 2061: Science for all Americans — A report on literacy goals in science, mathematics, and technology. Washington, DC: Author.

Naisbitt, J. (1985). Megachoices: Options for tomorrow's world. The Futurist, 19(4), 13-17.

EXPERT SHEET

Major Trend 2: Economic Change

1. The U.S. economy is shifting its base away from industrial manufacturing and toward information, service, and high technology.

2. The influence of high technology is increasing, and will affect all segments of the workforce.

3. Workers are changing jobs more frequently. Technological advances will make it necessary for today's workers to change jobs as many as four or five times over the course of their lives.

4. By the year 2000, 85 percent of new U.S. workers will be women or members of minority groups.

5. As many as 25 million adult workers are out of date professionally; they need to update their work skills or knowledge.

References

Meierhenry, W. (1981). The impact of technology on curriculum. Education in the 80's. Washington, DC: National Education Association, pp. 100-111.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

EXPERT SHEET

Major Trend 3: Change in Family Structure

1. In the future, women will enter the workforce at a faster rate than any other group.

2. One in seven American children is raised by a single parent. Most single parent families are headed by females.

3. The American family will continue to be diverse, with no single family type representing the majority of Americans.

4. Today, one in four American children under the age of six lives in poverty.

References

Cetron, M., Soriano, B., & Gayle, M. (1985). Schools of the future: How American business and education can cooperate to save our schools. New York: McGraw-Hill.

Naisbitt, J. (1985). Megachoices: Options for tomorrow's world. The Futurist, 19(4), 13-17.

_____. (1990). Suffer the little children, Time, pp. 40-48.

EXPERT SHEET

Major Trend 4: Demographic Change

1. The U.S. population is getting older: The median age is increasing.

2. The minority population will continue to grow faster than the overall U.S. population. The Hispanic population and populations of minorities in large urban areas will show the most growth. Hispanics compose 9% of the total U.S. population; 40% of Hispanic children live in poverty.

3. Twenty-five million adults in the United States are functionally illiterate.

References

Kiplinger Washington Letter. (1986). The new American boom. Washington, DC: The Kiplinger Washington Editors, Inc.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

EXPERT SHEET

Major Trend 5: Change in Educational Structure

1. Compared with students from other countries, U.S. students score low in mathematics and rank thirteenth out of 13 in biology, eleventh out of 13 in chemistry, and ninth out of 13 in physics.

2. Many U.S. children start school unready to meet the challenges of learning.

3. U.S. children today must find ways to deal with problems such as drug use and alcohol abuse, random violence, adolescent pregnancy, and AIDS.

4. The number of students at risk of dropping out of school will increase as academic standards rise and social problems such as drug abuse and teenage pregnancy intensify.

References

Cetron, M., & Gayle, M. (1990, September/October). Educational renaissance: 43 trends for U.S. schools. The Futurist, pp. 33-40.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

Cooperative Learning Strategy

What is the Cooperative Learning Strategy?

Group work can be a valuable learning technique. However, group work may prove less effective than hoped if students are unable to interact well. Cooperative learning is a structured teaching technique which uses peer tutoring, group investigation, and cooperation to encourage student learning. In addition, it teaches the importance of group work through the use of content, dividing the learning process into pieces and giving individuals and small groups ownership of the content being taught.

Why Use the Cooperative Learning Strategy?

The purposes of this strategy are (1) to increase achievement through group collaboration, enabling students to learn from each other, (2) to use cooperation and peer instruction to benefit both high and low ability students, and (3) to improve human relations between races and ethnic groups in the classroom by promoting interdependent activities that teach collaborative skills.

When Should You Use the Cooperative Learning Strategy?

Teachers can use the Cooperative Learning Strategy effectively when they want to decrease emphasis on competitive or individualistic learning methods. Teachers can use this strategy to teach cooperative skills and academic skills simultaneously. It is also helpful when a teacher feels that a class is not working as a team, when individuals with good ideas are being shut out, or when one or two students are monopolizing discussion.

How to Use the Cooperative Learning Strategy

Cooperative small group learning involves four basic elements:

1. interdependence among students seeking mutual goals through combined efforts (the interdependence must be structured, usually through the use of shared resources)
2. face-to-face interaction among students
3. group and individual accountability for mastery of the material covered
4. appropriate use of interpersonal and small group skills by students

Cooperative Learning Strategy, continued

The teacher's role in structuring cooperative learning situations involves these elements: (a) clearly specifying lesson objectives, (b) placing students in productive learning groups, (c) providing appropriate materials, (d) clearly explaining the cooperative goal structure, (e) monitoring students, (f) giving specific assignments to each student within a group, and (g) evaluating performance.

Debriefing the Cooperative Learning Strategy

Debriefing gives students the chance to articulate the specific skills they have developed or honed through the practice of this strategy. These skills would include:

1. interpersonal effectiveness
2. communication
3. integration of process with content
4. teamwork
5. appreciation of others' contributions (multiple intelligences)

Things to Remember

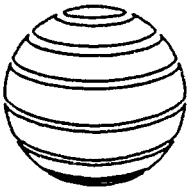
1. Each group only receives one set of materials.
2. Each individual within the group has a role and responsibility.
3. Each individual within the group is accountable to report and support the group decisions.
4. Each group must debrief their group interaction skills.

References

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic Books, Inc.

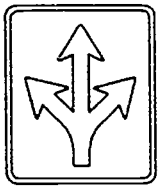
Kindsvatter, R., Wilen, W., & Ishler, M. (1992). Dynamics of effective teaching. White Plains, NY: Longman Publishing Group.

PARTNERSHIPS: INVOLVING THE COMMUNITY



Perennial Problem

What should be done about integrating the new basic skills into vocational education?



Practical Problem

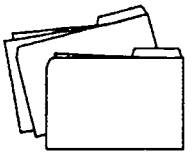
What should be done to help teachers build relationships with healthy boundaries for themselves and others?

Justification for Lesson

Teachers seldom have the political clout needed to initiate change within a school. To integrate the teaching of the new basic skills into vocational education, teachers need both internal and community support. Partnerships with members of the community can provide invaluable financial and moral support for basic skills integration efforts.

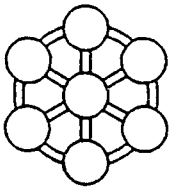
Learner Outcome

The learner will establish strategies for developing partnerships.



Instructor Resources

Handouts:
The Cardinal Principles of Secondary Education
Nominal Group Strategy
Transparency:
Achievements of a High School Graduate
Supplies:
Markers, large paper, transparencies



Teaching Strategy Modeled

Nominal Group Strategy

LESSON PLAN

Objectives:

Content:
The learner will generate a list of achievements that he or she feels every high school student should attain before graduating.

The learner will establish strategies for the development of partnerships.

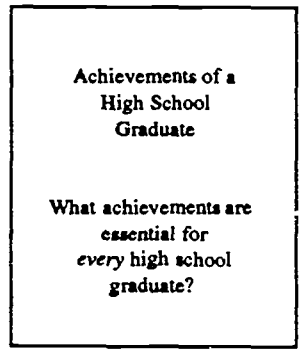
New Basic Skills:
The learner will identify the new basic skills practiced in this lesson.

Process:
The learner will evaluate the Nominal Group Strategy.

Application:
The learner will list potential "community partners" who could help support local schools.

Teaching-Learning Interaction

Introduction:
Begin the lesson by putting up the transparency titled Achievements of a High School Graduate. Ask each student to make a list of the achievements he or she feels every high school student should attain before graduating. Emphasize that the list should be applicable to **every** high school student.



Transparency 1

Learning Activities:
Step 1:
In groups of three to five, have the students list the achievements that their group believes every high school student should attain before graduating.

Step 2:
Have the students come together as a large group and do a round-robin reporting or listing of the achievements identified by each group.

Step 3:
Have students discuss and prioritize the achievements they have listed. Ask them to vote on them to arrive at a final list of seven.

Distribute the handout titled The Cardinal Principles of Secondary Education. Ask the students to compare their list to the list of seven goals from 1918.

Ask the students to compose a list of individuals from the community who could help high school students attain the seven achievements determined to be important before graduation. For example, if one achievement is proper hygiene, have students identify a health professional who might assist high school students in this area.

Have students identify ways in which they can utilize the expertise of community members to help promote the integration of the new basic skills into vocational education. For example, a nurse could explain how his high school science and health occupation courses have benefited him professionally.

Debriefing Strategies

Content:
Ask the following questions:

1. Do teachers normally form partnerships with individuals who can help their students achieve the basic competencies they should have before graduating?
2. What are ways teachers can form partnerships with such individuals?

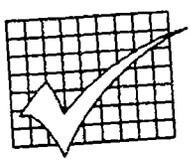
    - Mentoring
    - Advisory Committees
    - Visiting Scientist Programs
    - Others

New Basic Skills:
During the lesson today, what new basic skills did you practice?

- Communication
- Science
- Learning to learn
- Adaptability
- Reading, writing, and mathematics
- Technology
- Influence

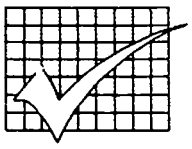
Process:
Distribute the handout titled Nominal Group Strategy and ask the following questions:

1. What are the advantages and disadvantages of the Nominal Group Strategy?
2. What did you like and dislike about the strategy?



Evaluation Options

Content:
Have students select 12 class members for a mock Teaching Advisory Committee. Ask them to write a short justification of why they selected these people (e.g., what expertise does each individual have that could aid the advisory committee?).



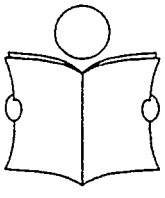
Evaluation Options, continued

Content, continued
Have students write a one page paper listing the advantages and disadvantages of forming partnerships with other teachers or community members.

Process:
Have the students design a lesson incorporating the Nominal Group Strategy.

Application:
Encourage the students to visit secondary or postsecondary vocational programs in their community. Ask them to collect information on the following questions:

1. Do the vocational programs have advisory committees? If so, how are committee members selected?
2. Do the vocational programs use other partnerships in the community? If so, how have these partnerships helped the programs?
3. How have the advisory committees and partnerships helped teachers focus on integrating the new basic skills into vocational education?



Individualized Learning Plan

If a student is learning this content in an individualized program, the student should be given the entire lesson. The student should read all materials. The college supervisor will designate which Evaluation Options will be required of the student. To demonstrate competency, the student should prepare to teach the lesson to a group designated by the college supervisor. Suggestions for such groups include: teacher groups, service organizations, youth groups, etc.

The Cardinal Principles of Secondary Education[1]

In 1918, the National Education Association's Commission on the Reorganization of Secondary Education issued its "Cardinal Principles of Secondary Education." The following seven goals of secondary education are paraphrased from the report:

1. To provide health instruction in order to promote hygienic habits.

2. To continuously develop the fundamentals: reading, writing, arithmetic, and communication skills.

3. To cultivate attitudes that will make the individual a worthy family member.

4. To provide vocational education that will help the individual acquire a job. (This involved assessing the pupil's aptitudes, having the pupil investigate various occupations, and using vocational guidance to help the pupil determine career choices.)

5. To provide civic education in order to encourage intelligent participation in public affairs. (The social studies — history, geography, civics, and economics — stressed good citizenship.)

6. To allow for leisure and recreation.

7. To emphasize moral qualities contributing to ethical character, personal responsibility and initiative, and the spirit of community service.

[1]Gutek, Gerald L. (1972). A History of the Western Educational Experience. Prospect Heights, IL: Waveland Press.

Nominal Group Strategy

What Is the Nominal Group Strategy?

The Nominal Group Strategy is a teaching technique that facilitates group decisionmaking.

Why Use the Nominal Group Strategy?

This strategy ensures that *all* students help define and prioritize ideas during a lesson.

When Should You Use the Nominal Group Strategy?

Teachers may wish to use this strategy when their instructional goals include ensuring the following:

1. active participation of every student involved in a group work situation;
2. large groups' successful identification and rank-order listing of ideas;
3. development of interpersonal skills, negotiation skills, and teamwork;
4. development of prioritization skills.

How to Use the Nominal Group Strategy

The Nominal Group Strategy is a structured, small group approach. The teacher poses a focus question and the students follow six steps:

1. silent, written generation of ideas by individuals;
2. round-robin reporting (listing) by groups as small as two individuals;
3. group discussion for clarification;
4. preliminary priority voting on the group decision;
5. discussion;
6. final priority voting on the group decision.

In a classroom of 25-30 students, the teacher may wish to use the Nominal Group Strategy as a repetitive activity. For example, groups of five students may proceed from Step 2 (round-robin reporting) to Step 6 (final voting) and then be formed into groups of 10. The larger groups again follow Steps 2-6 and are then reformed into larger groups until there is only one large group.

Nominal Group Strategy, continued

Debriefing the Nominal Group Strategy

Debriefing allows students to articulate the specific skills that may be developed through the Nominal Group Strategy. These skills include:

1. clarification of self generated ideas;
2. critical review of self generated ideas prior to presenting them to others;
3. group synthesis of ideas;
4. interpersonal engagement;
5. negotiation;
6. communication;
7. promotion of team and group involvement;
8. use of personal values in decisionmaking.

Things to Remember

1. The focus question should be broad and should promote generation of ideas.
2. Each step in the procedure should have a time limit.
3. Debriefing provides students with the opportunity to reflect on the lesson and summarize what they have learned from it.

Reference

Joyce, B., & Weil, M. (1986). Models of teaching. Englewood Cliffs, NJ: Prentice-Hall, Inc.

INSTRUCTOR RESOURCES

LESSON: SCHOOL REFORM

KEY

School Reform

YES	NO
Interdisciplinary Teaching	Teacher as Expert
Process-Oriented Teaching	Competition
Teacher as Facilitator	Principal as Leader
Outcome-Based Education	Lecture
Integration of Basic Skills	Product-Oriented Teaching
Flexible Scheduling	Carnegie Units
Site-Based Management	Content-Based Education
Empowered Learners	Desks in Rows
Portfolios	Seat Time as a Constant
Seat Time as a Variable	Testing as Evaluation
Cooperation	Transcripts

Interdisciplinary Teaching

(cut here)

Competition

(cut here)

Teacher as Expert

Process-Oriented Teaching

(cut here)

Product-Oriented Teaching

Colorado State University, 1992.

Principal as Leader

(cut here)

Lecture

(cut here)

Teacher as Facilitator

Outcome-Based Education

(cut here)

Cooperation

(cut here)

Integration of Basic Skills

Colorado State University, 1992.

Flexible Scheduling

(cut here)

Portfolios

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Carnegie Units

Colorado State University, 1992.

Site-Based Management

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Transcripts

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Content-Based Education

Colorado State University, 1992.

Empowered Learners

(cut here)

Desks in Rows

(cut here)

Seat Time as a Constant

Colorado State University, 1992.

Seat Time as a Variable

(cut here)

Testing as Evaluation

Concept Attainment Strategy

What is the Concept Attainment Strategy?

The Concept Attainment Strategy compares and contrasts items (sometimes called exemplars) that contain certain characteristics (sometimes called attributes) with items that do not contain those characteristics. It is a method of categorizing information — identifying and placing items into classes by using certain clues (criteria) and ignoring others.

Why Use the Concept Attainment Strategy?

The Concept Attainment Strategy helps students (a) recognize examples of key concepts or definitions, (b) use information to form and test hypotheses, (c) separate the relevant from the irrelevant, and (d) correctly explain definitions and examples.

When Should You Use the Concept Attainment Strategy?

Teachers can use this strategy to help students develop definitions correctly, separate important and unimportant information on any topic, and use critical thinking to determine relevant examples of a concept.

How to Use the Concept Attainment Strategy

This strategy includes three steps: presenting examples, refining understanding, and providing practice.

In the first step, the teacher should select a concept and organize exemplars into two groups: positive (those that are like the concept) and negative (those that are not like the concept). The teacher should present these as Yes and No exemplars.

In the second step, the teacher should ask students to describe the attributes of the concept after they generate a list of attributes from the exemplars. Students should then be able to name the concept.

In the third step, the teacher should ask students to identify additional exemplars of the concept.

Concept Attainment Strategy, continued

Things to Remember

1. Each positive exemplar must contain all the essential attributes of the concept.
2. Arrange the exemplars so that students can distinguish the essential attributes from the nonessential attributes.

References

Association for Supervision and Curriculum Development. (1987). Teaching strategies library: Research-based strategies for teachers. Alexandria, VA: Author.

Dalton, M., & Dodd, J. (1986, April). Teacher thinking: The development of skill in using two models of teaching and model-relevant thinking. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

INSTRUCTOR RESOURCES

LESSON: RULES, ROLES, AND RELATIONSHIPS IN SCHOOLS

A Dual-Track Plan for High Schools

Your state has approved an education bill to establish a statewide apprenticeship program. This program will require students to choose between a job training curriculum and a college preparatory curriculum after the eighth grade.

The education bill was inspired by concern among legislators and educators that public schools were poorly serving students not bound for college.

The bill also provides for discontinuing the process of giving grades to primary school students. It calls for grouping kindergarten through third grade students by ability rather than age. It also provides for expanded early childhood education programs and allows parents to send their children to any public school in the state.

The bill calls for the creation of a state monitoring committee to ensure that a student is not steered in a certain educational direction based on socioeconomic factors. All tenth graders will be required to demonstrate competency in mathematics, science, reading, and other academic coursework. Student assessment will be performed using tools designed by the state; the usual standardized tests will not be used. Students who do not demonstrate competency in the academic subjects will receive extra attention and continue to work until they do.

After demonstrating competency, the students will receive a certificate of initial mastery. They will then proceed, with advice from parents and school guidance counselors, into either a college preparatory curriculum or one of several vocational, business, or professional curricula in health, computer operations, or other fields.

Once students enroll in their chosen curriculum, they will be free to move between the academic and the job training curricula if they are unhappy with their initial decision and if they possess the prerequisite knowledge required in the program to which they are switching.

Upon completing the twelfth grade, each student will receive a certificate of advanced mastery. (It may take some students an additional length of time to earn this certificate.) The certificate of advanced mastery will clearly indicate whether the student has completed the academic or the job training curriculum.

Despite its support by the state legislature and governor, the bill, particularly the dual-track idea for high schools, has drawn much criticism. Many educators have expressed concern that the bill could potentially stigmatize students guided into the job training track or discourage students from pushing themselves to attempt the academic track.

Supporters of the bill believe it will help improve the quality of the state's workforce, partly by providing technical programs that will prepare students to meet today's high performance work requirements. Supporters also believe that this bill will fight the dropout problem by (1) encouraging youth to get up to speed academically by the ninth grade and (2) giving them options for pursuing personal career goals.

Thelen's Group Investigation Strategy

What is Thelen's Group Investigation Strategy?

Thelen's Group Investigation Strategy is a teaching technique based on the democratic process. After the teacher describes a dilemma, groups explore their reactions to the dilemma, formulate and organize study tasks to learn more about the dilemma, participate in independent and group study, analyze their progress in devising a way to address the dilemma, review the problem solving process, and evaluate their solution in terms of how well it addressed the original dilemma. Instead of focusing on information processing skills, this strategy helps develop students' idea formulating and problem solving skills.

Why Use Thelen's Group Investigation Strategy?

This strategy can nurture interpersonal warmth and trust. It can promote respect for the contributions of others and for negotiated rules and policies. It can also foster independent thinking. It is an effective way to impart academic knowledge using social process learning.

When Should You Use Thelen's Group Investigation Strategy?

This strategy blends elements of academic inquiry, social interaction, and social process learning. Teachers can use Group Investigation when they want to combine the form and dynamics of the democratic process with the process of academic inquiry. A lesson employing Group Investigation should be experience based, with the outcome being easily transferrable intellectually to other situations. It should also call for a vigorous level of inquiry. Group Investigation works well when students are (1) conducting a scientific inquiry into the nature of a social process or (2) exploring solutions to a social or interpersonal problem.

How to Use Thelen's Group Investigation Strategy

After the teacher poses the dilemma, students:

1. explore their personal reactions to it;
2. explore social issues relevant to it;
3. formulate and organize study tasks to learn more about it;
4. participate in independent and group study to help find the best solution to it;
5. analyze their progress in addressing it;
6. review their problem solving process;
7. evaluate their solution in terms of how well it addressed the original dilemma.

Thelen's Group Investigation Strategy, continued

Things to Remember

1. The teacher's role in a Group Investigation activity is one of counselor, consultant, and friendly critic.
2. Support systems for group investigation should be extensive and responsive to the needs of learners (e.g., libraries, media, community resources, etc.).
3. The teacher must stay flexible.
4. Group Investigation may require rearranging the classroom.
5. Learners may need assistance with the content of the lesson as well as with this teaching technique's requirements for social interaction, decisionmaking, and independent inquiry.

Reference

Joyce, B., & Weil, M. (1986). Models of teaching. Englewood Cliffs, NJ: Prentice-Hall, Inc.

INSTRUCTOR RESOURCES

LESSON: DYNAMICS OF CHANGE

EXPERT SHEET

Major Trend 1: Societal Change

1. Nations are becoming more interdependent. This is evident in the expansion of technological, political, cultural, economic, and ecological networks connecting different peoples, cultures, and regions.

2. Due to rapid changes in technology, other changes are occurring at a faster pace and at increasing levels of complexity.

3. The "half-life" for knowledge is decreasing. The rapidity with which new technological and scientific discoveries are occurring is making it difficult to keep abreast of new knowledge.

4. The business world is shifting from big to small firms. People are also going from "big" to "small" when in need, using more self-help measures in a range of areas, from crime prevention to consumerism.

5. Communication and transportation are getting easier, leading to (a) greater cultural mixing, (b) more rapid extinction of existing cultures, and (c) the evolution of new cultures.

References

Alley, J. (1985). Future research data and general education reform. Paper presented at the annual forum of the Association for Institutional Research, Portland, OR. (ERIC Document Reproduction Service No. CD 259 674)

American Association for the Advancement of Science. (1989). Project 2061: Science for all Americans — A report on literacy goals in science, mathematics, and technology. Washington, DC: Author.

Naisbitt, J. (1985). Megachoices: Options for tomorrow's world. The Futurist, 19(4), 13-17.

EXPERT SHEET

Major Trend 2: Economic Change

1. The U.S. economy is shifting its base away from industrial manufacturing and toward information, service, and high technology.

2. The influence of high technology is increasing, and will affect all segments of the workforce.

3. Workers are changing jobs more frequently. Technological advances will make it necessary for today's workers to change jobs as many as four or five times over the course of their lives.

4. By the year 2000, 85 percent of new U.S. workers will be women or members of minority groups.

5. As many as 25 million adult workers are out of date professionally; they need to update their work skills or knowledge.

References

Meierhenry, W. (1981). The impact of technology on curriculum. Education in the 80's. Washington, DC: National Education Association, pp. 100-111.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

EXPERT SHEET

Major Trend 3: Change in Family Structure

1. In the future, women will enter the workforce at a faster rate than any other group.

2. One in seven American children is raised by a single parent. Most single parent families are headed by females.

3. The American family will continue to be diverse, with no single family type representing the majority of Americans.

4. Today, one in four American children under the age of six lives in poverty.

References

Cetron, M., Soriano, B., & Gayle, M. (1985). Schools of the future: How American business and education can cooperate to save our schools. New York: McGraw-Hill.

Naisbitt, J. (1985). Megachoices: Options for tomorrow's world. The Futurist, 19(4), 13-17.

_____. (1990). Suffer the little children, Time, pp. 40-48.

EXPERT SHEET

Major Trend 4: Demographic Change

1. The U.S. population is getting older: The median age is increasing.

2. The minority population will continue to grow faster than the overall U.S. population. The Hispanic population and populations of minorities in large urban areas will show the most growth. Hispanics compose 9% of the total U.S. population; 40% of Hispanic children live in poverty.

3. Twenty-five million adults in the United States are functionally illiterate.

References

Kiplinger Washington Letter. (1986). The new American boom. Washington, DC: The Kiplinger Washington Editors, Inc.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

EXPERT SHEET

Major Trend 5: Change in Educational Structure

1. Compared with students from other countries, U.S. students score low in mathematics and rank thirteenth out of 13 in biology, eleventh out of 13 in chemistry, and ninth out of 13 in physics.

2. Many U.S. children start school unready to meet the challenges of learning.

3. U.S. children today must find ways to deal with problems such as drug use and alcohol abuse, random violence, adolescent pregnancy, and AIDS.

4. The number of students at risk of dropping out of school will increase as academic standards rise and social problems such as drug abuse and teenage pregnancy intensify.

References

Cetron, M., & Gayle, M. (1990, September/October). Educational renaissance: 43 trends for U.S. schools. The Futurist, pp. 33-40.

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). What work requires of schools: A SCANS report for America 2000. Washington, DC: U.S. Department of Labor.

Cooperative Learning Strategy

What is the Cooperative Learning Strategy?

Group work can be a valuable learning technique. However, group work may prove less effective than hoped if students are unable to interact well. Cooperative learning is a structured teaching technique which uses peer tutoring, group investigation, and coöperation to encourage student learning. In addition, it teaches the importance of group work through the use of content, dividing the learning process into pieces and giving individuals and small groups ownership of the content being taught.

Why Use the Cooperative Learning Strategy?

The purposes of this strategy are (1) to increase achievement through group collaboration, enabling students to learn from each other, (2) to use cooperation and peer instruction to benefit both high and low ability students, and (3) to improve human relations between races and ethnic groups in the classroom by promoting interdependent activities that teach collaborative skills.

When Should You Use the Cooperative Learning Strategy?

Teachers can use the Cooperative Learning Strategy effectively when they want to decrease emphasis on competitive or individualistic learning methods. Teachers can use this strategy to teach cooperative skills and academic skills simultaneously. It is also helpful when a teacher feels that a class is not working as a team, when individuals with good ideas are being shut out, or when one or two students are monopolizing discussion.

How to Use the Cooperative Learning Strategy

Cooperative small group learning involves four basic elements:

1. interdependence among students seeking mutual goals through combined efforts (the interdependence must be structured, usually through the use of shared resources)
2. face-to-face interaction among students
3. group and individual accountability for mastery of the material covered
4. appropriate use of interpersonal and small group skills by students

Cooperative Learning Strategy, continued

The teacher's role in structuring cooperative learning situations involves these elements: (a) clearly specifying lesson objectives, (b) placing students in productive learning groups, (c) providing appropriate materials, (d) clearly explaining the cooperative goal structure, (e) monitoring students, (f) giving specific assignments to each student within a group, and (g) evaluating performance.

Debriefing the Cooperative Learning Strategy

Debriefing gives students the chance to articulate the specific skills they have developed or honed through the practice of this strategy. These skills would include:

1. interpersonal effectiveness
2. communication
3. integration of process with content
4. teamwork
5. appreciation of others' contributions (multiple intelligences)

Things to Remember

1. Each group only receives one set of materials.
2. Each individual within the group has a role and responsibility.
3. Each individual within the group is accountable to report and support the group decisions.
4. Each group must debrief their group interaction skills.

References

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic Books, Inc.

Kindsvatter, R., Wilen, W., & Ishler, M. (1992). Dynamics of effective teaching. White Plains, NY: Longman Publishing Group.

EVALUATION

From the presentations just given by your peers, list as many change-facilitating techniques as you can.

INSTRUCTOR RESOURCES

LESSON: PARTNERSHIPS — INVOLVING THE COMMUNITY

The Cardinal Principles of Secondary Education[1]

In 1918, the National Education Association's Commission on the Reorganization of Secondary Education issued its "Cardinal Principles of Secondary Education." The following seven goals of secondary education are paraphrased from the report:

1. To provide health instruction in order to promote hygienic habits.

2. To continuously develop the fundamentals: reading, writing, arithmetic, and communication skills.

3. To cultivate attitudes that will make the individual a worthy family member.

4. To provide vocational education that will help the individual acquire a job. (This involved assessing the pupil's aptitudes, having the pupil investigate various occupations, and using vocational guidance to help the pupil determine career choices.)

5. To provide civic education in order to encourage intelligent participation in public affairs. (The social studies — history, geography, civics, and economics — stressed good citizenship.)

6. To allow for leisure and recreation.

7. To emphasize moral qualities contributing to ethical character, personal responsibility and initiative, and the spirit of community service.

[1]Gutek, Gerald L. (1972). A History of the Western Educational Experience. Prospect Heights, IL: Waveland Press.

Nominal Group Strategy

What Is the Nominal Group Strategy?

The Nominal Group Strategy is a teaching technique that facilitates group decisionmaking.

Why Use the Nominal Group Strategy?

This strategy ensures that *all* students help define and prioritize ideas during a lesson.

When Should You Use the Nominal Group Strategy?

Teachers may wish to use this strategy when their instructional goals include ensuring the following:

1. active participation of every student involved in a group work situation;
2. large groups' successful identification and rank-order listing of ideas;
3. development of interpersonal skills, negotiation skills, and teamwork;
4. development of prioritization skills.

How to Use the Nominal Group Strategy

The Nominal Group Strategy is a structured, small group approach. The teacher poses a focus question and the students follow six steps:

1. silent, written generation of ideas by individuals;
2. round-robin reporting (listing) by groups as small as two individuals;
3. group discussion for clarification;
4. preliminary priority voting on the group decision;
5. discussion;
6. final priority voting on the group decision.

In a classroom of 25-30 students, the teacher may wish to use the Nominal Group Strategy as a repetitive activity. For example, groups of five students may proceed from Step 2 (round-robin reporting) to Step 6 (final voting) and then be formed into groups of 10. The larger groups again follow Steps 2-6 and are then reformed into larger groups until there is only one large group.

Nominal Group Strategy, continued

Debriefing the Nominal Group Strategy

Debriefing allows students to articulate the specific skills that may be developed through the Nominal Group Strategy. These skills include:

1. clarification of self generated ideas;
2. critical review of self generated ideas prior to presenting them to others;
3. group synthesis of ideas;
4. interpersonal engagement;
5. negotiation;
6. communication;
7. promotion of team and group involvement;
8. use of personal values in decisionmaking.

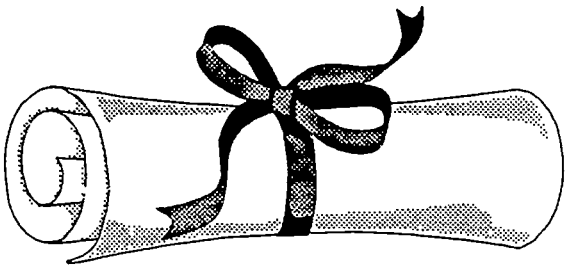
Things to Remember

1. The focus question should be broad and should promote generation of ideas.
2. Each step in the procedure should have a time limit.
3. Debriefing provides students with the opportunity to reflect on the lesson and summarize what they have learned from it.

Reference

Joyce, B., & Weil, M. (1986). Models of teaching. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Achievements of a High School Graduate



What achievements are essential for *every* high school graduate?

Colorado State University, 1992.