DOCUMENT RESUME

ED 126 964 JC 760 416

AUTHOR Schellkopf, John; And Others
TITLE A Guide to the Development of Non-traditional Instruction at Los Angeles City College.
INSTITUTION Los Angeles City Coll., Calif.
PUB DATE [76]
NOTE 60p.

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS *Cognitive Style; Community Colleges; Computer Based Laboratories; Delivery Systems; Individualized Instruction; *Instructional Materials Centers; *Instructional Media; Instructional Technology; *Junior Colleges; *Production Techniques; Teacher Developed Materials
IDENTIFIERS *Cognitive Style; Los Angeles City College

ABSTRACT

This document contains three reports. The first, "What Is Mediated Instruction?," discusses programs of media services--their goals, how they operate, and their functions, and describes the Learning Resources Center at Los Angeles City College (LACC), which emphasizes self-paced individualized instruction and which utilizes a new computerized media delivery system. The second report, "Media Production," discusses the benefits of using instructional media, describes how LACC instructors can get involved in media production, lists typical funding sources for such involvement, and describes in detail effective procedures to be used in producing and evaluating various kinds of instructional media. The final report, "Cognitive Style Mapping," describes the systems approach to education developed by Joseph E. Hill of Oakland Community College (Michigan). Cognitive style mapping is a tool designed to assist the student, instructor, and administrator in determining what method of learning will mean success to both student and instructor. (DC)

A Guide To
The Development of Non-traditional Instruction
at Los Angeles City College

John Schellkopf

Betty Jacobs

Michael Motte

Stanley L. Schall

ACKNOWLEDGMENTS

Appreciation is extended to the Los Angeles City College administrative staff who supported this project: President John Anthony, Dean of Instruction James Heinselman, Assistant Deans Dorothy Hata, Hal Stone and Robert Wilkinson. Special acknowledgment is extended also to Ms. Mariana Drury who participated in the research and typed the entire project.

The contributors are all members of the faculty of Los Angeles City College and are listed below with their areas of responsibility.

John Schellkopf	Assistant Director, Media Center
Betty Jacobs	Media Consultant
Michael Motte	Media Consultant
Stanley L. Schall	Coordinator, Career Education

TABLE OF CONTENTS

INTRODUCTION

JOHN SCHELLKOPF

WHAT IS MEDIATED INSTRUCTION?

Programs of media services are designed to assist learners to grow in their ability to find, generate, evaluate, and apply information that helps them to function effectively as individuals and to participate fully in society. Through the use of media, a student acquires and strengthens skills in reading, observing, listening, and communicating ideas. A media program represents a combination of resources that includes people, materials, machines, facilities, and environments, as well as purposes and processes, that respond to the curriculum and the learning environment.

A basic component of all media programs is the human interchange among the media staff, between media person and student. Media personnel strive to build bridges between content and context, purpose and procedure, self and society. They apply to the achievement of learning objectives and knowledge of the potential of various information sources - - verbal, symbolic, pictorial, and environmental - - as well as an understanding of different teaching and learning modes. They support students and instructors in utilization of media to achieve learning goals.

Media programs should be considered in the light of four functions: Design, consultation, information, and administration. These functions overlap and provide a basis for evaluating their efficiency.

The design relates to formulating and analyzing objectives; establishing priorities; developing or identifying alternatives; selecting among alternatives; and implementing and evaluating the system, the product, the strategy or technique.

The consultation function is applied as media consultants contribute to the identification of teaching and learning strategies; work with instructors and students in the evaluation, selection, and production of materials, and serve as consultants in planning facilities to provide effective learning environments.

The information function relates especially to providing sources and services appropriate to user needs and devising delivery systems of materials, tools, and human resources to provide for maximum access to information in all its forms.

The administrative function is concerned with the ways and means by which program goals and priorities are achieved. It applies to all aspects of the program and it involves staff and users.

Curriculum design and media utilization are inextricably interwoven. To the learner, media helps to identify the problem, supply information and a method to solve it. Purposeful integration of curriculum and media is ongoing and open-ended, with media professionals, curriculum consultants, instructors, and learners jointly designing instructional systems in which content and method evolve together.

Media extends an instructor and his/her effectiveness, both supporting their instruction and facilitating and improving that instruction. At times, media may provide a supplementary, peripheral, and/or reinforcing stimulus, and at other times, it may supplement all instruction. The individualized, self-paced portions of instruction provide for enrichment, review, and for the presentation of materials not otherwise readily available.

The Learning Resources Center at Los Angeles City College emphasizes instructional development and enhancement which extend the scope of the instructor with the facilitation of teaching and learning as a prime goal. With the emphasis now on individualized education, the students being asked to proceed at their own pace, testing themselves against their own performance instead of being tested against a group, the Learning Resources Center provides and enriches the materials from classroom and lecture.

The student's success in achieving instructional objectives is heavily dependent on access to materials. Both student and faculty function at their best when Learning Resources programs are adequately conceived, staffed, and financed.

WHAT LOS ANGELES CITY COLLEGE HAS TO OFFER:

For a number of years, Los Angeles City College has been involved in an ongoing instructional learning resources program. In 1973, a new media delivery system known as PYRAMID was installed. This revolutionary system is an educational system which provides an effective means of delivering individualized instruction using new tools that technology provides, yet one that allows the use of instructional materials to the maximum extent possible.

The system itself uses a computer to control the presentation of instructional sequences. The principal delivery media is interactive television. Television has become an increasingly significant part of our way of life as a medium of information. Through television, students can become directly involved through vastly broadened lesson plans while learning a variety of subjects at their own pace. The system is not difficult to use. A student sits at a carrel which has installed in it a color television monitor with a small keyboard similar to that used for touch tone telephones. The student keys in the number of a program, and receives that program, both aurally and visually. The student has

complete control of the program. Material may be skipped over which has already been seen or understood. The student may backtrack for review, stop the progress of the program to take notes or view graphs, et cetera, or key a different program for more information. The student can key into the carrel an audio-only program of high fidelity and stereo programming of lectures, music, or other information materials. A student can also make a high-speed cassette copy of the audio portion of any of the programs to allow listening at home.

The PYRAMID system uses random access so that its stored materials can be retrieved at any time by any user. Its unique feature is that access and retrieval are always immediate and always from the beginning of a program. The material will remain under the user's control for as long as required, regardless of how many other persons are requesting, receiving, or using the same program at the same time.

In addition to individual carrel use of the PYRAMID system, rooms for group viewing are available. The seating capacity of the study room varies from 15 in the smallest to 30 in the largest. Large-screen television monitors with loudspeakers are used allowing several people to receive the program as a group.

In addition to the PYRAMID system, the Learning Resources Center has many other media delivery devices, with materials from many subject areas. Programmed textbooks, audio tapes and cassettes, video tapes, filmstrips

and film loops comprise a major part of the software collection. Filmstrips and slides with accompanying audio tapes can be produced by faculty for student use. Many commercially prepared materials are available in the center, and faculty are welcome to review these for making recommended student use.

The Learning Resource Center is equipped to provide our faculty with many varied services:

A. Assistance in selection of appropriate existing materials, bibliographic research, evaluation, ordering preview programs and coordinating final orders, handling distribution and collection of programs and supplementary materials.

B. Development of new instructional sequences, particularly for the Ampex system, the Center coordinates the initial setting of viable instructional objectives, pilot testing during development, and continuing evaluation of completed programs to provide revision suggestions based on data from students.

C. Maintenance and supervision of the distribution and collection of all practice and test materials which are prepared in conjunction with new or selected materials.

D. Provision of updated lists of new materials to various departments.

E. Keeping records of student utilization of the LRC and provision of use data to faculty.

F. Duplication service for faculty, enabling them to transfer almost any form of audio production to any other, for utilization in the Center. Duplication of any "on-line" Ampex program for students.

In all curriculum areas, teachers and students seek information on appropriate levels and in suitable formats. They benefit from formal and informal assistance in using learning resources and designing and producing materials to achieve their objectives. Media professionals work with instructors to develop and implement curriculum design and monitor many curricular activities of students.

The media program exists to support and further the purposes formulated by our district. A media program represents a combination of resources that includes people, materials, machines, facilities, and environments, as well as purposes and processes. The combination of these program components and the emphasis given to each of them derive from the needs of the specific educational program. Effective media programs satisfy both individual and instructional purposes in a balanced and rewarding way.

As educators, we are committed to develop educational programs which meet the individual purposes and developmental needs of students and

prepare them to resolve problems that continually confront them. Social, vocational, economic, and political issues, national and international, as well as the changing expectations of individuals and groups, represent the human concerns to which education must respond if it is to perpetuate and improve the society that supports it.

To create better educational opportunities, we must strive to develop comprehensive systems that meet the needs of students of differing abilities, backgrounds, and interests, enabling them both to adjust to and influence the changing society in which they live. Media programs which reflect applications of educational technology, communication theory, and information offer essential processes, functions, and resources to contribute to the purposes of the college. The concern for high quality education is shared by all of the people involved in the learning process and its implementation.

M E D I A P R O D U C T I O N

BETTY JACOBS MICHAEL MOTTE

The scene opens on a class in tourism. The instructor, marking a detailed map of Europe, is demonstrating how to save the clients money by carefully planning air routes and taking advantage of stopovers.

One student eight seats back in a middle row, unable to see which cities are circled or where the arrows are going, concentrates on the explanation. A sneeze distracts her. A couple rows over, another student squirms and sighs. He is not grasping the idea. If only he had a chance to review the whole thing a few times.

The instructor, aware of the problems, holds the map in the air and attempts to draw on it. "Did you ever try to draw on a map while holding it in the air?" She places the map on the desk. "Come closer," she encourages the class.

Students from the back rows get up and crowd around. Others follow. They compete for viewing space and frustration reigns.

The instructor would like to teach each of the students individually, but the bell signals the end of another class hour.

In a class across the hall, another instructor is delivering a lecture on the history of transportation. He wishes he could show how the people, conveyances and communities looked.

In a book-lined office another instructor is on the phone with a P.R. representative from a large travel agency.

Instructor: That's right, a field trip for about 20 students.

P.R. Rep. : 20 students! We'd like to help you out. Really. We always like to help educators. You know that, but 20 students . . . I'm afraid that would be impossible. Of course, we'd love to have you come and bring, let's say, two or three.

There is a way to package a demonstration so every student can have a front row seat. There is a way to allow every student to review information at his or her own speed - - a way that also frees the instructor, so personal attention can be given to every student who needs it. There is a way to make the personalities and sights of your subject come alive. There is a way to go out and bring back a chunk of the world for your students. Instructional media makes it all possible.

Instructional media or "media production" within the educational institution generally refers to the preparation of an audio tape, video tape, 35mm slide show, motion picture, or a presentation involving a combination of these forms.

Teaching with these tools represents one of the newest approaches to instruction. Instructional media allows the instructor the freedom to plan in new directions and present material previously out of reach. In order to produce media, Los Angeles City College has expanded with new facilities, new people and new systems. This approach is symptomatic of the subtle social changes that are occurring as the future bears down on us. As Alvin Toffler says in his book Future Shock, "Traditional functional organizational structures, created to meet predictable non-novel conditions, prove incapable of responding effectively to radical changes in the environment. Thus temporary role structures are created as the whole organization struggles to preserve itself and keep growing . . . Task forces and other ad hoc groups are now proliferating throughout the government and business bureaucracies [and education] . . . Transient teams whose members come together to solve a specific problem."

Our specific problem is to educate. The new task force is a group of educators, consultants and technicians. These individuals make up the media production staff. An important member of this team is the subject specialist. This person is an instructor, a content expert, a resource person with information on a specific subject. In other words, you are the subject specialist. Let's look at how you can get involved in instructional media at Los Angeles City College.

First, decide what you want to cover. Do you want to show a certain procedure, provide background information, or set up problem-solving situations? Or do you want to package lecture material so class time can be devoted to an exploration of that material? How many programs do you want to develop?

Explore the type of media that would best serve your needs, i.e., video tape, slide/tape, audio tape, by talking with a media consultant. Media consultants at Los Angeles City College are faculty members with professional experience in media production. They are responsible for the Instructional Media Production Department and will serve as your project directors throughout the development and production of the programs.

Knowing what you want to do puts you in position to go after funding. Developing interesting, effective media requires a commitment of time and energy.

Funding generally covers only your compensation. However, there are sources which also permit you to request supplies, and possibly some equipment. A media consultant will help you project your needs in terms of what is already available.

Some funding sources will allow you to request student assistant time. Keep in mind that a student who does exceptionally well in your course will not necessarily make a valid contribution to a media project which demands specific skills. For this reason, student assistants with

special talents in photography, illustration or picture research are selected by you and the media consultant after funding is assured.

Here are some typical sources for funding:

1. Los Angeles City College Grants

   Every year, release time and/or supplemental pay is awarded to instructors planning non-traditional instructional programs.

2. Los Angeles Community College District Grants (IDG's)

   Allocated for innovative ideas in instructional development, a number of these grants have funded media projects.

3. Foundation Grants

   Private foundations can be interested in special educational projects. For example, the first three media programs in Economic History on our campus were funded by the Lincoln Foundation.

4. Government Grants

   Vocational Education grants have supported programs in Nutrition, Secretarial Science, and Dental Radiology.

The City College grants are awarded on the basis of input received from the non-traditional instructional development proposal. This proposal is for a grant of release time or supplemental pay offered by the college for the development of media and computer projects. It is basically a

questionnaire inquiring into the type of presentation, goals, equipment requirements, feasibility, application, etc. Proposals are circulated to the entire faculty. Anyone interested may complete a proposal and file it with the Non-Traditional Instructional Development Committee. (Call on a media consultant for help if you wish.) This committee includes the Dean of Instruction, Assistant Dean of Instructional Resources, media consultants, media center representatives and faculty representatives. They review the proposals and rank them according to objective criteria. The evaluation criteria are presented on the last page of the proposal form.

Once your media project is funded, regardless of the source, you will be teamed up with a media consultant. Preparing objectives is the first step. You have good reasons for wanting to develop instructional media, and your students should be able to do certain things and have certain information as a result of using it. This is basically what objectives are all about - - stating what it is that you want students to be able to know and do after using the media; i.e., the student will know how to plan a trip to Europe. Now, add how the objective will be measured or how the student will demonstrate knowledge of the information; i.e., in a written exam the student will be asked to recall details regarding plane fares, group tours, rental cars, etc.

Without evaluation tools like objectives, all that can be said is "The program was completed." It is becoming increasingly important to know

about the quality of the product. Quality can be defined in several ways. How well the objectives were met is one consideration, but also: How well is the program being received? How often is it used? What behavior is it changing? A program may meet none of its intended objectives, but may be highly effective in a way not even considered when it was being prepared. Although well planned and well intentioned, a program may turn out to be totally irrelevant to its target audience. Regardless of the final outcome, accountability is important. The college must know how well its resources are being used. The objectives and testing help answer this question. Objectives are the first step in the evaluation process.

If the objectives are identified at the outset, the program will have the best chance of satisfying very tangible goals. Nailing down the objectives before you begin the script lets you know what information to include and highlight in your script.

Objectives in hand, it is time to decide exactly what goes into the script. The easiest way to begin the script is to develop a content outline. This is not the time to worry about writing style. Just note, as simply as possible, all of the information to be included. Choose a form of organization and stick to it: chronological, step by step, concept by concept, etc. Set down all of your content, allowing each new bit of information to flow logically out of what preceded it.

Insert examples. Double-check. Will the students have all the information necessary to master the objectives? Should some of the objectives be eliminated? Should others be added?

Now that you know what you are going to say, how are you going to say it? A good script not only delivers information, but maintains interest. Your media consultant will provide in-depth help in this area. You might wish to consider writing for more than one voice using question and answer style, dramatic vignettes or just a conversational exchange of information. Select the approach that will best communicate your information.

Most people are unfamiliar with writing for the ear rather than the printed page. The consultant will edit your material and help you shape it into a clear and cogent script. The script is as complex, long or detailed as the subject demands. It is the common ground that everyone refers to as the project develops. The script is the collected original thoughts, research or information that the author wants to present as well as all the images yet to be developed and photographed. The visual counterpart for the script can be old photographs, new photographs, diagrams, illustrated procedures, or whatever conveys the idea visually. These images are usually an integral part of the material. For example: "When installing the reconditioned bearing, be sure to cover all of the surfaces with high pressure lubricant before

tightening the exterior bolts." This sentence is a specific instruction. The written content indicates exactly what is to be done. The visual counterpart could be a photo or illustration of a bearing, lubricant, the exterior bolts and someone performing the action. The script is both the written content in the form of narration or dialogue and also written notes describing what is to be shown. The narration or dialogue usually goes on the right half of the page, the visual description opposite it, on the left half. (See Appendix A.)

Write your script so all students can identify. Use "his or hers," "people," "humankind," etc. When speaking of a mixed group of adults, use "men and women." Avoid perpetuating sex role stereotypes in examples and analogies.

> If you are writing for a television production, you may not need the precise script necessary for a slide/tape presentation. For instance, for interview programs, your open and close should be scripted. The questions should be well researched and interestingly written, but the back-and-forth conversation should be spontaneous.

Since we are writing for the eye as well as the ear, the words and pictures should reinforce each other. The audio portion of your script will not be complete until you return to it after designing the visuals. The visual design of your script is as important as the audio, if not more so.

Your media consultant will work with you to develop the visual scheme. The visuals might be a sequence of photographs designed to show a process, an illustrated sequence highlighted with cartoon characters or a series of documentary pictures.

In the slide/tape format, pacing comes from two sources, the soundtrack and the visual content of each sequence. Rhythm changes, changes of vocal tone and pauses lend variety to the audio. Variety can also occur in the visuals. Scenes can be shown and then broken down into several individual shots. Processes, charts and diagrams can be built up step by step. Movement can be created within the static frame of a still photograph. For example: a series of photographs showing several large fields of flowers will eventually become tiresome. However, one shot of a large field of flowers, then single flowers filling the screen one at a time, a close-up of a bee hovering around a petal, an extreme close-up of the stamen and, finally, a microscopic detail of the stamen is a sequence that will hold your attention.

Once the visual scheme is determined, storyboard cards will be created. These are 4" x 6" index cards that contain directions about all of the visuals that will be seen in the finished presentation. Each card has either a sketch or a notation indicating where the visual can be located, i.e., in a reference text, magazine, etc. The cards are numbered sequentially and the number is placed on the script opposite the audio information relating to it.

Technical guidelines for scriptwriting:

Use the right half of the page for the narration or dialogue and the left half for storyboard numbers and additional visual information. Double or triple space. Write out numbers under 10. Do not break words at the ends of lines. Do not split sentences between pages. Draw a line at the point where visuals change. After the first page, number pages in the upper right corner.

When the story board is complete, review it with the script to determine if comments about specific visuals should be added.

The next step in the development process is the preparation of tests.

Tests should be designed to (1) evaluate the student's performance and (2) to evaluate the effectiveness of the program. The performance evaluation can be a traditional test covering the recognition and recall of selected pieces of knowledge, the comprehension of material, the application of specific knowledge, the ability to analyze and synthesize material, and the ability to make judgments about learned material. Objective tests using multiple choice, true and false, and matching questions can easily evaluate recall and comprehension.

Evaluating the ability to apply, analyze, or make judgments about what has been presented will probably require more complex testing. The content of the program, in most instances, dictates the kind of testing necessary for good evaluation. Student testing for a vocabulary and spelling program, for example, may require nothing more than objective-type questions, whereas testing for a program in contract law may require non-objective performance questions in order to determine if the student can judge, apply or analyze what has been presented.

Evaluating the effectiveness of the program can be done by preparing an objective test that is designed to assess the student's prior knowledge of specific material. This test is given before the student is exposed to the media. Comparing the results of the pre-test with

the results of the performance evaluation (the post-test) provides basic information about how much new information was learned.

Review and compare all of the test materials as a cross check. Consistent misses may indicate either that a question is ineffective, or that some of the content was not properly covered by the program. In any case, alter the test or the program and retest.

When developing the post-test, relate your questions closely to your objectives. For example:

OBJECTIVE #1

Eighty percent of the students, after having viewed the media program, will be able to trace biographical information on an obscure physicist.

TEST QUESTION #1

Which reference text will provide the most information on an obscure physicist?

a. Nobel Prize Winners in Physics
b. Encyclopedia Brittanica
c. Biographical Directory
d. Who's Who In Science

The pre-test should also relate closely to the post-test. For example:

PRE-TEST QUESTION #1

All reference texts are located:

a. in the stacks.
b. in a special section.
c. in the periodical section.
d. in the oversized section.

Most of the traditional pre-test, post-test evaluation schemes are printed materials that are handed out before or after the program is presented. When developing instructional media, it is often desirable to relate the testing directly to the program. The program can be designed to run for five minutes, provide information about a test and then stop, to give the student time to take the test. These mini-tests segment the content and give the student a more varied experience.

The testing can also be designed as an integral part of the presentation. All of the questions and choices can be made into visuals and scattered throughout the program. For example, a series in Dental Technology might present a detailed sequence on oral anatomy. All of the teeth and supporting structures are shown and identified. At the end of the sequence, key slides are shown again although the identifying labels are deleted. The narrator on the sound track asks the student to identify the structures and also explains how the sequence can be easily reviewed if necessary. This technique could be supplemented by a comprehensive test given at the end of the program to provide a written record of the student's performance. Programming materials in this way heightens interest by giving the viewer a more active role in the educational process.

Once the script, storyboard and testing are complete, the program can go into production. Initially, the media consultant and

illustrator confer on the storyboards. There are usually a number of ways of developing the visuals. For example, they can be illustrated. In other words, all of the cards will be reproduced on the drawing board. This approach relies heavily on the artist's raw ability to create an interesting visual on a blank sheet of paper. Within this approach, there are a number of different techniques: pen and ink, colored pencil, charcoal, water color, dyes, colored markers, etc. Each of these media has different qualities. For example, a tight pen and ink rendering of the inside of a bicycle hub might be the best solution for a highly technical sequence of visuals on bicycle repair. Characters cut out of paper, colored with markers and mounted on plain backgrounds might be the most effective way to visualize a sequence in psychology illustrating the Skinner box experiments. Combining traditional photographs with original illustration provides other possibilities. Creating three-dimensional characters or "mock-ups" for table-top photographs is an entirely different approach. All of these techniques have different time considerations, different communication values and, in short, different potential.

Still photography is another possibility. For example, the newest manufacturing techniques in paint technology could be discussed or illustrated, but actual photographs of methods and procedures would be even more effective. A camera can take you almost anywhere you

want to go. Simple or complex processes covering anything from how to stamp an envelope to how to build a bridge can be easily and accurately documented. The main considerations for photography are lighting and availability of the subject or location. Occasionally, an exciting and seemingly natural subject for photography will be unfeasible because of the technical difficulties involved.

The sound track is equally important. Narration, dialogue, sound effects and environmental sound can become large production considerations that must be used properly if the program is to be a success. For example, if we tour a bicycle factory and collect a number of photos we may also want to record interviews and explanations that could be edited and later synchronized with the visuals.

Music can add immeasurably to the sound track if it is edited and mixed properly, although we do not have a copyright-free music library or the budget to pay for the use of commercial recordings. Therefore, our ethical and legal responsibilities in this area must always be considered.

The visual development process used in videotape production differs from the one used for slide/tape programming. The video script is not keyed to a separate storyboard (although this is sometimes done in certain types of commercial production). Because video and audio

are typically recorded at the same time, detailed descriptions of the visuals parallel the corresponding audio. This description usually includes the type of shot or camera action and the movement or location of the subject. (See Appendix B.)

Some guidelines for videotape production:

- Determine where the videotaping will be done.
- Obtain necessary permission for access as well as recording.
- Visit locations to get a handle on the physical layout.
- Make appointments with those who will be involved in the taping.
- Plan for necessary equipment and props.
- Have anyone who will appear on camera sign a release.

When the production has been completed, the program is duplicated and delivered to the Media Center. The master is stored so that additional duplicates can be easily made if the display copies are misplaced, damaged or simply wear out.

In cooperation with the Media Center staff, testing sessions are arranged. You will be asked to provide a group of students from your own or a colleague's class. The students will watch the program and be tested.

After the testing and revision, the program is considered complete, although it should be reviewed every two semesters by the subject specialist and the consultant to determine if the material needs to be up-dated. The ongoing evaluation results provided by each new class or group will be forwarded to the Office of Instruction.

Instructional media is one of the newest, most innovative programs being used at Los Angeles City College to help people learn. It will not automatically bridge the space between perception and understanding or knowledge and wisdom, but it will reveal the intricacies of cell division and capture the sights and sounds of a political primary. Instructional media is the new tool that will help you put all of your students in the front row seats.

GLOSSARY

AUDIO EDITING: Physically cutting errors out of a recorded audio tape.

AUDIO MIXING: Electronically combining several separate sound tapes into one composite or master.

AUDIO TAPE PRODUCTION: An audio tape with interviews, sound effects, narration, etc., requiring much of the same production input as a slide/tape or television program in terms of scripting and test development.

DEVELOPMENT: The preparation of objectives, the script, testing, preliminary picture research and the creation of the storyboard.

ILLUSTRATION: Any number of graphic techniques used to create visuals.

INSTRUCTIONAL MEDIA (also instructional software or programmed instruction): A self-contained presentation of a subject using any of the audio/visual forms currently available: audio tape, slide/tape, motion pictures, video tape, multi-image.

LIVE PHOTOGRAPHY: Preplanned photography of a person, location or event.

MEDIA CENTER: Located on the bottom floor of the Library, the Media Center is in charge of program delivery. It provides students and instructors with programs on an individual or group basis via a variety of display systems; e.g., the Ampex closed circuit computerized television system, filmstrip projectors, videocassette players, synchronized slide/tape viewers.

OBJECTIVES: An explicit specification of an expected result.

POST-TEST: A test (usually objective) that is intended to evaluate a student's mastery of specific material.

PRE-TEST: A test (usually objective) that is intended to evaluate a student's knowledge in a specific area.

PRODUCTION: The actual creation of the physical materials that will be presented as an instructional media package. Working from the script and storyboard, the artist illustrates, the sound is recorded, and the photographs are taken. These materials are then combined to form a finished media package.

PRODUCTION STAFF: Ideally, a media consultant, an illustrator and assistant, a photographer and a sound technician for each project.

SCENE: The place or location where the action occurs.

SELF-TEST: An evaluation device for stimulating student interest in a media presentation. The results are usually not recorded.

SEQUENCE: A series of related images (shots) that are structured to communicate a specific idea(s).

SHOT: A single visual or photograph that falls within the boundaries of the frame (either actual or imaginary).

SLIDE/TAPE PROGRAM: A program which synchronizes a series of slides with a separate audio tape. It may be packaged as an Ampex program, filmstrip or pulsed slide show.

STORYBOARD: A series of descriptions and/or rough sketches of each visual to appear in a slide/tape program, usually executed on 4" x 6" plain white index cards.

TABLE TOP PHOTOGRAPHY: The photography of items (usually small) within a highly controlled, studio type environment.

VIDEOTAPE PRODUCTION: A production utilizing television equipment.

APPENDIX A

Sample script format:
(slide/tape program)

6/12/76

department: Engineering
course: Precision Measurement
instructor: K. Peterson
consultant: B. Keifer

program series number: 507
running time: 5:24

1	title	*UNIT 1: THE MICROMETER CALIPER*
2	photo: several types and sized of micrometers	*The micrometer caliper or 'micrometer' is a precise instrument used for measuring the outside dimensions of an object. Available in a variety of sizes, each will measure a limited amount of space. For example: A one inch micrometer will measure from .0000 to 1.0000.*
3	photo: 1 inch micrometer	
4	photo: 2 inch micrometer	*A two inch micrometer will measure from 2.0000 to 3.0000 and so on.*
5	photo: C.U. spacer attached to two inch micrometer	*Some micrometers are designed to accommoaate a spacer that will allow them to measure a greater range of space.*
6	photo: two inch micrometer reading 2.5000	*This instrument will normally measure from 2.0000 to 3.0000 but with the spacer attached it will also accurately measure from .0000 to 1.0000.*
7	photo: two inch micrometer reading 1.5000	
8	illustration: the 5 parts color keyed	*The micrometer can be broken down into five basic parts:*
9	detail of 8	*The frame . . .*
10	detail of 8	*the movable spindle . . .*
11	detail of 8	*the sleeve . . .*
12	detail of 8	*and the thimble.*
13	illustration	*Turning the thimble moves the spindle in to, or away from the anvil.*

APPENDIX B

Sample script format:
(video tape program)

	6/21/76
	department: Real Estate *course: Sales* *instructor: C. McCallister* *consultant: F. Schwartz*
	program series number: 326 *running time: 23:19*
	NARRATOR (voice over):
L.S. (house, broker and client at the curb).	*If you want to see a curb stopper, take a look at this house.*
ZOOM into rosebushes M.S. (shutters) L.S. (lawn, from low angle) PAN bushes	*Notice the roses, the freshly painted shutters, and the newly mowed lawn. Perfectly manicured bushes accent the cobblestone walk.*
M.C.U. (door) ZOOM into door knob	*Customers notice these details. A new front door with a polished brass knob could clinch the sale.*
C.U. (hand turning knob, opening door)	*Let's take a look inside.*
L.S. (living room)	*A warm, inviting living room is very important.*
DOLLY into coffee table with flowers (client walks into the shot and smells the flowers)	*Fresh flowers personalize the room and provide a pleasant scent.*
TWO SHOT (broker and client, broker offers client a seat)	*Invite your client to sit down and get the feel of the room.*

APPENDIX C

SCRIPT TERMINOLOGY

E.L.S. (extreme long shot): A shot depicting a vast area from a great distance.

L.S. (long shot): A shot showing the entire area of action.

M.S. (medium shot): An intermediate shot of the action, clearly showing all gestures, facial expressions and movements.

M.C.U. (medium close up): A shot between an M.S. and a C.U.

C.U. (close up): Generally, a head-and-shoulders shot of one person or a comprehensive detail shot of an object.

E.C.U. (extreme close up): A shot of a person showing the face from just below the lips to just above the eyes. An isolated detail of an object.

TWO SHOT: A shot showing two people together or confronting each other.

ZOOM: (in or out): Moving into or out of a scene by optical movement rather than camera movement.

PAN: Camera turns right or left to cover the action.

TILT: Camera tilts up or down to cover the action.

DOLLY: Camera moves in or out to follow or show the action.

TRUCK: Camera moves parallel to follow or show the action.

ARC: A combined dolly and truck to follow or show the action.

HANDHELD: An unsteady view of the action, because the camera is being held by hand rather than in a stationary position or on a dolly.

COGNITIVE STYLE MAPPING

BY

STANLEY L. SCHALL

I

PHILOSOPHY

Cognitive style mapping is a systems approach to an educational methodology that Dr. Joseph E. Hill of Oakland Community College, Bloomfield Hills, Mich. started to work with in 1956. He was joined later by Dr. Derek N. Nunney, also of Oakland Community College. Their conceptual design has provided direction to over 20,000 students at Oakland Community College. At the present time, grades 1 - 14 in more than 15 school and community college districts throughout the United States are using this approach to learning. The educators involved believe they can change the premise that "Only about a third of the nation's students really master the skills and concepts presented to them in school, but ninety-five percent are capable of doing so." (1)

Many students learn at a slower rate than is expected of them, so it is natural that we explore ways of changing the time required for an acceptable level of achievement and optimum results. One of the problems that face the professional educator is the concept of the normal curve. If community colleges research and find that cognitive style mapping is to be effective in instruction, we would then arrive at the hypothesis that most learners will master the subject. The curve will be different from the traditional one - - a different presumption would be created with a bias toward students who will achieve results in optimum learning.

Cognitive style mapping is a tool designed to assist the student, instructor and administrator in determining what method of learning will mean success to both student and instructor. The student's cognitive style is determined by the way the student takes notice of his or her total surroundings - - how he or she seeks meaning - - how he or she becomes informed. Is the student a listener or a reader? Is the student concerned only with his or her point of view or is the student influenced in decision-making by family or by associates? Does the student reason more like a mathematician or a social scientist or an artist? Family background, talent, life experiences and personal goals make each of us unique. The particular way that each of us sees our world and responds to it is our cognitive style.

The cognitive style map provides a diagram of the way a student derives meaning from his or her environment and personal experience. Each map, like each student, is different.

Drs. Hill and Nunney summarize their position by stating that, to insure the student's success in an educational program, various components of educational technology, i.e., TV, lectures, textbooks, audio visual units and computer-assisted instruction can be used for certain students, none of which is outstanding for all students. The instructor's role is to utilize the results of a diagnostic examination (cognitive style map), determine the student's strengths, and begin to instruct the individual student by using the media which will capitalize on that student's strengths.

Although there is a great deal of freedom involved with this type of educational process, the student enters into a contractual arrangement with the course instructor, and scheduled classes remain an essential part of the instructional approach. The instructor remains the student's principal point of reference. The student's success may be attained as a result of analyzing the student's map and carefully balancing professional skills, scientific methods and equipment.

William Hampton (2) relates information regarding the three-hour diagnostic examination. "Test results go into Oakland's (Oakland Community College) IBM computer (System 360/Model 50) to produce a

tabular 'map' of 84 traits that describe how each student thinks and learns - - his cognitive style. The measured traits can produce 2,304 combinations that show how he handles qualitative and theoretical symbols and how cultural influences affect the way in which he derives meaning from the symbols he perceives. In practice, the 'maps' have produced up to 19 ways of teaching the same course material, each one aimed at a particular kind of learning style."

Dr. Hill provides additional information on the results of the mapping in his 1971 publication, "The Educational Sciences". The maps are printed in three sets. The first set indicates a student's tendence to use certain types of symbols, his ability to understand words and numbers, qualitative sensory symbols, qualitative programmatic symbols and qualitative codes. The second set indicates influences which the student brings to bear in deriving meaning from symbols. These influences are effected mainly in terms of her own individuality (I), or her associates' (A) perceptions, or those of her family (F). The third set indicates the manner in which she reasons, whether the student thinks in categories (M), or in terms of differences (D), or analyzes multiple relationships (R), or uses all three (L). The student is influenced by symbols and the cultural determinants he employs in his style.

Attachment (1) to this report is a detailed explanation of all the symbols used.

II

TEACHING, ADMINISTRATIVE AND COUNSELING STYLES

Cognitive style in itself does not provide a complete explanation of the student's direction for success in learning. Three other factors have a significant input into the student's learning style and they are: teaching style, administrative style and counseling style (3).

Teaching

According to the studies made by Dr. Hill, classification of the teacher's style is based primarily on his or her response to, and behavior in, the student-teacher relationship in the educational process. Conventional classifications of the teacher behavior as either authoritarian or permissive is also considered. Those teachers who use a relatively fixed style - - authoritarian or permissive - - are said to possess a predominant style. The instructor who uses the student's cognitive style as a point of departure and varies his or her approach so that the student accommodates the teaching style which the teacher elects is classified as a switcher. Then there is the teacher who utilizes a style that appears to meet the needs of the student's cognitive style - - considered a flexible teaching style.

Generally, a teacher uses a combination of two classifications so that he or she may be flexible with a group of students. It is necessary then to understand in which classifications the teacher feels most comfortable with the expectations that he or she will be successful in his other educational delivery approach. This permits examinations of various types of teaching situations as well as being able to evaluate certain aspects of programmed approaches.

Administrative

The administrative style is important because of authority to make decisions. In analyzing administrative behavior, Dr. Hill becomes involved in three categories: persons-oriented, process-oriented, or influenced by the social system in which the administrator is dealing. As we observe the administrator's attitudes toward who should set the goals - - the administrator or associates - - and whose approach should be used to accomplish tasks in the system - - his or her own or his or her associates - - we are provided the basic elements in determining the style of the administrator. In a community college, the informal structure desires participative management approach to decision-making process. It is the administrator's policy decisions that have a strong effect on the long-term educational process and, in view of this, the knowledge of the administrative style is very important.

Counselor

The counselor's style is predicated upon three generic categories: persons, processes and properties. The counselor's order of priorities focuses on his or her style. Again, we deal with goal setting, either the student's or the counselor's, and who should determine the approaches to attaining these goals, the student or the counselor. Other influences such as additional responsibilities will mandate whether the counselor is directive or nondirective. As another form of measurement in the educational process for students, the concept of counseling style adds to the total approach of the cognitive style mapping with an end result of optimum learning.

The educator cannot discuss learning without mentioning the memory process. Drs. Hill and Nunney state (3) that the "memory concern is composed of two sets of information pertaining to: 1) the memory function, and 2) concern components. The memory function is a complex one composed of four processes: (a) recognition, (b) retention, (c) recall, and (d) association. The concern components are (a) persons, (b) processes, and (c) properties."

Recent work by biochemists and psychobiologists differentiates between short term and long term memory. Short term memory must be present however, before long term memory can occur. Short term memory may become long term memory with the production of proteins and an increase

in enzymatic activity levels in the brain cells. Short term memory is currently thought to be the result of short lived processes.

Experiments with animals have indicated that injection of stimulators into the central nervous system can have a beneficial effect on both short term and long term memory. Similar studies with humans have also resulted in positive results on their memory processes. The implication for the educator in the future may be in the use of immediate memory stimulators and other chemicals to increase attention span and decrease protein elements which inhibit the memory concern function.

SUMMARY

It appears that cognitive style mapping (CSM) of students enables the instructor to consider the individual in terms of various methods of teaching. Through this system, it is possible to prescribe educational modes that could be used as a vehicle for the individual to achieve a level of success in courses he or she otherwise might have found difficult or, in fact, may have failed.

There are a series of constraints involved in institutionalizing this approach. The Dean or Assistant Deans of Instruction, some faculty and counselors must receive training in the educational sciences and cognitive style mapping and support this concept. A budget must be committed along with space, technology and personnel. Admissions, Records and Counseling should be involved in the planning of CSM on their campus. The change may result in the development of partial credit, open entry, open exit programs.

The transfer of scientific information regarding memory and cultural determinants enables the educator to design a meaningful diagnostic examination. The results of the exam coupled with a subjective interview of the student by the instructor results in a personalized program for the student which is geared to his strengths and weaknesses.

The educational challenge beckons both the student and the faculty member who may have believed there were built-in limitations to a group which is now called educationally deprived. We should also recognize that this group does not fit into a geographic area of a community but reaches out into all social and economic areas.

ATTACHMENT (1)

OAKLAND COMMUNITY COLLEGE
A BRIEF GUIDE TO COGNITIVE STYLE MAPPING
SYMBOLS AND THEIR MEANINGS

Dr. Joseph E. Hill
Dr. Derek N. Nunney

Two types of symbols, theoretical (e.g., words and numbers) and qualitative (e.g., code data) are basic to the acquisition of knowledge and meaning. Theoretical symbols differ from qualitative symbols in that the theoretical symbols present to the awareness of the individual something different from that which the symbols are. Words and numbers are examples of theoretical symbols. Qualitative symbols are those symbols which present and then represent to the awareness of the individual that which the symbol is. (Feelings, commitments and values are some examples of the meanings conveyed by the qualitative symbols.)

There are four Theoretical Symbols:

T(VL) Theoretical Visual Linguistic - ability to find meaning from words you see. A major in this area indicates someone who reads with a better than average degree of comprehension.

T(AL) Theoretical Auditory Linguistic - ability to acquire meaning through hearing spoken words.

T(VQ) Theoretical Visual Quantitative - ability to acquire meaning in terms of numerical symbols, relationships, and measurements.

T(AQ) Theoretical Auditory Quantitative - ability to find meaning in terms of numerical symbols, relationships and measurements that are spoken.

Meanings for qualitative symbols are derived from three sources: 1) sensory stimuli; 2) cultural codes (games); and 3) programmatic effects of objects which convey an almost automatic impression of a definite series of images, scenes, events or operations. At the present time, there are 20 qualitative symbols included in the "symbolic" set; five of them associated with sensory stimuli, five that are programmatic in nature, and ten associated with cultural codes.

The five Qualitative Symbols associated with sensory stimuli are:

Q(A) Qualitative Auditory - ability to perceive meaning through the sense of hearing. A major in this area indicates ability to distinguish between sounds, tones of music, and other purely sonic sensations.

Q(O) Qualitative Olfactory - ability to perceive meaning through the sense of smell.

Q(S) Qualitative Savory - ability to perceive meaning by the sense of taste. Chefs should have highly developed qualitative olfactory and savory abilities.

Q(T) Qualitative Tactile - ability to perceive meaning by the sense of touch, temperature, and pain.

Q(V) Qualitative Visual - ability to perceive meaning through sight.

The qualitative symbols that are programmatic in nature are:

Q(P) Qualitative Proprioceptive - ability to synthesize a number of symbolic mediations into a performance demanding monitoring of a complex task (e.g., playing a musical instrument, typewriting); or into an immediate awareness of a possible set of interrelationships between symbolic mediations, i.e., dealing with "signs".

Q(PD) Qualitative Proprioceptive Dextral - a predominance of right-eyed, right-handed and right-footed tendencies (a typically right-handed person) while synthesizing a number of symbolic mediations into a performance demanding monitoring of a complex task (e.g., playing a musical instrument, typewriting).

Q(PK) Qualitative Proprioceptive Kinematics - ability to synthesize a number of symbolic mediations into a performance demanding the monitoring of a complex physical activity involving motion.

Q(PS) Qualitative Proprioceptive Sinistral - a predominance of left-eyed, left-handed and left-footed tendencies (a typically left-handed person) while synthesizing a number of symbolic mediations into a performance demanding monitoring of a complex task (e.g., playing a musical instrument, typewriting).

Q(PTM) Qualitative Proprioceptive Temporal - ability to synthesize a number of symbolic mediations into a performance demanding the monitoring of a complex physical activity involving timing.

The remaining ten qualitative symbols associated with cultural codes are defined as:

Q(CEM) Qualitative Code Empathetic - sensitivity to the feelings of others; ability to put yourself in another person's place and see things from his point of view.

Q(CES) Qualitative Code Esthetic - ability to enjoy the beauty of an object or an idea. Beauty in surroundings or a well-turned phrase are appreciated by a person possessing a major strength in this area.

Q(CET) Qualitative Code Ethic - commitment to a set of values, a group of principles, obligations and/or duties.

Q(CH) Qualitative Code Histrionic - ability to exhibit a deliberate behavior, or play a role to produce some particular effect on other persons. This type of person knows how to fulfill role expectations.

Q(CK) Qualitative Code Kinesics - ability to understand, and to communicate by, non-linguistic functions such as facial expressions and motions of the body (e.g., smiles and gestures).

Q(CKH) Qualitative Code Kinesthetic - ability to perform motor skills, or effect muscular coordination according to a recommended, or acceptable, form (e.g., bowling according to form, or golfing).

Q(CP) Qualitative Code Proxemics - ability to judge the physical and social distance that the other person would permit, between oneself and that other person.

Q(CS) Qualitative Code Synnoetics - personal knowledge of oneself.

Q(CT) Qualitative Code Transactional - ability to maintain a positive communicative interaction which significantly influences the goals of the persons involved in that interaction (e.g., salesmanship).

Q(CTM) Qualitative Code Temporal - ability to respond or behave according to time expectations imposed on an activity by members in the role-set associated with that activity.

Cultural Determinants:

There are three cultural determinants of the meaning of symbols: 1) individuality, 2) associates, and 3) family. It is through these "determinants" that cultural influences are brought to bear by the individual on the meanings of symbols.

F - Family I - Individual A - Associates

Modalities of Inference:

The forms of inference the individual uses in the process of deriving meaning:

M Magnitude - a form of "categorical reasoning" that utilizes norms or categorical classifications as the basis for accepting or rejecting an advanced hypothesis. Persons who need to define things in order to understand them reflect this modality.

D Difference - this pattern suggests a tendency to reason in terms of one-to-one contrasts or comparisons of selected characteristics or measurements. Artists often possess this modality as do creative writers and musicians.

R. Relationship - this modality indicates the ability to synthesize a number of dimensions or incidents into a unified meaning, or through analysis of a situation to discover its component parts. Psychiatrists frequently employ the modality of relationship in the process of psychoanalyzing a client.

L Appraisal - is the modality of inference employed by an individual who uses all three of the modalities noted above (M, D, and R), giving equal weight to each in his reasoning process. Individuals who employ this modality tend to analyze, question, or, in effect, appraise that which is under consideration in the process of drawing a probability conclusion.

K Deductive - indicates deductive reasoning, or the form of logical proof used in geometry or that employed in syllogistic reasoning.

TAL

1. Tape-records lectures
2. Listens to news on radio
3. Would call long distance vs. write letters
4. Would complain by phone vs. writing nasty letters
5. Would enjoy listening to Macbeth on a record
6. Would prefer to listen to an essay from a text
7. Would ask a perceptive question
8. Enjoys playing audio tape on way to work
9. Would prefer to have an article summarized verbally
10. Likes to sit outside and listen to sounds of nature

TAQ

1. Listens to stock market on radio with understanding
2. Takes directions well when numbers are given
3. Prefers being given addresses, dates, phone numbers orally
4. Learns math by listening to lectures only

TVL

1. Reads newspaper daily
2. Visits library frequently
3. Reads one or more news magazines weekly
4. Subscribes to one or more specialized journals/newsletters
5. Reads billboards
6. Trades written recipes
7. Writes directions down when giving and taking
8. Hears new word - writes it down to see how it is spelled
9. Uses dictionary and thesaurus extensively
10. Reads labels or instructions thoroughly

TVQ

1. Adds food prices in grocery store
2. Reads sale portions of newspaper
3. Computes mileage during travels
4. Remembers important dates and anniversaries
5. Can remember who led the national league in hitting in 1953
6. Can do Chi-Square
7. Makes A's in math and stat courses
8. Remembers important historical dates
9. Understands how to use a slide-rule

QA

1. An audiophile
2. Auto mechanic that diagnoses engine by sound
3. Housewife who knows when vacuum cleaner motor is ailing
4. Discerns meaning of a baby's cry
5. Discerns meaning of animal sounds
6. Attends a variety of concerts with regularity
7. Can tell difference between a sonic boom and thunder
8. Can distinguish individual foods being prepared in kitchen when in another room
9. Recognizes emotion by tonality of voice
10. Doctor distinguishes degree of pneumonia by sound of patient's breathing

QO

1. Can tell if chicken is done by smell
2. If smells gas he knows the carburetor is malfunctioning
3. Knows milk is spoiled by smell
4. Scents remind person of past experiences
5. Chemist knows what "pungent" odor is
6. Makes evaluations of people through smells
7. Reacts to tobacco odor
8. Can determine qualities of "grass" by odor
9. Insists that bathroom door be closed when someone is inside
10. Always has pocketful of certs

QS

1. Can distinguish canned from fresh orange juice on first swallow
2. Can tell herbs used in casserole
3. Can tell the variety of an apple by taste
4. Seasons stews, dressing, etc., by taste
5. Can differentiate degrees of dryness of wine by taste
6. Perceives heaviness or lightness of scotch whiskey
7. A person who can tell margarine from butter
8. Can tell instant coffee from brewed coffee
9. Enjoys wine tasting parties
10. Can distinguish homemade bread from commercially baked bread

QT

1. Determines presence of fever in another by touch
2. Farmer feels if crop is ready for harvest
3. Shopper determines ripeness of fruit
4. Feels quality of different duplicating papers
5. People communicating by touch
6. Can learn shapes of letters and numbers by touch
7. Person who feels and rubs material before buying clothes
8. Performs successfully in athletics by using correct "touch"

QV

1. Likes to have pictures and graphs in a book
2. Enjoys movies
3. Prefer to attend concert (as opposed to records)
4. Prefer meeting people in real life, then pictures, then descriptions
5. Prefer color to black and white
6. Sensitive to differences in lighting
7. Prefer not to order from catalogue

QP

1. Types fast
2. Performs well athletically
3. Plays a musical instrument well
4. Lands a 15 lb. base on 6 lb. test line

QCEM

1. Listens well
2. Others seek you out
3. Interprets body language well
4. Puts others at ease
5. Shows concern for others
6. Understands others
7. Has good eye contact
8. People feel that empathetic people are trustworthy
9. People feel that empathetic people are stable

QCES

1. Enjoys going to art galleries
2. Would rather have a home in the mountains than in the city
3. Sees beauty in tasks that are well done
4. Enjoys looking at flowers
5. Enjoys looking at animals
6. Enjoys beauty contests
7. Enjoys taking a walk
8. Enjoys poetry
9. Enjoys interplay of colors
10. Enjoys contrasting sounds
11. Enjoys the types of motion

QCET

1. Is always on time for appointments
2. Conscious of assuming fair share of committee responsibilities
3. Student collusion to avoid turning in assignment when substitute teacher is in classroom
4. Pays bills on time
5. Adheres to speed limit
6. Leaves name, address, etc., when damaging another car in parking lot
7. Will testify voluntarily in a court of law
8. Adheres to monogamous commitment in marriage
9. Consistently "shaves" time off job
10. Will not rat on fellow drug users

QCH

1. A psychology teacher who can demonstrate depression by talking slowly, using few facial expressions, etc.
2. Child's excessive crying to gain attention
3. Playing devil's advocate in an argument
4. Playing role of the teacher reinforcer by saying "excellent", smiling, nodding when a student does something well
5. A man or woman playing role of flatterer to seduce a man or woman
6. The student who can make up the perfect excuse for missing an exam
7. A person who promotes a charity fund raising drive so that it can be on his/her resume
8. Parent plays role of characters in nursery rhyme when reading to child
9. Shy person who plays cool/aloof
10. Wife of military officers who plays role of entertainer
11. Administrator who asks everyone's opinion then implements a predetermined program

QCK

1. Uses hands to talk
2. Tilts head while listening
3. Scores without having said a word
4. Keeps eye contact while talking
5. Enjoys silent movies and pantomime
6. Ability of a football player to anticipate plays by the movements of opposing players

QCKH

1. A good mechanic
2. Typist
3. Orthopedic surgeon
4. Musician
5. Athletes
6. Coordination
7. Driving a car; riding a bicycle

QCP

1. Knows when a joke is appropriate
2. Kisses all the right people
3. Knowing when someone feels threatened by your coming too close
4. Being aware of social amenities
5. Doctor with a good bedside manner
6. Knows how to place furniture for conversation areas

QCS

1. Knows which ear he hears from best
2. Knows where to sit in a movie to avoid eye strain
3. Takes classes at a certain time because he is most attentive then
4. Avoids classes where smoking is permitted because smoke makes him sick
5. Avoids courses requiring a lot of reading because eyes tire easily
6. Avoids math and science courses
7. Avoids courses requiring term papers

QCT

1. Asks questions
2. Acceptance
3. Empathy
4. Body language; positive facial expressions, nodding
5. Can provide undivided attention
6. Probably wouldn't interrupt

I

1. Eats alone in restaurants
2. Prefers golf to football
3. Prefers independent study to tutorial sessions
4. Read science fiction before it became "popular"
5. Won't go to see JAWS
6. Thinks Robert Redford is ugly (females only)
7. Still wears thin ties
8. Doesn't like to be told what to do
9. Evil Knievel

A

1. Department head talks to department members before making a decision
2. Frequently asks friend for opinions of what to wear
3. Teacher often asks other teachers' opinions on what to do with a problem student
4. Rotary Club President asks for input from all members for program planning
5. Not drinking because other people in your group are not drinking
6. Person who would volunteer for an encounter group
7. Person who cannot easily say no to friends
8. A person who asks what everybody else is going to order before ordering food in a restaurant
9. Person who likes to study in a study group
10. A person who won't go out unless with a group of friends

F

1. Asks father's opinion before buying car
2. Shares joyful experiences with family
3. Stays in contact with family
4. Consults with family before making major decisions
5. Respects certain types of authority
6. Listens to teacher's advice
7. Shares failures with family
8. Goes out with family often
9. Has empathy for others in family

M

1. List-keeper
2. Would like objective type tests
3. Would do better in the exact sciences
4. Tunnel vision
5. Stereotype tendency
6. Would budget time and money
7. Orderly housekeeper
8. Routine scheduling - goes to work same way
9. Would appoint tasks to others with little flexibility

D

1. English teacher who gives a higher grade to contrast essay vs. a definition essay
2. A composer who would alternate tempos, tone, volume, etc., creating different moods in a composition
3. Person who refuses to accept stereotypes
4. A student who has difficulty writing a logical outline
5. A person who would define "faculty members" by telling what they are not
6. An artist who would use lines and angles to create one mood but curves to illustrate another mood in a painting or sculpture
7. The person who plays the devil's advocate
8. The person who alternates foods by textures (after eating salty peanuts would want ice cream)
9. The person who would want both Gore Vidal's and Buckley's opinions on social security
10. Would say I prefer cotton to rayon

R

1. Uses analogies in explaining new material
2. Can take a set of verifiable data and draw an inference
3. Can read six different books and summarize commonalities
4. Can look at an empty room and see finished setting
5. Has a mental outline of a piece of writing, a talk, or process well in advance of execution
6. Can read the financial statement of a company and quickly determine its condition
7. A policeman who can arrive at the scene of an incident and ascertain the temper of the crowd
8. Requests examples when someone is explaining a theory
9. After considering all factors, decided this list could not be completed

L

1. Needs to know facts before making decisions
2. Likes to solve puzzles
3. Not afraid to ask questions
4. Knows how to use library effectively
5. Perceptive to different situations
6. Can sort good information from garbage
7. Knows how to establish priorities
8. Knows how to get results
9. Sometimes gets bogged down
10. Able to criticize

BIBLIOGRAPHY

1. Hill, Dr. Joseph E. and Nunney, Dr. Derek N. Personalizing Educational Programs Utilizing Cognitive Style Mapping Oakland Community College Press, January 1971

2. Hampton, William Students Find Their Way to Learning With Cognitive Style Mapping College and University Business, February 1972

3. Hill, Dr. Joseph E. The Educational Sciences, Oakland Community College Press 1970