Proceedings of the Symposia for the
Improvement of Resident Instruction

Motivation

Curriculum

Hands-on Learning

**Proceedings of the Symposia for
Improvement of Resident Instruction**

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PREFACE

The "Symposia for the Improvement of Resident Instruction" was conducted in early 1991. Now three years later, "Classroom Teaching Skills" workshops are being planned at each ADAP institution. It is accordingly useful to produce a "Proceedings" of that first inservice training for faculty, which may serve as a review and foundation for upcoming workshops to build upon.

The materials presented in these "Proceedings" are varied. They include; participant handouts, lecture notes, the results of brainstorming sessions and panel discussions. Together they represent the outcome of a learning event designed to provide an opportunity to share insights and exchange ideas amongst regional faculty of Land Grant institutions in the American Pacific.

The needs assessment report upon which the Symposia was based, stated, "Without good teachers, competent at their work and possessing those qualities which enable them to inspire and develop the latent capacities of their students, agricultural education as a whole cannot function effectively. Faculty members are the most important resource of a teaching institution." With that in mind, ADAP moves forward, continuing to upgrade its regional faculty with innovative inservice training, benefiting students and their communities.

Mark Barnard
ADAP Project Manager

ADAP Symposium for the Improvement of Resident Instruction
Conducted at
UOG/CALS January 16 -18, 1991
ASCC Land Grant February 12-14, 1991

Day 1; OBSTACLES TO LEARNING & MOTIVATION FACTORS

I.   Introduction
     8:00 - 8:30 am

     ADAP activities related to Resident Instruction
     Needs Assessment Survey Results
     Review of Agenda

II. Obstacles to Learning
     8:30 - 9:30 am

     How People Learn, What Makes People Different, Why We Learn
     Differently, What is Communication, Effective Communication
     What is Good College Teaching?

     Brainstorming Session

     Discussion

BREAK 9:30 - 9:50 am

III. Motivation Factors
     9:50 - 10:50 am

     Maslow's Hierarchy of Human Needs, Motivation and Hygiene,
     Needs To Achieve, Theory X and Theory Y (Role Playing)

BREAK 10:50 - 11:00 am

IV. Motivation Factors continued
     11:00 - 12:00 pm

     Human Motivation, D.C. McClelland;
     - Conscious and Unconscious Motives

     Discussion and Brainstorming

     Closing

ADAP Symposium for the Improvement of Resident Instruction

Day 2; CURRICULUM & INSTRUCTIONAL MATERIALS

I.   **Review of Regional Curriculum Projects (Panel Discussion)**
     8:00 - 8:45 am

II. Curriculum
     8:45 - 9:30 am

BREAK 9:30 - 9:50 am

III. Curriculum Development
     9:50 - 10:50 am

IV. Instructional Materials Development
     11:00 - 12:00 pm

     Review of Regional Projects
     Regional Research
     Future ADAP Project training

     Discussion
     Closing

Day 3; HANDS ON LEARNING

I.   Three Learning Domains
     8:00 - 8:45 am

     Cognitive, Psychomotor, and Affective

II. Instructional Objectives
     8:45 - 9:30 am

     Preparing Instructional Objectives; by R.F Mayer

BREAK 9:30 - 9:50 am

III. Teaching Behaviors and Student Achievement
     9:50 - 10:50 am

     Instructional Objectives for Hands on Learning (practice session)

BREAK 10:50 - 11:00 am

IV. **PRIMARY INSTRUCTIONAL GOALS** 11:00 - 11:30 am

V.   SYMPOSIUM WRAP UP
     11:30 - 12:00 pm

     Evaluation
     Closing

ADAP Symposium for the Improvement of Resident Instruction

Resource Persons:

Michael T. Harrington
Lafita'i I. Fuata'i

Participants:

ASCC
Willy Wong
Ike Sagaga
Tavita Elisara
Fuifui Taotua
Larry Hirata
Mona Laupola
Malaeti'a "Mike" Misa
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COM
Joseph Tiobech
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NMC
Elizabeth Daronese
Floria P. James
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UOG
Marie Deloso
Loreto Malimban
Karen Carpenter
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Carmen L.G. Pearson
Manuel V. Duguies
John W. Brown
Donald Nafus
Ilse Schreiner

INTRODUCTION

The Agricultural Development of the American Pacific (ADAP) project is a regional collaboration between five Land Grant institutions; American Samoa Community College (ASCC), College of Micronesia (COM), Northern Marianas College (NMC), University of Guam (UOG), and University of Hawai'i (UH).
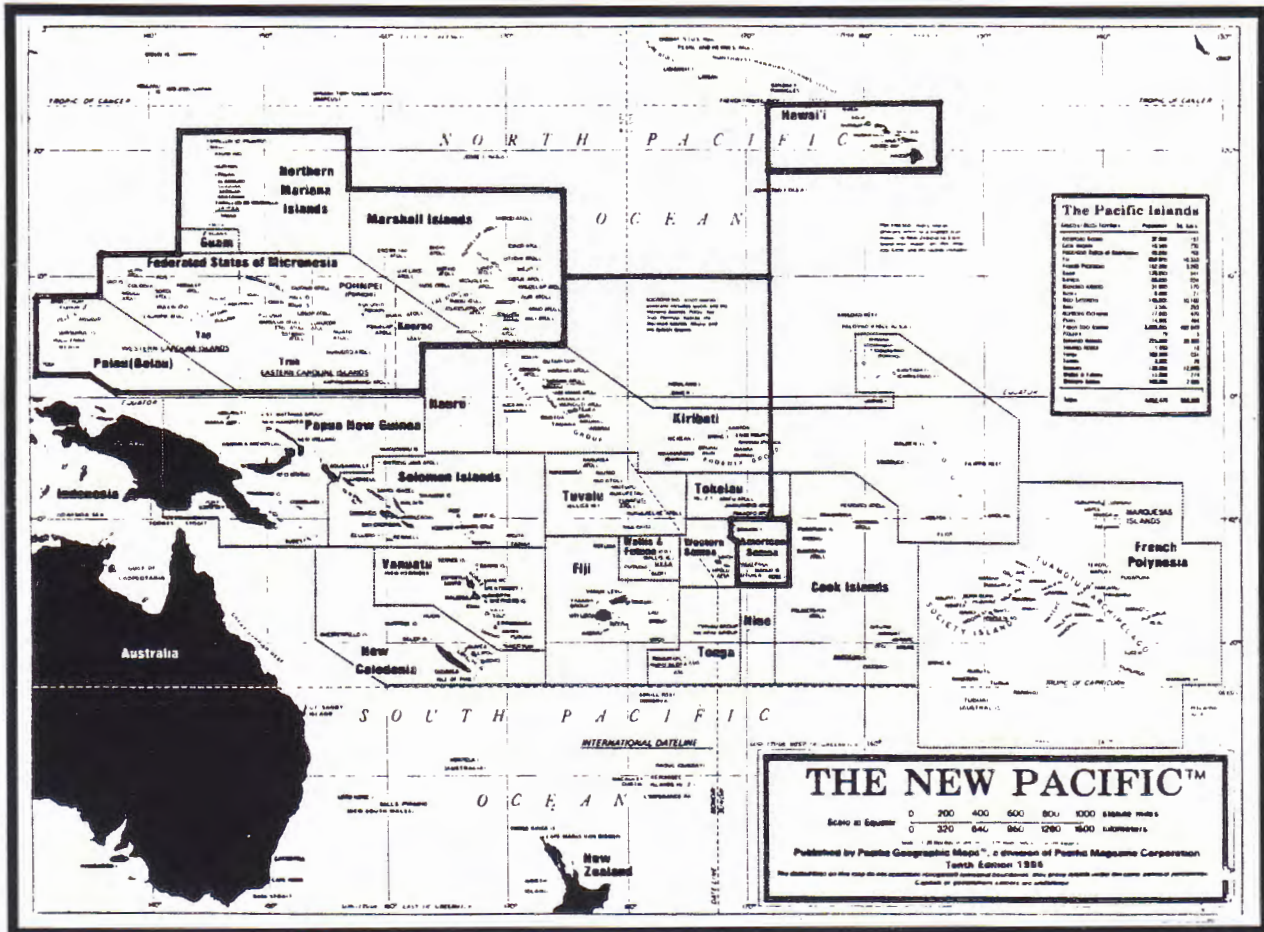
The ADAP region is outlined in the map shown above. There are certainly more similarities than differences within the region. Locations on either side of the equator result in a shared type of climate, with similar soils, crops, and pest problems. In addition, the shortage of agriculturally trained manpower and generally low status of agricultural work are conditions found across the ADAP region, as described in Strategy outline for accelerated agricultural development of the American affiliated Pacific islands.

Inservice Training of Resident Instructors

A research study of Land Grant resident instructors in mainland U.S. universities was conducted in 1986, (Bowman, Loynachen, & Schafer). It found that very few agriculture faculty had any teacher training or formal education courses. The likelihood that this condition also existed in the ADAP region was enough to initiate a program for inservice training of resident instructors. However, it was necessary to identify the educational topics needed and assess their priority before implementing the training.

Therefore, a training needs assessment survey was developed based upon; A task analysis of the job of the teacher of agriculture in the South Pacific (modified for tertiary level faculty), personal experience of the investigator, and communication with ADAP faculty. Professional review of the initial draft was provided by agricultural educators at the University of the South Pacific and Cornell University. Finally, the draft needs assessment survey was distributed to the ADAP Faculty Development Task Force representatives for comment. Following this last revision, copies were sent to those same representatives who distributed the survey to faculty members at each ADAP institution and returned them for analysis.

The needs assessment survey which resulted from this process consisted of a listing of 29 possible topics for inservice training of resident instructors. Each topic was accompanied by a five point Likert scale which asked the respondent to rank his perceived need for training as having lowest to highest priority. A full report of the methodology, findings, and recommendations can be found in the ADAP Faculty Needs Assessment for Improvement of Resident Instruction.

The topics most needed for inservice training were extremely similar amongst and between the regional institutions. "Motivation Factors" was ranked the highest by a composite of all Land Grant faculty in the study and either first or second choice amongst all of the separate institutions. Similarly, "Hands-on Learning" was ranked as an equally high priority by the composite and first or second by four of the separate institutions. Four topics were ranked second highest by the composite group; Obstacles to Learning, Curriculum Development, Student Feedback, and Teaching Improvement Plans.

The topics of highest priority need were used to develop the inservice training for ADAP resident instruction faculty in early 1991. The topics of that training were:

- Motivation,
- Hands-on Learning,
- Curriculum and Instructional Materials,
- and Obstacles to Learning

An additional battery of questions were used to obtain demographic information, some of which is summarized here:

- 77.9% of ADAP faculty teach at university level (UH or UOG), while the balance are at community college (ASCC, COM, or NMC).

- 7.8% of ADAP faculty have their highest degree in Education or Extension, while the balance are in content areas. 66.2% of the total have a Ph.D. degree.

- 71.4% of ADAP faculty have five or more years of classroom teaching experience, while 5.2% have 1 year or less as classroom teachers.

- 41.6% of ADAP faculty spend up to 1/4 of their work time for instruction, while an additional 27.3% spend between 1/4 and 1/2 on instructional work.

- 11.7% of ADAP faculty have had 6 or more teacher training courses, 40.3% have had no such courses, and the balance have had a few.

From this demographic information a few generalizations can be made; that instructional responsibilities are a relatively large part of the respondents workload, and that they have become experienced in classroom teaching without having a lot of formal training available. Also, regional personnel with potential to conduct this type of training are in limited supply.

These findings matched positively with the researchers hypotheses. However it is not implied that those with much experience still need to be taught. Rather, this inservice training was designed as a symposium for the opportunity to share insights and exchange ideas.

References:

Mark, S.M. (1982). Strategy outline for accelerated agricultural development of the American affiliated Pacific islands. Honolulu: University of Hawai'i.

Bowman, R.A., Loynachen, T.E., & Schafer, J.W. (1986). Attitudes of agronomy teachers on preparation for teaching. Journal of Agronomic Education, 15, 96-100.

Cushman, H.R. (1982). A task analysis of the job of the teacher of agriculture in the South Pacific. Apia, Western Samoa: University of the South Pacific.

Harrington, M.T., and Workman, R.T. (1992). ADAP Faculty Needs Assessment for Improvement of Resident Instruction. ADAP, Pacific Agricultural Development Office, Honolulu, Hawai'i.

OBSTACLES TO LEARNING

To address the obstacles to learning we should begin with a view of
how people learn. From there it must be accepted that each person
is a distinctly separate individual personality which can be
grouped by similar characteristics. Furthermore, these personality
groups have different learning styles. With this as background, the
group will discuss the communication process, the barriers to ef-
fective communication and some means to overcome these barriers.

I. HOW PEOPLE LEARN

- From generating concepts to future behaviors

- Dynamic and Constantly Changing / Growing

- Moving around Polar Opposites; Abstract to Concrete

                         Observation to Action

(Open)
Concrete Experiences

(Application)   (Refelctive)
Actions   Observations

(Integral)
Abstract Concepts

-4-
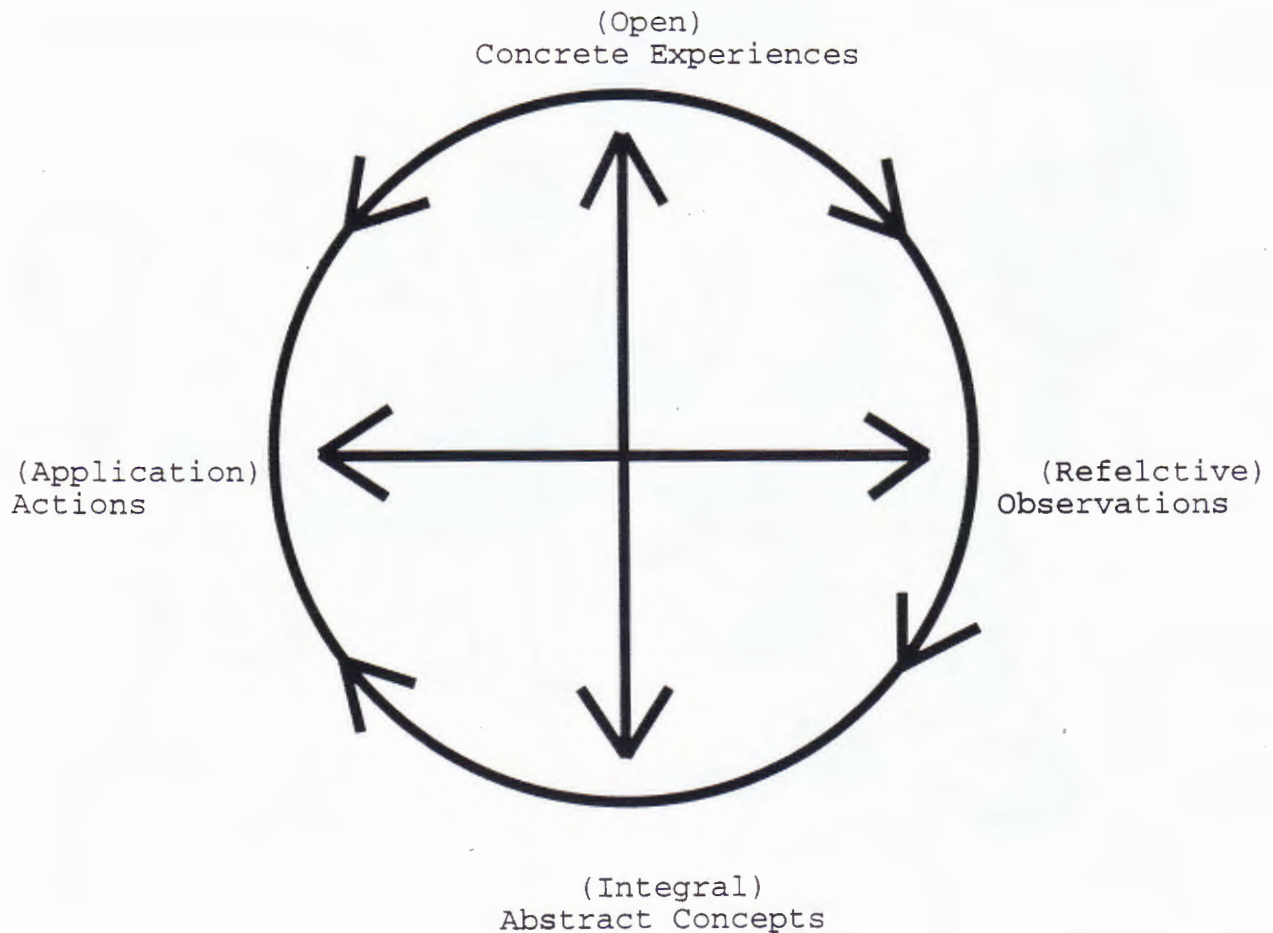
II. <u>WHAT MAKES PEOPLE DIFFERENT</u>

Each individual is the result of at least five different factors listed here. Within each factor there are numerous variables which can be mixed into endless combinations.

A. Personality: A mix of knowledge, attitudes, and values
                  which makes one person different from all others.

B. Physiology: sex, age, race, height, weight, intelligence
                  (height/job study)

C. Childhood: "determinism", problem solving, social skills
                  (everything I know I learned in kindergarten)

D. Environment: education, job, income, home
                  (blue collar/white collar)

E. Culture: competition, rewards, equal opportunities
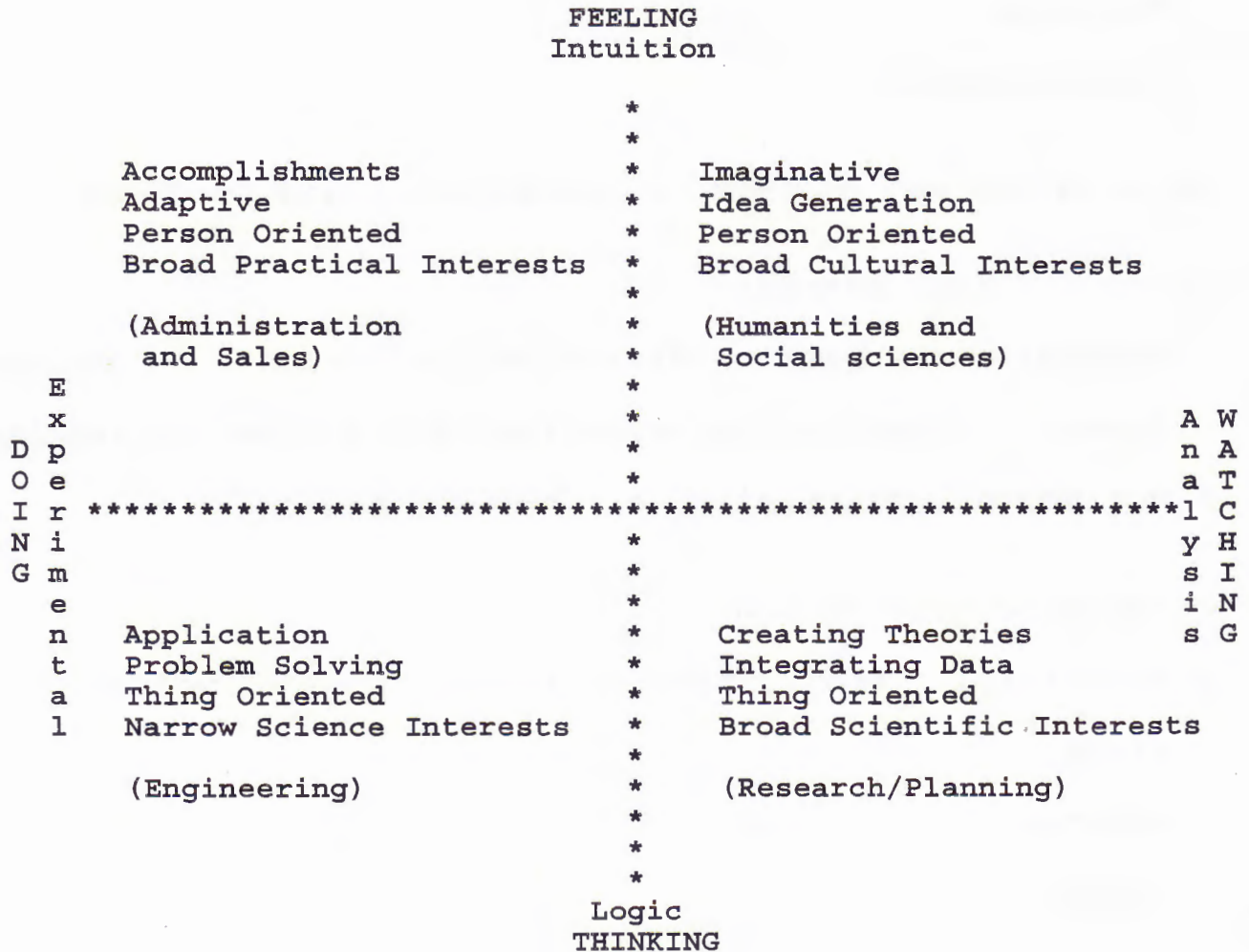   (American individualism/Pacific group thinking)

FORTUNATELY DESPITE ALL THE VARIATIONS; THERE ARE MORE SIMILARITIES THAN DIFFERENCES

III. WHY WE LEARN DIFFERENTLY

Each individual has an orientation toward learning which can be described as a "style" that combines varying amounts of; Intuition, Logic, Experimentation and Analysis.

Where a person's learning style is located in the quadrat can indicate the characteristics suited to improved instruction and career counselling.

```
                              FEELING
                             Intuition

                                 *
                                 *
          Accomplishments        *    Imaginative
          Adaptive               *    Idea Generation
          Person Oriented        *    Person Oriented
          Broad Practical Interests   Broad Cultural Interests
                                 *
          (Administration        *    (Humanities and
           and Sales)            *     Social sciences)
     E                           *
     x                           *                          A W
  D  p                           *                          n A
  O  e                           *                          a T
  I  r ***********************************************************l C
  N  i                           *                          y H
  G  m                           *                          s I
     e                           *                          i N
     n   Application             *    Creating Theories     s G
     t   Problem Solving         *    Integrating Data
     a   Thing Oriented          *    Thing Oriented
     l   Narrow Science Interests *   Broad Scientific Interests
                                 *
         (Engineering)           *    (Research/Planning)
                                 *
                                 *
                                 *
                              Logic
                             THINKING
```

IV. <u>WHAT IS COMMUNICATION</u>

The process of transmitting information and understanding from one person to another.

There are at least six components in this process:

- Senders thoughts

- Encoding

- Transmission
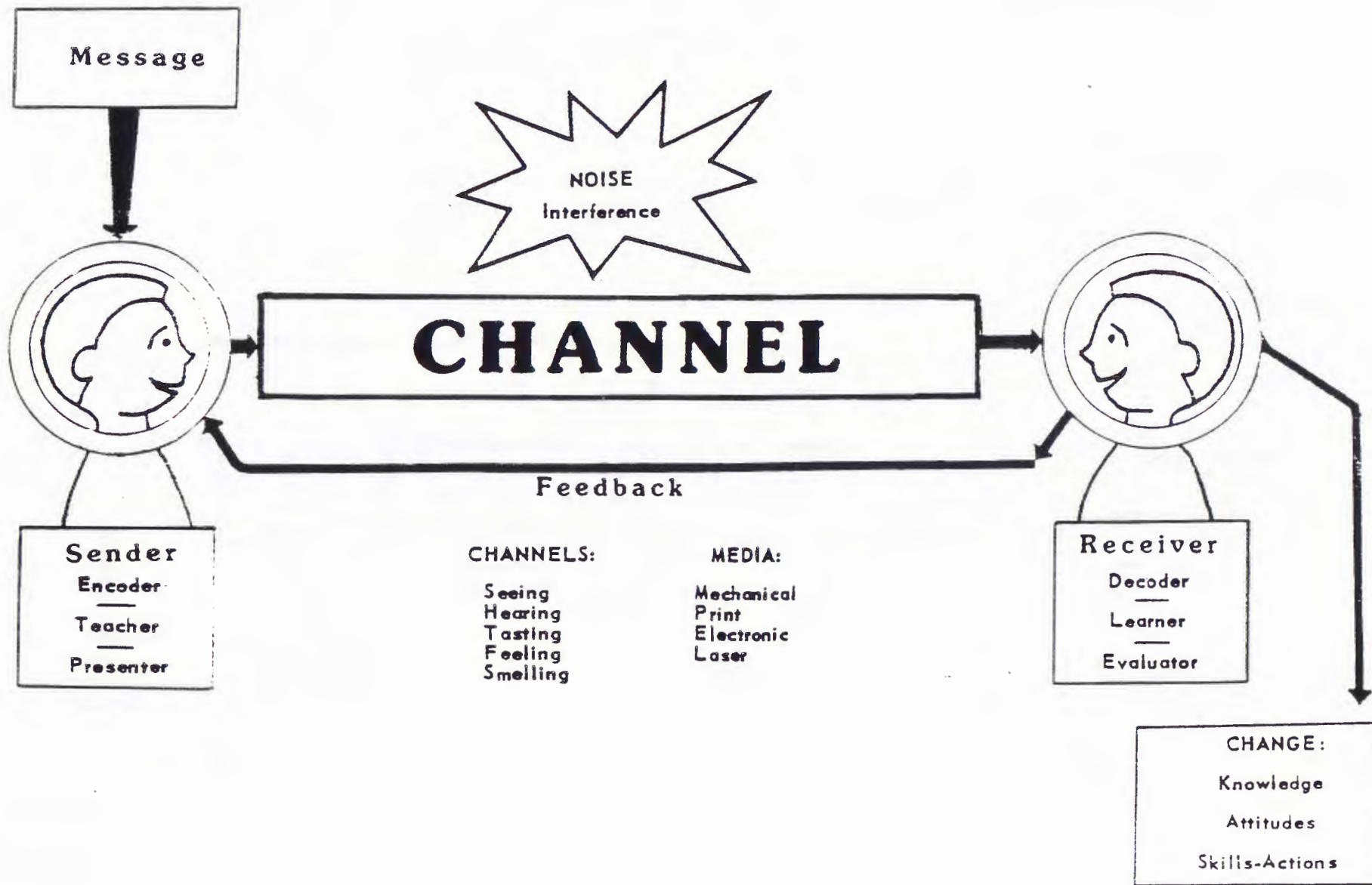
- Reception

- Decoding

- Understanding

It is a two way process of transmission and feedback

Communication Channels:

- Downward, informative/directive, ex. teacher to student

- Upward, questioning/reporting ex. student to teacher

- Horizontal, discussion, ex. between peers

Means of Communication:

- Behavioral - body language, facial, tone of voice

- Visual

- Written

- Spoken

Message

NOISE
Interference

CHANNEL

Feedback

Sender
Encoder
—
Teacher
—
Presenter

CHANNELS:

Seeing
Hearing
Tasting
Feeling
Smelling

MEDIA:

Mechanical
Print
Electronic
Laser

Receiver
Decoder
—
Learner
—
Evaluator

CHANGE:

Knowledge

Attitudes

Skills-Actions

MESSAGE SOURCES M1

ENTROPY Uncertainty

ENTROPY Uncertainty

Transmitting Agent-Gatekeeper

NOISE Interference

Perceptions capsule

M2 F1

distortion

MeSsAGe M3a

MeSsAgE M3b

MESSAGE M3c

Perceptions capsule

M4

distortion

M5

COMMUNICATION

Channel | Medium

M6

Perceptions capsule

M7

distortion

MeSsAGe M8a

MeSsAgE M8b

MESSAGE M8c

F5

F2

F3

F4

F5

F5

F5 = Response

FEEDBACK

Sender
—
Encoder
—
Teacher
—
Presenter

CHANNELS:

Seeing
Hearing
Tasting
Feeling
Smelling

MEDIA:

Mechanical
Print
Electronic
Laser

Receiver
—
Decoder
—
Learner
—
Evaluator

CHANGE:

Knowledge

Attitudes

Skills-Actions

PERCEPTIONS CAPSULES

Physio-Psycho-Sociological Factors

Age
Health
Motor Ability
Intelligence
Education
Experiences
Knowledge
Attitudes
Interests

Personality
Emotions
Values
Needs
Wants
Communication Skills
Cultural Background
Social Esteem
Communication Setting

A COMMUNICATION MODEL

J. Cordell Hatch

V. <u>EFFECTIVE COMMUNICATION</u>

SOME BARRIERS TO EFFECTIVE COMMUNICATION:

Language

- Jargon
- Multiple Meanings ex. "Smart" in Roget's
- English as a Second Language

Culture and Status

- Role of Authority
- Effects of physiological factors

Resistance

- To change
- To new ideas
- Selective Listening

OVERCOMING BARRIERS

Preparation

- Sender has clear understanding (objectives)
- Sequence of steps to reach objectives

Feedback Techniques

- Look for nonverbal clues
- Ask receiver to restate the information

Proper Atmosphere

- Environmental conditions
- Relaxed tone

Effective Listening

- Remove biases
- Summarize in your mind

How People Learn*

by Richard W. Tenney

WHAT IS LEARNING?

Learning signifies the acquiring of knowledge, skills, and attitudes that change <u>the way of doing</u> things.

WAYS OF LEARNING

People learn by means of the five basic senses -

sight, sound, smell, taste, and touch.

However, some senses play a more important role in the learning process. For this reason those who work with groups of people, can gain advantage by remebering the figure below. It graphically shows which sense has the greatest impact on learning.

Smell 1%

Taste 1 1/2%

Touch 3 1/2%

Sound 7%

Sight 87%

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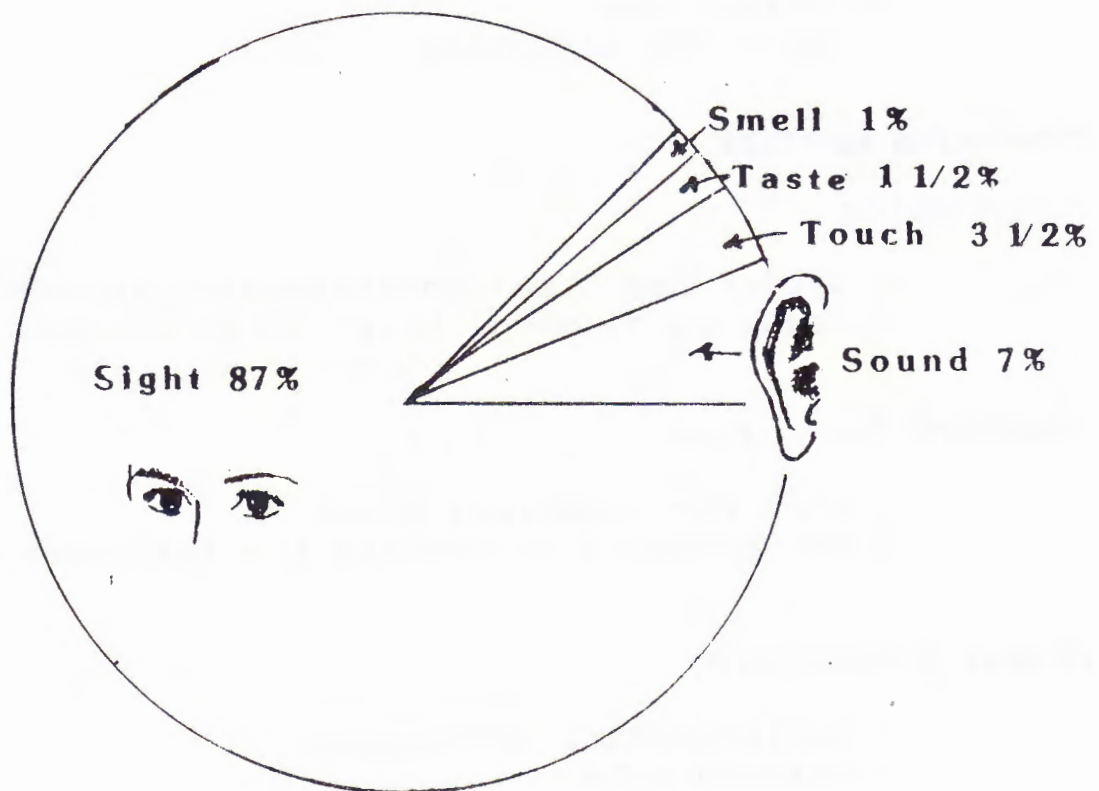
* <u>Published in support of South Pacific Tropical Agriculture Development by the Institute for Research, Extension and Training in Agriculture (IRETA), USP, School of Agriculture, Apia, Western Samoa.</u>

Not all people give the same meaning to a sensation. The following factors can determine the degree of learning achieved.

EXPERIENCE. This has great influence on the meaning we give to a sensation. We learn as we "construct" or as we put one experience on top of another. We interpret each incentive in relation to our previous experiences.

INTEREST. The interest of a person from time to time. This brings up two questions:

1. How can we create interest?
2. How can we maintain the interaction?

ATTITUDE. One of the characteristics of attitude is that it is of the affective domain and has an emotional nature.

ATTENTION. If there is no attention, there is no learning. A person will devote greater attention when the individual feels that what is being learned is important.

STIMULUS. Stimulus is the grade of intensity with which a sensation emphasizes one or more learning factors.

INTERPRETATION. Interpretation gives depth or importance to the meaning, or in other words, to the perception. The interpretation varies in relation to interests, attitudes, experience, and stimulus of the individual.

ASSOCIATION Connections of perception with experience.

CONTRAST. We tend to remember things that are exact opposites.

TIMELINESS. We associate with the things that have happened most recently or that we have most recently learned.

LIVELINESS. We always remember things that are lively, dramatic, or surprising.

STATE OF MIND. The momentary attitude of a student depends on the state of mind. The student can react with fear, resentment. joy, or pain. That is to say, the state of mind helps determine the reaction of the individual.

FREQUENCY. It is possible to retain more than one idea if it is constantly repeated.

SIMILARITY. We remember by associating similar things.

CHARACTERISTICS OF A GOOD TEACHER
Brainstorming session

Imagination - thinking of activities

Good sense of humor - starting with anecdotes

Clarity of terms

Repetition

Caring for students

Stimulating and Challenging

Agree and Disagree with students

Enthusiastic

Knowledgeable, informative and analytical

Nontraditional and practically oriented

Use of analogies

Organized and well prepared

Important points written on board

Proper evaluation - test on what is taught

Empathetic - respect students' feelings

Should share knowledge

Should not use corporal punishment

Continually reassess students

Find time for students

Understand different learning styles

Be fair in grading and classroom activity

Flexible, especially for different learning needs

Know the subject matter

Use a variety of delivery methods

Return papers and exams with appropriate feedback

Authorities in their area - uses guest speakers

Different leadership styles-should be a good manager

WHAT IS GOOD COLLEGE TEACHING?
by Prof. Neil Williams, Eastern Connecticut State Univ.
From "The Teaching Professor," January, 1990

What is good college teaching? The question is usually answered by those who deliver it - the Professors.

This past spring, the Faculty Development Committee at Eastern Connecticut State University Sponsored a panel discussion by six students (presenting a cross-section of disciplines) on the issue of classroom excellence. Thirty five faculty members attended.

While these students' opinions and insights are certainly less than scientific in their derivation and development, they should not be taken lightly. The recipients of our instruction, much like the people who watch a variety of television shows, know what they do like, what they don't like and more importantly, how improvements may be implemented. The students presented the following factors which they felt would contribute to excellence in the classroom.

Students Identify Seven Factors:

A. Pride. Teachers should take pride in their profession and in their position at the college or university. At times, faculty convey the message that they are "too good" to be at a place like a state university with "inferior" students, or that they are basically researchers and have more important things to do than teach. Lack of pride among faculty leads to negative attitudes among the students.

B. Simplicity. Simplicity is the keynote to elegance. The more a professor either purposely or unintentionally complicates the subject matter, the less respect the students seem to have for that teacher. The best professors present their material in clearly thought out sequences and highlight the important points in a way the students can understand. The best teaching clarifies rather than confuses

C. Preparation. Good teachers prepare for class in advance and deliver well-organized presentations. The students said they can spot teachers who aren't prepared or don't "know their stuff" inside of three minutes. A professor who is "blowing smoke" with extraneous or unrelated material puts students to sleep. Good professors teach a class for the full 50 minutes. Good professors also don't use the same set of yellowed notes semester after semester, but continually update their presentations with current research and information.

D. Care. The teachers who are the "best" are the ones who show that they really care about the job they are doing and the welfare of their students. A teacher who is conscientious about instructional responsibilities (such as reading and grading papers in a timely fashion, making judicious use of audio-visual materials, and not relying largely on students' presentations for course substance) shows the kind of care that impresses students. Good teachers are also cheerfully available to students outside of the classroom and at times not just limited to their office hours.

E. Writing. "Life is not a multiple choice exam," said one of the students. Teachers who take the time to create and grade essay-type exams earn high marks from their students. Students see multiple choice exams as an easy way out of evaluation responsibility. Essay exams are a much better means, the students say, to determine what they have actually learned. Students also indicated that they study differently (and less intensively) for multiple choice exams. The panel also said that many courses should, but do not, require term papers, which students see as a means for improving their writing skills.

F. Standards and Expectations. The academic standards and requirements of the faculty should be high. The more faculty members expect and demand from their classes, the more they will get and the more their students will benefit. The students who really care about their education want the professors to make the course more demanding.

Courses should not be taught "down" to the students, but rather students should be pushed to produce more and better work. The teachers who do this--as well as--assist and coach their students on how the work should be done--get the best reviews. Deadlines should be established and adhered to except under the most unusual circumstances. There should be no "gentleman's C's." Students should have to earn every grade they get.

G. Substance. One of the most interesting aspects which emerged from the two-hour discussion was that "good teaching" was not so much a matter of style as it was of substance. Jokes, "magic shows" and clever techniques don't need to be part of the instructor's repertoire.

In Summary:

A teacher who is prepared, concerned, caring, clear, up-to date, demanding, and firm will be a good teacher--even if the presentation of the material is not "entertaining." A good teacher reaches students with a quality commitment to the "details" of teaching.

MOTIVATION FACTORS

A review of some research and common theories regarding human motivation.

Maslow's Hierarchy of Human Needs:

REALIZATION

SELF ESTEEM

SOCIAL BELONGING

SAFETY or SECURITY

BIOLOGICAL and PHYSICAL

All people are motivated to meet these needs, in the progression of the pyramid from bottom to top. The lower level needs (Physical) must be met in order for the next level (Security) to be addressed.

Biological Needs;	Food, Shelter, Rest, and Recreation can cause total preoccupation when missing.
Security Needs;	Protection from physical, emotional, and economic danger, assurance that biological needs are protected.
Social Needs;	Acceptance and Respect of others.
Esteem Needs;	Self accomplishment, achievement, status.
Realization Needs;	Fulfillment of ones potential, creativity.

Herzberg's Motivation and Hygiene Theory:

Motivator's are improvers of performance;
where as Hygiene factors cause dissatisfaction if not met.

The lack of hygiene factors will reduce performance, but having them will not increase performance.

An analogy would be that;
The lack of adequate water treatment will cause poor health,
however proper water treatment will not improve health.

Motivators   =   advancement, recognition, challenge,
                   responsibility, and opportunity for growth.

Hygiene   =   environmental conditions, status, security
                   interpersonal relations, and supervision.

Behavioral Research by McClelland on Needs to Achieve:

1 out of every 10 people:

- Enjoy personal responsibility for solving problems,
- Set goals that are challenging but not impossible to meet,
- Take calculated risks to achieve their goals,
- Want and use feedback on their work performance.

MacGregor's Theory X and Theory Y:

There are 2 commonly held sets of assumptions about behavior.
Which set you believe will affect your approach to management,
teaching, and most human interactions.

X = People are born lazy

They aren't very bright

They need to be motivated, directed, controlled and coerced.

Y = People are naturally active

Intelligence is widely distributed through the population.

Self direction/self control allows individuals to meet goals.

Expectancy Theory:

Needs alone don't explain behavior. An individual must also;

Expect that: - if he tries he will succeed

- if he succeeds there will be a reward.

Calculate that: - rewards will be greater than the costs,

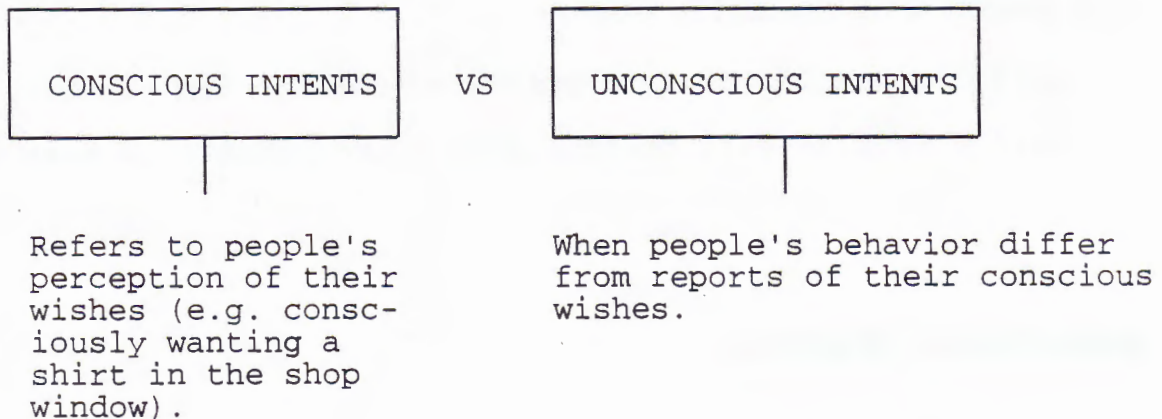(no matter how indirect or distant that reward is).

HUMAN MOTIVATION

Based on information from D.C. McClelland's Book: <u>Human Motivation</u>

Human motivation is one of the three major determinants of behavior. It has to do with the WHY of behavior as contrasted with the HOW or the WHAT of behavior.

On one hand, it refers to CONSCIOUS INTENTS (e.g. I want to play the piano, I want to be a doctor). On the other hand, human motivation refers to conscious intents we make from observing behaviors (e.g. if a girl plays the piano, we can infer she has a conscious intent to play it.)

Note: The subject matter of human motivation has to do with <u>how</u> behavior gets started, is energized, is directed, and stopped.

CONSCIOUS INTENTS	VS	UNCONSCIOUS INTENTS

Refers to people's perception of their wishes (e.g. consciously wanting a shirt in the shop window).

When people's behavior differ from reports of their conscious wishes.

<u>FOCUSING ON CONSCIOUS INTENTS</u>

What people tell themselves or others they want to do is closely related to what they will do, provided the intent refers to the here and now (e.g. buying a pair of shoes you badly need).

Psychological studies have shown that conscious intents in the here and now have a .95 correlation with actions taken in the here and now (referring to today, or this week) (Ryan, 1970).

In some cases (e.g. a buying shirt) not only motivation was involved but other determinants as well, such as availability of money or credit. THUS, CONSCIOUS INTENTS ARE NOT PURE INDICATIONS OF MOTIVATIONS INVOLVED BUT ARE A PRODUCT OF THE MOTIVATION AND OTHER DETERMINANTS.

CONSCIOUS GOAL SETTING

Lewin (1935) and others conducted studies dealing with the effects of conscious goal setting on behavior (e.g., subjects were given a task to perform in a limited time period like calculating an arithmetic problem).

At the end of 5 minutes, subjects were told how many problems they correctly solved, and then asked how many they were going to try to correctly solve in the next trial. The goal stated was in terms of "what they will try for." That is, how many they would like to solve correctly.

Mace (1935) compared subjects "trying to do their best" vs people trying to "surpass a specific standard" for performance. It was found that: THE INTENT TO DO BETTER IMPROVES PERFORMANCE, BUT INTENTS TIED TO SPECIFIC GOALS FOR IMPROVEMENT OVER PAST PERFORMANCES ARE EVEN MORE EFFECTIVE IN IMPROVING PERFORMANCE.

IS CONSCIOUS INTENT NECESSARY FOR LEARNING?

This question can never be fully answered. However, conscious goal setting (or processing of learning materials) clearly facilitates performance, because it gets people organized around doing things that will help them remember these materials.

SOME FACTORS UNDERLYING CONSCIOUS INTENTS

Intents, whether conscious or unconscious, are themselves the outcome of other motivational and non-motivational variables. In performing a lab task, students' motives may not be at all obvious, that is, if the teacher asks students to do something, why do they comply and try hard?

It may be because:

1. Some want to prove to themselves they are good learners,

2. Some want to please the teacher, and

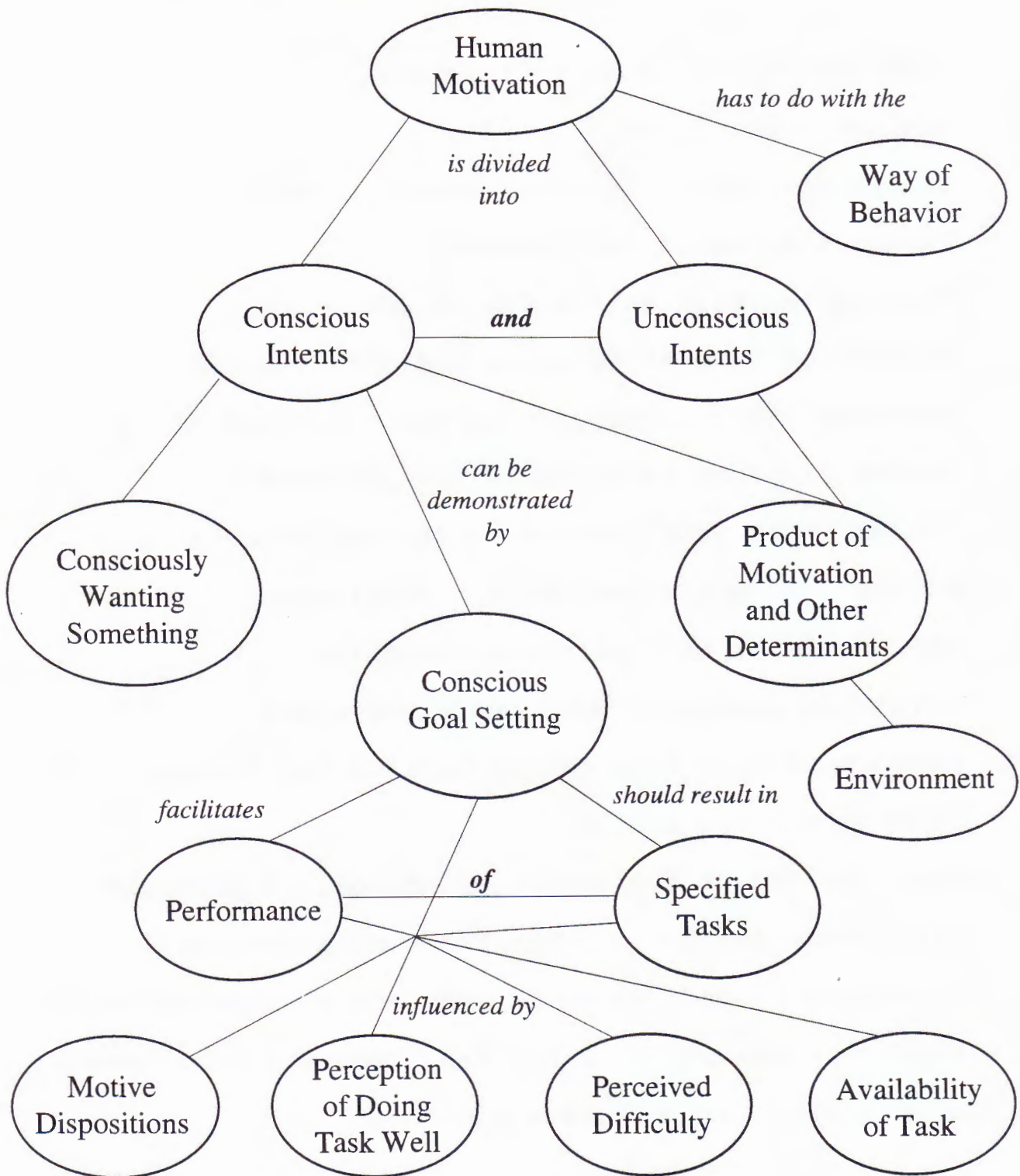3. Some fear looking foolish by not being able to perform.

When subjects are asked to set a goal, (i.e., state their intent) they will be influenced by:

1. Motive dispositions (how strongly they feel about their intent),

2. The extent to which they perceive that doing well and performing the task satisfies these and other dispositions,

3. The perceived difficulty of performing the task (or the skill they have shown in performing), and

4. The fact that the task is there to be done.

THUS, INTENT (CONSCIOUS AND UNCONSCIOUS), AS THE OUTCOME OF ALL THE DETERMINANTS OF BEHAVIOR, PREDICTS CHOICES IN THE HERE AND NOW WHEN DETERMINANTS ARE KNOWN AND SPECIFIABLE, BUT HAS MUCH LESS VALUE FOR PREDICTING LONG RANGE BEHAVIORAL OUTCOMES WHEN THE DETERMINANTS ARE NOT SO EASY TO SPECIFY.   LIF/ASCC/FEB 13, 1991.

Concept Map of Human Motivation

Human Motivation

has to do with the → Way of Behavior

is divided into

Conscious Intents *and* Unconscious Intents

Conscious Intents → Consciously Wanting Something

can be demonstrated by → Conscious Goal Setting

Unconscious Intents → Product of Motivation and Other Determinants

Product of Motivation and Other Determinants → Environment

Conscious Goal Setting *facilitates* → Performance

should result in → Specified Tasks

Performance *of* Specified Tasks

influenced by

Motive Dispositions

Perception of Doing Task Well

Perceived Difficulty

Availability of Task

MOTIVATION IN THE CLASSROOM

Brainstorming outcomes

- Care and nurturing of individuals

- Smaller class sizes

- Relate content to ongoing current events

- Teachers oriented to "Service"

- Improve teaching skills for larger groups

- Respect of student opinions and experiences

- Matching teaching methods to each learning style

- Return earnings to students for projects

- Student work jobs related to studies with faculty

- Mentor system - stress skills development

- Show students more personal attention

- Advertise available work study positions

- Networking with departments outside the college

- Problem solving skills.

- Meet the "needs hierarchy" using college programs

- Club house for Agriculture and Home Economics

- Emphasize rewards in employment and personal growth

- Emphasize LGP social side: 4-H/Community Development

- Stop making agriculture a punishment

Panel Discussion on Curriculum/Curriculum Development
in Tertiary Institutions of the ADAP Region
Held in Guam on January 17, 1991

ASCC - Mike Harrington

The ASCC curriculum began about 8 years ago. Teaching staff were asked what they would like to teach in their courses, and requested to develop their own syllabi. Courses were pieced together based on experience of course developers and available materials.

Recently efforts have been made at articulation between the 2 yr. program and 4 yr programs at UH and UOG. It has been a difficult undertaking but slowly successful.

The curriculum has been recently redefined and redeveloped. There is now a certificate course offered in both crops and livestock. Home Economics courses in Child Development and Consumer Economics have been added. Changes are being considered because of small class sizes and also because of employment opportunities in other areas. If these changes are implemented the most probable choices would be the addition of natural resources and agribusiness degrees.

NMC - Lolita N. Ragus

In 1987 the NMC became a Land Grant institution. A two year associate degree program in agriculture was implemented. It was in the area of livestock. The entire process of development was based upon the experience of the developers.

In 1988 a community need assessment was carried out to determine what should be added to the existing curriculum. Those that were surveyed included restaurant operators, farmers and legislators (who dealt with policy matters).

The revised two year programs resulted in courses for Fruits, Landscaping, Vegetables and Ornamental, Applied Science, and Home Economics. Presently courses are transferable to UH or UOG. For conformation purposes a request was made for course outlines from these institutions and NMC courses were updated accordingly. There have been problems in the articulation process, but most have been dealt with successfully.

As it stands now, there are two award categories for course participants either a certificate or an associate degree. It is hoped to further develop the home economics and agriculture courses.

UOG - Home Economics - Karen Carpenter

There were Home Economics courses at the UOG in the 1960's. However, there were none between 1970 and 1972. In 1973 courses were offered again but on a non-degree basis. This has been the trend since. Currently a student can minor in Home Economics with a major in Education. It is hoped that a full fledged HE major will be available in two years time. Course catalogs of other universities have been consulted for revision purposes. The building process is still going on. A Ph.D. resource person will soon be recruited for research.

In the core curriculum of the HE minor there are 4 courses. Beyond that there are other courses in Nutrition, Consumer Economics, Family, and Clothing and Textiles.

The main problem has to do with the diversity of the student population, that is, students needs are not all being met. There is a need to develop curriculum geared toward Guam.

UOG - Agriculture - Don Nafus

The agriculture courses that were originally developed at UOG were also based upon the experiences of the developers. The curriculum was fairly broad and in a way limited because of the small number of faculty members. Students were being trained as generalists. They lacked in the area of hands on experience. They really needed the experience component of their education. For example small tractor repair was taught but the facilities were lacking. Courses have always focused on agriculture however their is a meet training needs in natural resources and forestry.

The problems being faced are that there is too much of a research orientation and too high a theoretical emphasis in the courses which do not relate to community needs.

At the present time, the curriculum is being made flexible to allow a student/advisor program to be implemented. That is designing individual programs based upon student needs.

CCM - Grant Suhm

The CCM program is 2 1/2 - 3 years old and is based on 88 credits. The facilities are located on a 80 acre tract with a beautiful view. However soils are not very fertile.

Last Summer a class based on making gardens to generate money started with only one student. This increased to 4 students in the work study program. It is expected that there will be 40 students in the next semester (Spring 91). It will be considered a foundation course. It is anticipated that there will be 15 agriculture majors per year in the coming three years.

The question of relevance is a main issue which needs to be addressed. A large sum has been donated for a new building. There is now a 2 acre garden. Business management is the real need. A marketing system should be developed to take care of the readily available produce.

Curriculum and Curriculum Development

Objectives:

Given selected information about curriculum and curriculum development concerning vocational education you will be able to:

1. Explain the difference between curriculum and curriculum development.

2. Differentiate (explain) between curriculum and instruction.

3. List five definitions of curriculum.

4. List the five steps involved in curriculum development.

5. Share with others (orally) why the selected concept of curriculum in vocational education agrees/disagrees with your practices and/or your philosophy in vocational education.

Analysis

1. Curriculum

   -Brief background.

   -Definitions

   -Working definition

2. Curriculum Development

   -Brief background

    * Posner

    * Taba

   -Steps in Curriculum Development

   *National Center for Research in Vocational Education

L1F/ADAP

Selecting a Curriculum Concept

There are numerous positions of what curriculum is and the professional opinions vary significantly. However this should not be a major concern of our Symposium. What is needed is a justifiable working definition (in the context of vocational education) which associates closely with the topics for this discussion.

According to Zais (1976), the word "curriculum" comes from a Latin root meaning "race course". Figuratively speaking, the school's curriculum in many ways has been something like that.

The following list demonstrates the variance of definitions with respect to curriculum itself:

1. Curriculum as the program of studies.

2. Curriculum as course content.

3. Curriculum as planned learning experiences.

4. Curriculum as experiences had under auspices of a school.

5. Curriculum as a structured series of learning outcomes.

6. Curriculum as a (written) plan for action.

Because of the relativity of situations, perceptions, and contexts, any concept of curriculum can be acceptable based on the appropriate justifications and/or rationale.

In vocational education, the definition by Johnson[1] of curriculum as a structured series of learning outcomes has received very strong support from bodies like the American Vocational Association (AVA), the American Association for Teacher Educators in Agriculture (AATEA), and the National Center for Research in Vocational Education.

Johnson distinguishes curriculum from instruction, his justification being that **whether experiences are viewed subjectively in terms of the sensibility of the experiencing individual or objectively in terms of his actions in a particular setting, there is in either case no experience until an interaction between the individual and his environment actually occurs.** According to him, such an interaction characterizes instruction, not curriculum. Curriculum implies intent.

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[1]Johnson, M. (1967). Definitions and models in curriculum theory. Educational Theory, 17, (2).

Furthermore, Johnson said that decisions regarding the learning experiences to be provided are related to instructional planning, not curriculum development. **Thus he defined curriculum as a structured series of intended learning outcomes.**

Concerning what the curriculum should entail, Johnson maintained that **curriculum should prescribe (or at least anticipate) the results of instruction. It does not prescribe the means (i.e. the activities and materials), or even the instructional content to be used in achieving the results. Curriculum should indicate "what" is to be learned, not why it is to be learned.**

It implies that the person who proposes a curriculum should not worry about other aspects such as activities, materials and instructional content. These should be left to the instructor or teacher. What the curriculum developer should concentrate on are the outcomes or the end products of the learning situation. These are what learners should achieve; such outcomes constitute the curriculum.

Curriculum Development

Curriculum development is a process leading to curriculum however the curriculum is defined. This process constitutes the necessary steps by which those involved with curriculum making arrive at their product. When the steps in the development process are documented, it becomes a curriculum development design[2].

One of the early, well known, curriculum development designs was that offered by Taba[3] which was expressed as a series of questions:

1. What educational purposes should the school seek to attain?

2. What educational experiences can be provided that are likely to attain these purposes?

3. How can these educational experiences be effectively organized?

4. How can we determine whether the purposes are being attained?

The problem with this design is that it does not distinguish between curriculum and instruction.

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[2]Posner, G.J. Rudnitsky, A.N. (1982). Course design. New York: Longman; and Johnson, M. (1967). On the meaning of curriculum design. Educational Theory Network,3 (Spring).

[3]Taba, H. (1962). Curriculum development: Theory and practice. New York: Harcout Brace & World Inc.

The National Center in Vocational Education (USA) has done a lot of programmatic research to develop effective procedures for identifying valid and reliable curriculum content. In 1978, the Center published a series entitled "Performance Based Teacher Education (PBTE) Modules" to aid teachers in achieving the various stages of occupational and vocational education.

The first module addresses the curriculum development process and lists 7 steps which are involved in that process:

1. Conduct a community survey

2. Develop program goals and objectives

3. Conduct an occupational analysis

4. Develop a course of study

5. Develop units of instruction

6. Develop lesson plans

7. Provide instruction.

The Center defined curriculum at this stage as a course of study. After further field testing and development activities, the Center modified its curriculum development approach in 1981 with the publication of a module entitled "Direct Curriculum Development." The relationship between curriculum and curriculum development is given as follows:

> Curriculum development is often defined as determining "what" is to be taught, while instructional development is concerned with "how" it is to be taught. Curriculum is architecture; instruction is engineering. Curriculum is the product describing the scope of experience to be offered to student; instruction describes the process, i.e., how those experiences will be delivered (p. 1).

Thus curriculum is analogous to a "blueprint or an architectural design" while instructional planning is analogous to a "construction schedule."

The modified steps for curriculum development are thus:

1. Providing an occupational analysis

2. Verifying the analysis

3. Analyzing the verified competencies

4. Translating the competencies into terminal objectives

5. Sequencing the terminal performance objectives.

INSTRUCTIONAL MATERIALS DEVELOPMENT

The following information is summarized from a 1984 report on the dissertation of Chye-Hean Teoh, entitled: A PROCEDURAL MODEL FOR INSTRUCTIONAL MATERIALS DEVELOPMENT.

At the time of this research he was a doctoral student in the College of Agriculture, Department of Education, at Cornell University; completing his field studies at the University of the South Pacific (USP), School of Agriculture at Alafua, Western Samoa. The study was conducted within all of the independent South Pacific countries in the USP region.

Previous research in Papua New Guinea, the Philippines and the United States was used to synthesize a series of procedural steps (sometimes called a procedural model) that might be appropriate for developing instructional materials in the South Pacific. Figure 1. shows the components and flow of this process in a graphic form.

The judgment of the 58 administrators and teachers of agriculture concerning the applicability of each procedural step in the unique setting of the South Pacific was then sought during personal interviews.

Key questions leading to specific recommendation for carrying out several of the applicable procedural steps were also addressed to the respondents. Thee endorsed procedures, and the recommendations of the respondents follow.

Identify and Rank Needed Materials

The respondents believed that three main groups of persons should be involved in identifying and ranking needed materials:

1. Teachers of agriculture,
2. Curriculum specialists and
3. Department of education personnel.

The importance of each group participating was indicated by the rank order indicated above.

Determine Desirable Characteristics

The second step in developing new instructional materials was to determine the characteristics desired in the new materials. Decisions need to be made concerning (1) acceptable format options, (2) content validity, (3) reading level, (4) interest level, (5) length, (6) type of illustrations, (7) availability to clientele, (8) cost, and (9) various physical aspects of the end product.

Search for Existing Materials

Respondents believed that the most important places to search for needed materials were, in rank order: (1) Departments of agriculture, (2)USP-Alafua, (3) Regional agricultural agencies, (4) Center for Curriculum Studies at the University of New England, (5) Departments of Education and (6) the South Pacific Commission at Noumea.

Identify Writers

Writers of new materials should be sought from the following sources in the order listed: (1) Curriculum specialists, (2) Departments of Agriculture, (3) USP-Alafua, (4) Agriculture teachers, (5) Regional agricultural agencies.

Select Format

Individual writers may have strong preferences concerning how they organize the material in their field of specialization. Particularly when writers are from outside agencies, the final format decision may well be delayed until this point.

Orient Writers

The 58 administrators and teachers recommended that the following topics be included in the orientation of writers: formats, content validity, reading level, interest level, length and illustrations.

Write draft

Most writers prefer to do their first draft in longhand. However, the draft should be double-space typed before others are asked to review the manuscript. Writers will need to assess reading level and interest level and make appropriate adjustments prior to the review by others. Sketches of needed illustrations should be made by the writer to aid in communicating ideas to the illustrator.

Review Draft

According to the respondents, the draft review should include:

1.   A review of content validity by one or more technical subject-matter specialists;

2.   A review of reading level, interest level and illustrations by an agricultural education staff member and/or a curriculum specialist;

3.   Proof reading for English by a language expert; and

4.   Review by one or more teachers of agriculture for general suitability and appropriateness.
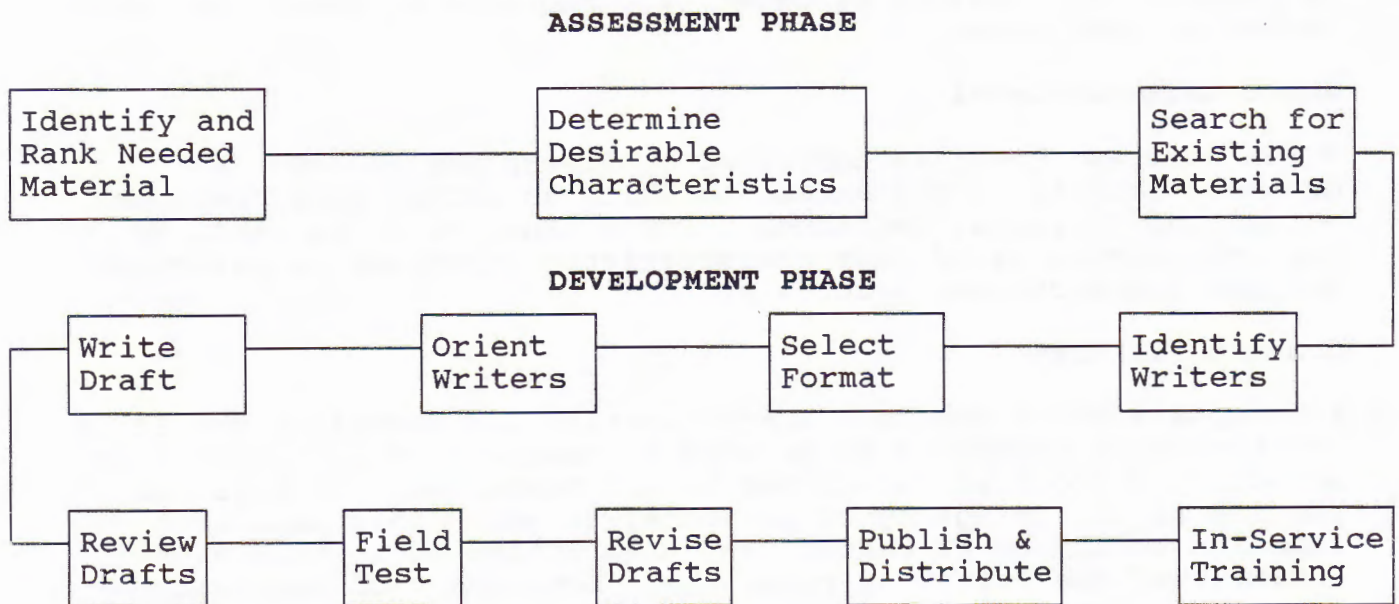
Field Test

New instructional materials must always be field tested by teachers of agriculture prior to publication. Whenever possible materials should be used in giving instruction in the intended manner. Teachers may wish to obtain feedback from the students involved in the try-out and include their suggestions in reports made to the developer.

Revise and Develop Final Copy

While committees are helpful in summarizing feedback, the evaluation of feedback and development of final copy is usually left to the judgment of the writer; especially if he is from an outside agency. Writers employed within the agency publishing the materials may be subject to tighter control and direction.

Figure 1.

ASSESSMENT PHASE

```
┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│ Identify and │      │ Determine    │      │ Search for   │
│ Rank Needed  │──────│ Desirable    │──────│ Existing     │
│ Material     │      │ Characteristics│    │ Materials    │
└──────────────┘      └──────────────┘      └──────────────┘
```

DEVELOPMENT PHASE

```
   ┌──────────┐      ┌──────────┐      ┌──────────┐      ┌──────────┐
   │ Write    │      │ Orient   │      │ Select   │      │ Identify │
   │ Draft    │──────│ Writers  │──────│ Format   │──────│ Writers  │
   └──────────┘      └──────────┘      └──────────┘      └──────────┘

   ┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐
   │ Review   │  │ Field    │  │ Revise   │  │ Publish &│  │ In-Service│
   │ Drafts   │──│ Test     │──│ Drafts   │──│ Distribute│─│ Training │
   └──────────┘  └──────────┘  └──────────┘  └──────────┘  └──────────┘
```

Other Characteristics of Instructional Materials

Percent of Space Devoted to Illustrations

Although "25 percent" of space devoted to illustrations was ranked first another almost equally large group of respondents expressed a preference for "50 percent". Thus the judgment of the respondents indicates that between 25 and 50 percent of the space in new instructional material publications should be so utilized.

Types of Illustrations

Diagrams were preferred above all other types of illustrations. Photographs were ranked second. Charts (3), graphs (4), tables (5), symbols (6), and all other types of illustrations (7); were ranked in the order listed.

Importance of Various Physical Aspects

Respondents ranked skillful layout and design as the most important physical quality desired in new instructional materials to be developed in the region. Quality of printing (2), quality of binding (3), quality of paper (4), and size of paper (5), were ranked in that order.

Human Interest Level

Human interest level as described by Flesch and others is measured largely on the extent to which an author uses "Personal words" and "Personal sentences". Forty-nine, or 87 percent, of the respondents rated this characteristic important or essential for new Instructional materials.

Content Validity

The importance of accurate subject-matter and technical detail in instructional materials to be used by teachers of agriculture in secondary schools is recognized by all concerned. The question remains as to the agency or personnel to which this important function should be entrusted. The data collected in this study established the following priorities: Department of Agriculture Staff (1), Curriculum Specialists (2), USP-Alafua (3), Agriculture Teachers (4) and Regional Agricultural Agencies.

Availability and Cost

Forty-six, or 78 percent of the teachers and administrators surveyed stressed the importance of making copies of new instructional materials available for student ownership - either for purchase or free of charge.

Hands-On Learning

The Three Learning Domains

To address the subject of hands on learning it is important to first understand that all learning can be divided into three domains of learning. These three domains are the; Cognitive (knowledge specific), Psychomotor (skill performance) and Affective (feelings or attitude). Although hands-on learning is primarily in the psychomotor domain, the other learning domains are interelated.

THE COGNITIVE DOMAIN

The cognitive domain includes those performances which require knowledge of specific information; e.g., the principles, concepts, and generalizations necessary for problem solving.

Examples of *cognitive performances* -

- Define the terms
- Critique the presentation
- Develop your own resume

Conditions (circumstances under which such performances would be accomplished) could be any situation in which the student is given information to process--

Examples of *cognitive conditions* -

- Given a list of terms
- After viewing videotaped lesson presentations
- Given sample resumes

Criteria within the cognitive domain will usually call for accuracy of the information to a certain standard, or will make reference to other material.

Examples of *cognitive criteria* -

- With 80% correct responses
- According to criteria contained in the text
- Compared to a model

THE PSYCHOMOTOR DOMAIN

The psychomotor domain measures the skill performance of the student and, therefore, the performance required will involve the manipulation of objects, tools, supplies, or equipment.

Examples of *psychomotor performances* -

- Typing a letter
- Constructing a wall
- Wiring a plug
- Developing an x-ray
- Plowing a field
- Using an adding machine
- Making a buttonhole

Since students will be manipulating something such as tools, equipment, supplies, or machinery; the conditions for the psychomotor objective will need to describe the necessary materials or environment.

Examples of *psychomotor conditions* -

- In a simulated office situation
- Given necessary blueprints and construction materials
- For any non-functioning radio brought into the shop
- Following film exposure
- For any field with no more than 5° slope

Similarly, the criterion for the achievement of a psychomotor objective will relate to the actual performance or the finished product and to the necessary level of performance that must be achieved. Appropriate criteria for objectives in the psychomotor domain might involve accuracy within a certain tolerance limit, speed, degree of excellence, or reference to other material outlining the criteria for judgment.

Examples of *psychomotor criteria* -

- At 50 words per minute with no more than two errors.
- So that the wall meets criteria specified within the blueprint.
- According to manufacturer's specifications.
- To a .001 inch tolerance as measured by a micrometer.
- According to the procedure outlined.

THE AFFECTIVE DOMAIN

In the affective domain, the performance required involves the demonstration of feelings, attitudes, or sensitivities toward other people ideas, or things.

Examples of *affective performances-*

. Demonstrate an increased awareness
- Show concern for safety within the laboratory
- Display a concerned attitude toward frightened patients
- Take more responsibility for his/her learning

The conditions under which these feelings or attitudes will be demonstrated are situations in which students can demonstrate beginning understandings of the necessary attitudes required in the occupation.

Examples of *affective conditions-*

- Upon completion of the unit on personnel relations
- At all times within the laboratory
- In the actual work situation

In the affective domain, since feelings are not directly measurable, the criterion for achievement of an objective calls for behavior which demonstrates that a feeling or attitude is present. Therefore, both the criterion and the performance statement will contain an action word or verb.

Examples of *affective criteria-*

- Stays with an apprehensive patient during examination
- Reports a hazardous condition in the laboratory
- Participates In class discussion voluntarily

Instructional Objectives

Recalling the earlier paper in this symposium on <u>Curriculum and Curriculum Development</u>, the working definition of curriculum is; "A structured series of intended learning outcomes". The outcomes are best achieved by instructional objectives. Targeted instructional objectives are developed using the information on learning domains.

Selecting the Domain

It should be noted that few objectives are purely cognitive, psychomotor, or affective. The major criterion in determining the domain in which an objective belongs is the primary performance called for--if it relates primarily to knowing about the subject, it is Cognitive; if it relates primarily to skill development, it is Psychomotor; and if it relates primarily to feelings and/or attitudes, it is Affective.

Taxonomic Levels

Different performances have been identified as being primarily cognitive, psychomotor, or affective, but there are also levels within each of these domains which move from very simple performances to the more complex. These levels taken as a whole are termed a 'taxonomy'.

Taxonomy of the Cognitive Domain

The taxonomy in the cognitive domain moves from the lowest level of "Knowledge" (that of simple remembering or recall) to the more complicated thinking processes required for "Evaluation".

Figure 1 shows the differing levels within the cognitive domain. As you will note, each of the higher levels within the chart requires that the lower levels be met first in order for the higher level to be accomplished. In other words, in order to reach the application level (to apply knowledge), the student must first possess the basic knowledge and also comprehend it.

Taxonomy of the Psychomotor Domain

Similarly, the levels within the psychomotor domain progress from simple skills to complex skill development in which several tasks are integrated into a coordinated whole. In one taxonomy, the more complex motor skill is developed through stages--from the imitation of a model to the point at which performance of the skill becomes automatic or habitual. Figure 2 illustrates this development.

As you can see, each successive level within the domain requires more complicated forms of psychomotor skills and/or a combination of several skills into a coordinated sequence.

Figure 1

MAJOR CATEGORIES IN TAXONOMY OF THE COGNITIVE DOMAIN[1]

<u>Evaluation</u>

- Involves acts of decision-making, judging, or selecting based on criteria and rationale.

- Requires synthesis in order to evaluate

<u>Synthesis</u>

- Combines elements to form new entity from original one.

- Requires analysis in order for synthesis.

<u>Analysis</u>

- Separates the whole into its parts, until relationship among the elements is clear.

- Requires ability to apply information in order to analyze

<u>Application</u>

- Uses information in a situation different from original learning context.

- Requires comprehension of information in order to apply in new situation.

<u>Comprehension</u>

- Interprets, translates, summarizes, or paraphrases given information.

- Requires knowledge in order to demonstrate comprehension

<u>Knowledge</u>

- Recognition and recall of facts and specifics.

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[1]. Benjamin S. Bloom (Ed.), *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain* (New York, NY: David Mckay Company, Inc., 1956).

Figure 2

MAJOR CATEGORIES IN THE TAXONOMY OF THE PSYCHOMOTOR DOMAIN[2]

Naturalization

- Completes one or more skills with ease and becomes automatic with limited physical or mental exertion.

Articulation

- Combines more than one skill in sequence with harmony and consistency.

Precision

- Reproduces a skill with accuracy proportion, and exactness; usually performed independent of source.

Manipulation

- Performs skill according to instruction rather than observation .

Imitation

- Observes skill and attempts to repeat it .

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[2]. R. H. Dave, as reported in Robert J. Armstrong *et al., Developing and Writing Behavioral Objectives* (Tucson, AZ: Educational Innovators Press, 1970).

Teaching Behaviors and Student Achievement

The research data provided on the following pages are an analysis of student responses regarding their achievement of general teaching objectives for undergraduate courses as correlated to specific teacher behaviors.

IMPROVING HANDS-ON INSTRUCTION AND STUDENT SKILLS

Of greatest interest to our topic of hands on learning is the General Objective 4, "Developing specific psychomotor (manipulative, manual) skills. The teaching behavior, (Number 26), with the highest correlation to students accomplishing this objective is found on the last page of the data. It is "Provide students with the practice (experience) in developing psychomotor skills". In fact this behavior had the highest correlation, 0.93, of any in the entire study. That result, and others information provided in this section can be summarized with the following general suggestion for improvement of hands-on instruction and student skills:

- The more practice students are given in whatever they are to learn, the higher their achievement will be.

- Provide separate lab sections in courses where hands-on learning is an important component.

- Give Step-by-Step instructions.

- Supervise student practice.

- Develop teaching objectives specific to the intended hands-on learning outcomes.

- Assure that objectives are structured following the taxonomy of the psychomotor domain.

- Administer performance based tests with appropriate criteria from the psychomotor learning domain.

I A DIAGNOSTIC AND REPORTING SYSTEM FOR STUDENT DESCRIPTION OF COLLEGE TEACHING

Relationships Between Certain Specific Teaching Behaviors and Student Achievement on Seven General Teaching Objectives for Undergraduate Courses

<u>Key to General Objectives</u>

1. Gaining factual knowledge (terminology, classifications, methods, trends).

2. Learning fundamental principles, concepts, or theories.

3. Improving logical thinking, problem-solving, and decision-making abilities.

4. Developing specific psychomotor (manipulative, manual) skills.

5. Developing a favorable attitude toward the subject matter.

6. Developing creative (imaginative, inventive, original) capabilities.

7. Developing skills in organizing ideas and presenting them in written and oral   forms.

Specific Teaching Behaviors The Instructor	Correlations With Student Achievement on General Objectives						
	1	2	3	4	5	6	7
1. Pointed out what was important to learn in each class session. ...	.57	.54			.52		
2. Gave step-by-step instructions when needed by students.	.54	.54			.52		
3. Stated the objectives of the course.		.53			61		
4. Promoted teacher-student discussion (as opposed to mere response to questions).						.59	.56
5. Displayed concern that students learn.		.54			.62		

Specific Teaching Behaviors The Instructor	Correlations With Student Achievement on General Objectives						
	1	2	3	4	5	6	7
6. Encouraged silent students to participate.						.55	.53
7. Initiated conversation with students before and after class.					.58	.53	
8. Addressed students by name.						.49	
9. Made positive statements about the subject matter of the course...	.50	.56			.69		
10. Spoke with expressiveness and variety in tone and voice.					.58		
11. Indicated when a new topic was being introduced.		.49					
12. Used a variety of teaching techniques.					.60	.49	
13. Used a variety of teaching materials.				.48	.51		
14. Used understandable vocabulary.				.50			
15. Related course material to real life situations.					.53		
16. Used examples to help make a point.		.49			.60		
17. Summarized material presented in each class session.		.48					
18. Presented well-organized lectures.	.49	.51					
19. Praised students during class.						.57	.50
20. Provided answers along with objective-type homework assignments.				.48			

Specific Teaching Behaviors	Correlations With Student Achievement on General Objectives						
The Instructor	1	2	3	4	5	6	7
21. Provided relevant information in response to student questions.	.51	.50			.68		
22. Made written comments on student papers.							.51
23. Provided students with practice (experience) in recalling factual knowledge (terminology, classifications, methods, trends).........	.59	.54		.49			
24. Provided student with practice (experience) in recalling fundamental principles, concepts, or theories.		.62	.64		.49	.52	
25. Provided students with practice (experience) in logical thinking, problem solving, and decision-making.		.51	.83			.61	.54
26. Provided students with practice (experience) in developing specific psychomotor (manipulative, manual) skills.				.93			
27. Provided students with practice (experience) in developing skills in organizing ideas and presenting them.			.62			.78	.85
28. Provided students with opportunities to be creative (imaginative, inventive, original).			.50			.86	.75