The publication is designed for use in teacher education and directed towards curriculum development in career education. The collection of 24 transparencies provides illustrations of the advantages of module building for a career paths course that involves specific objectives, diagnostic pretesting, alternative learning environments, and mastery post-testing in order to provide learners with packages of self-instruction. A pretest enables the students in teacher education to classify themselves as either "module builders" or "course choppers" in developing instructional materials. The "module builder" prescribes objectives, diagnostic pre-testing, learning environments, and mastery post-testing in order to make sure that individuals receive learnable packages of self-instruction, while the "course chopper" is more interested in the external form of a module than in the opportunity for individualization. An analytical table of contents provides the title of the transparency and the function in order to effectively delineate the advantages and incentives of "module building," thereby demonstrating the disorganization of a "course chopper." (JB)
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INTRODUCTION

MOTIVATING TEACHERS IN TRAINING TO WORK WITH CAREER PATH TRAINING MODULES is a publication designed for use in teacher education. The reference to career path training modules is used as an example rather than a focus of interest.

The teacher in training can make an impact upon curriculum by changing specific attitudes and behaviors. In other words, if career path training modules are seen as valuable, it is expected that the teachers' performance and behavior will be favorably influenced.

The same is true about the basic difference between a module builder and a course chopper.

The term module builder is used in a favorable context. The term course chopper is used in an unfavorable context.

The module builder prespecifies objectives, diagnostic pretesting, learning environments, and mastery posttesting in order to make sure that individuals receive learnable packages of self-instruction.

The course chopper is more interested in the external form of a module than in the opportunity for individualization.

As a matter of practical fact, most teachers consider themselves to be module builders. Most teachers would not deliberately go after the role of course chopper as herein defined.

Operationally, some teachers who consider themselves to be module builders are in reality course choppers when objective criteria are applied.

In order to help apply these objective criteria, page 1 gives a short pretest that the reader can use to self-evaluate. As a result of this pretest, the reader will have objective criteria which to classify oneself as either a MODULE BUILDER or as a COURSE CHOPPER.
It is not anticipated that any reader of this text will automatically be classified as either a module builder or a course chopper 100%.

It is presumed that each reader will have various qualities required of a module builder and will have various drawbacks that characterize the course chopper.

The transparencies in this collection provide a step-by-step ladder upward from the lowest rank of course chopping to the highest possible level of module building.

In order to facilitate the use of this document, the ANALYTICAL TABLE OF CONTENTS found on page 4 is provided to show both the title of the transparency and the function.

In order to make maximum usage of this publication, the reader is requested to look at this introduction and then try out the pretest.

After exposure to the pretest, the reader is asked to look at the analytical table of contents for transparency masters.

After identifying an appropriate title for a transparency, the reader should look at the function of the transparency in order to realize how this can be used to motivate teachers to develop appropriate career path training modules.
INTRODUCTION

DEVELOPING OCCUPATIONAL EDUCATION MODULES
THAT CAN ADD UP TO CAREERS

This document is addressed to educators who have developed module learning packets for students. A module learning packet is composed of four elements:

- Specific Objectives
- Diagnostic Pretests
- Alternative Learning Environments
- Mastery Posttests

From an external point of view, any teacher who is able to subdivide material into four separate piles with the above four names is able to put together a package that resembles a module. Such teachers who put together a variety of categorized but uncorrelated material are termed course choppers. A course chopper is able to imitate the external requirements of a module by providing objectives, pretests, learning environments, and posttests.

A module builder goes a step forward. The module builder thinks of course objectives as entry level job requirements. These objectives are on the mastery level.

Students coming into the course are given diagnostic pretests in order to determine which objectives of the module have been successfully attained previously. Similarly, basic prerequisites for the module are diagnosed for certification purposes. If the student lacks a prerequisite, the diagnostic pretest points to a weakness that should be corrected before the module is attempted.
Learning alternatives provide a variety of choices for individual students. Rather than be told of the only way to achieve a prespecified objective, each learner is given a wide choice of alternatives. If aptitude is defined as speed in learning, the alternatives must provide for a wide variety of learning rates and speeds. If learning style is defined as a wide variety of alternative paths, each module must provide for a wide variety of learning styles.

After the objectives have been accepted by the students, after the student has had a chance for a diagnostic assessment with a pretest, and after exposure to sufficient learning alternatives, it is time to present the student with a mastery posttest. This mastery posttest is necessary to determine the learner's gains score. The gains score is the difference between the pretest and the posttest. The gains score is the impact made upon the learner by the module. The gains score is a documentation that some learning has occurred in the learner.
OBJECTIVES

As a result of this module entitled, DEVELOPING OCCUPATIONAL EDUCATION MODULARS THAT CAN ADD UP TO CAREERS, teachers and learners alike should be able to:

COMMUNICATE on a level of practicality that enables occupational programs to stress CAREER PATH PROGRESS.

FOCUS on evaluating achievement of goals and of commitment to goals.

EMPHASIZE results, not personalities.

DISCOVER a realistic scheme for job improvement and personal growth.

As a result of going through this module, both teachers and learners alike should be able to:

DEVELOP objectives personally acceptable to individuals concerned.

STRESS measurable objectives that are visibly evaluated.

DEVISE objectives that provide interesting and worthwhile tasks.

ATTAIN the objective desired within a reasonable period of time.

DISTINGUISH between short-run and long-run goals and objectives.

STATE the objective clearly and simply in such a way as to be easily communicated when needed.

CONCENTRATE on objectives that are both qualitative and quantitative expressions of valid human needs for a variety of career paths.
Some module builders commit a fundamental error. They build modules as they built their courses only smaller. Then, one day, they discover that these modules aren't much different than their former approach to instruction. Instead of concluding, "I didn't do anything very much different than usual," they conclude, "Modules don't work. They're no better than what I have been doing previously."

Try to answer these questions in order to find out if you are a module builder or a "course chopper." Answer with YES or NO.

1. No student should be allowed into a particular module until this student has demonstrated the basic prerequisite skills or equivalent academic credit.

2. Learners are ill-advised to take a course in an area outside their specialty or major area of concentration.

3. Letting students take a course for only a few weeks is a good way to permanently stunt their educational growth potential.

4. Learners should not be allowed to "pick and choose" only those segments of a course that interest them.

5. Slow learners should be given special help, but, if they are really too slow (i.e. SLOWER THAN THE GROUP AVERAGE), they should be taken aside and quietly told to drop the course.

6. Rather than embarrass anyone with expulsion from an overly advanced or specialized course or mini-course, slower learners should be gently but firmly told that they have no place in a particular module.
7. Whenever a learner has to study the same material over and over again, this should be seen as an opportunity for greater depth rather than dull repetition.

8. Once students know exactly what is expected of them in the final exam, they will tend to avoid studying those "extras" that are so necessary for graduate study even though they don't appear on the final exam.

9. Every student should be compelled to enroll in at least one course in their college career for which they have no occupational need or interest. This gives them a basic introduction to mental discipline which will be invaluable to them in almost any career.

Not all of the above statements are completely out of place in curriculum planning. However, each question to which you have answered YES marks you as a "course chopper." Each question to which you have answered NO marks you as a module builder. Each question which you have left blank or undecided pinpoint areas in which you might want to seek out more data and more perspectives.

There is nothing pejorative in being a course chopper. However, it is not the same thing as being a module developer. After a few experiments and a few errors that don't succeed as modules, many course choppers find by trial and error a few simple guidelines. These self-discovered guidelines are enough to transform most course choppers into effective module builders.

Chopped up courses don't add up to careers. Modules, like any good building block that is self-standing and compatible with other skills, do add up to careers--and often, in unpredictable combinations.
NON-ACADEMIC DIMENSIONS OF CAREER EDUCATION

The central non-academic dimension of career education is the apparent difficulty of creating, for a very rapidly growing labor force, not just jobs, but satisfying jobs that will provide the increases in living standards that are expected by the population as a whole and by an increasingly youthful labor force that is better educated, better trained, and more socially aware than ever before.

The need to create more jobs, and better jobs, implies a need to develop the capability of producing more specialized and sophisticated goods and services for sale in an international market, and this, in a more aggressively competitive world.
## ANALYTICAL TABLE OF CONTENTS

for

TRANSPARENCY MASTERS

### I. INTRODUCTION

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<th>Encourage teachers to make an impact on learners under their influence</th>
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<td>B. ACCOUNTABILITY</td>
<td>Pinpoint specific practices that indicate a lack of basic knowledges and understandings necessary to implement occupational education successfully</td>
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<td>C. ALTERNATIVES</td>
<td>Document effective alternatives to some of the most commonly occurring errors in career planning</td>
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### II. CAREER EDUCATION and OCCUPATIONAL EDUCATION

#### A PRACTICAL APPROACH TO LEARNING

<table>
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<th>FUNCTION</th>
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<td>D. A PATTERN, NOT A GIMMICK</td>
<td>Work together with other educators rather than start a new specialty</td>
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<td>E. OCC. EDUC. = LEARN</td>
<td>Learn (a) how to learn and (b) how to earn</td>
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<tr>
<td>F. BEYOND ROTE MEMORY</td>
<td>Teach to objectives that go beyond memorization and that are occupationally relevant</td>
</tr>
<tr>
<td>G. 1st SIX CAREER STEPS</td>
<td>Allow learner to keep all possible options open</td>
</tr>
<tr>
<td>H. LEARN TO EARN</td>
<td>Recognize the requirements of today's labor market</td>
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ITS CONCERNS

I. 4 LEARNER TRAITS

Implement learning procedures that will do more than inform learners

J. THE "AGGRESSIVE" LEARNER

Specify learnable targets, tests, and technology that allow for individual differences in learning styles

K. MASTERY LEARNING

Attain complex goals that go far beyond the basic skills

L. COMPLEX LEARNINGS

Build upon previous learnings and the basic skills to come up with a high quality learning product

ITS FUTURE

M. FORESEEABLE / UNFORESEEABLE

Prepare for (a) jobs which exist, (b) emerging jobs, and (c) jobs of the future

N. CAREER EDUC. CHECKPOINTS

Structure each step into a continuing process

III. MODULES THAT CAN ADD UP TO CAREERS

MODULE COMPONENTS (The 3 T's)

TARGETS

O. ELIMINATE FUZZY EDUC.

Pursue purposeful goals whether these goals be preparation for future education, preparation for employment, or both

P. VISIBLE GOALS

Visualize the outcomes of instruction and of learning

Q. TEACHER EFFORT

Think before writing in order to establish priorities
TESTS
R. SELF-EVALUATION
Keep score in such a way as to be aware of progress and needs for appropriate action.

S. EASY-TO-EVALUATE
Simplify the evaluation process without lessening validity or practical reliability.

TECHNOLOGY
T. EDUC. TECHNOLOGY
Plan ahead to specify what technology can do, will be able to do, and can’t do in the foreseeable future.

U. BEYOND MASS PRODUCTION
Employ technology in such a way as to stress individualization more than stereotyping.

TYPICAL MODULE APPLICATIONS
V. MODULE CAFETERIA
Choose from a wide variety of acceptable and implementable alternatives.

W. PERSONALIZED MODULES
Customize your course goals to fit (a) learners and (b) the state of the job market.

X. MODULES AS BUILDING BLOCKS
Assemble a wide variety of career possibilities with modules mastered.

Y. MODULES FOR BALANCED DIETS
Coordinate objectives (TARGETS), evaluation (TESTS), and resources (TECHNOLOGY) with knowledge (COGNITIVE) performance (PSYCHOMOTOR), and attitude (AFFECTIVE) domains.
Bold new projects are needed to spur the productivity of impact teachers.
Your test results seem to indicate that you will fit into a technical occupation.
Consider the alternatives before you upgrade

True, there are often good reasons why switching to the latest system makes sense, but all other options should be carefully examined before making the decision.

PLANNING AHEAD

FOR THE WORLD OF WORK

ERRORS

You’ve got problems—We’ve got solutions
CAREER EDUCATION IS NOT JUST ANOTHER GIMMICK

AN EDUCATIONAL PATTERN IS AN EDUCATIONAL PATTERN

THIS MEANS THIS MEANS

EDUCATORS MUST NOT MERELEY LOOK FOR:

- "NEW" PROGRAMS
- CAREER CURRICULA
- MORE MONEY
- CAREER SPECIALISTS
- DIFFERENT TESTS
- CAREER TESTS
- CAREER SCHOOLS
- CAREER MEDIA
- CAREER DEGREES
- CAREER EQUIPMENT

EDUCATORS MUST WORK TOGETHER AND MORE TOGETHER FOR THE SAKE OF:

- ORDERLY DEVELOPMENT
- HIGH IMPACT
- ECONOMY

D. A PATTERN, NOT A GIMMICK
LEARN TO EARN:

OCCUPATIONAL EDUCATION FUNCTIONS AS A MEANS FOR LEARNING THE ARTS AND SCIENCES IN REAL LIFE SITUATIONS.

LIKE CAREER EDUCATION, IT IS A SOURCE OF OTHER FORMS OF LEARNING AND A MOTIVATION FOR THESE OTHER WAYS TO LEARN.

OCCUPATIONAL EDUCATION IS NOT A SUBSTITUTE FOR THEM.

"LEARN, BABY, LEARN!"
How should I know?

What do you want to learn today?

ELEPHANTS HAVE GOOD MEMORIES

AND

CATS ARE INDEPENDENT

BUT

DON'T TREAT YOUR STUDENTS LIKE ANIMALS

NOTE
CAREER EDUCATION COMPONENTS

- Basic Learning Skills
- Self-understanding
- Positive Attitudes
- Early Exposure
- Planning Process
- Specialized Training

RIGHT TO CHOOSE
LIFELONG OPPORTUNITY
CONTINUING PROGRAM
PART OF EVERY COURSE
WITH WORK EXPERIENCE
WITH ALL OPTIONS KEPT OPEN

G. 1st SIX CAREER STEPS
LEARN TO LEARN

If this learner leaves school uneducated or unskilled, he will find himself disadvantaged in the labor market.

The demand is growing for higher levels of skill. This results in the manpower paradox of workers without jobs at a time when jobs are unfilled because of shortages of qualified workers.
CAREER EDUCATION CONCERNS

1 EARLY EXPOSURE TO WORK AND WORKERS
   (INVOLVED LEARNER)

2 AWARENESS OF PERSONAL ABILITIES
   (AGGRESSIVE LEARNER)

3 AWARENESS OF AVAILABLE OPTIONS
   (SUCCESSFUL LEARNER)

4 CONCERN OVER FUTURE CHOICES
   (RESPONSIBLE LEARNER)
THE "AGGRESSIVE" LEARNER

<table>
<thead>
<tr>
<th>TARGETS</th>
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<tr>
<td>Chooses goals he considers relevant</td>
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<table>
<thead>
<tr>
<th>TESTS</th>
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<tbody>
<tr>
<td>Self-evaluates his progress with a number of evaluation tools</td>
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<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
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<tr>
<td>Uses a wide variety of &quot;alternative&quot; learning resources</td>
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</table>
QUESTION:
WHAT DOES "MASTERY" MEAN?

It took a while to get going...

GUIDE:
LEARNING TIME IS NOT THE SOLE CRITERION

...but then, they really took off!

CHOICE: THE LEARNER
A. DOES WHAT HE IS TOLD
B. DOES WHAT HE WANTS
C. ATTAINS COMPLEX GOALS
D. STICKS WITH THE BASICS
E. TAKES TOO LONG TO LEARN
QUESTION: WHAT DOES A COMPLEX GOAL MEAN?

CHOICES:
A. IMPOSSIBLE TO LEARN
B. BUILT UPON PREVIOUS LEARNING
C. DEMANDS A LOT OF APTITUDE
D. FOR HIGH IQ'S ONLY

GUIDE: TIE THINGS TOGETHER!
WE CAN PREDICT:
THIS WILL HAPPEN IF THEY DON'T LEARN TO EARN

WE CAN'T PREDICT:
THE FUTURE

SINCE LEARNERS WILL BE PREPARING FOR
- JOBS WHICH EXIST,
- EMERGING JOBS, AND
- JOBS OF THE FUTURE,

OCcupational AND CAREer EDucators NEED TO PLACE INCREASED EMPHASIS ON DEVELOPING GENERAL LEARN-ING ABILITY AS WELL AS SPECIFIC SKILLS
<table>
<thead>
<tr>
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<th>PERFORMANCE</th>
<th>ATTITUDE</th>
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<td>CONCEPT OF WORK</td>
<td>GAIN FIRST-HAND FAMILIARITY</td>
<td>I VALUE WORK</td>
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<td>12</td>
<td>BROAD FAMILIES OF OCCUPATIONS</td>
<td>LOOK OBJECTIVELY AT SELF</td>
<td>THIS WILL AFFECT ME</td>
</tr>
<tr>
<td>15</td>
<td>AWARENESS OF OPTIONS</td>
<td>ASSESS HIS OWN POTENTIAL</td>
<td>I MUST WEIGH ALL CHOICES</td>
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<tr>
<td>18</td>
<td>AWARENESS OF CONSEQUENCES</td>
<td>CHOOSE THE NEXT STEP</td>
<td>THIS IS WHAT I WANT</td>
</tr>
<tr>
<td>21</td>
<td>CAREER PLAN</td>
<td>WORK</td>
<td>I AM ABLE AND WILLING TO WORK</td>
</tr>
</tbody>
</table>

N. CAREER ED. CHECKPOINT
CAREER EDUCATION ELIMINATES THE "FUZZY" CURRICULUM

ANALYSIS

1. CURRICULUM CHANGE TOUCHES ALL PORTIONS OF THE SCHOOL PROGRAM (WE NEED CLEAR AND TEACHABLE OBJECTIVES)

2. TEACHER UNDERSTANDINGS MAKE THE JOB EASIER (CAREER EDUCATION IS NOT A NEW SPECIALTY)

3. ALL STUDENTS SHOULD BE ABLE TO PURSUE PURPOSEFUL GOALS WHETHER THESE GOALS BE PREPARATION FOR FUTURE EDUCATION, PREPARATION FOR EMPLOYMENT, OR BOTH

THE IMPLEMENTATION OF CAREER EDUCATION IS DEPENDENT UPON CURRICULUM CHANGE AND THE DEVELOPMENT OF TEACHER UNDERSTANDINGS.
Writing a wheel-barrel full of behavioral objectives for your automotives course may satisfy your boss.

BUT

One good illustration would make curriculum choices a lot easier for him and students.
QUESTION: WHAT DOES SELF-EVALUATION MEAN?

CHOICE: THE LEARNER CAN

A. NEVER FAIL
B. NEVER WIN
C. EASILY KEEP SCORE
D. LEARN FAST
E. FOOL AROUND

GUIDE: "HOW WELL AM I DOING?"
HOW TO RATE AN AIR-CONDITIONER:

\[
\text{BTU} = \frac{\text{Watts}}{2}
\]
the tools are coming.
It's time to think of how to use them.

OR ELSE
THIS MESS MAY HAPPEN!
THIS IS NOT CAREER EDUCATION

A. THE SCHOOL IS NOT A FACTORY

B. THE LEARNER IS NOT A PRODUCT

C. WORK HAS MANY MORE FACES

D. TECHNOLOGY GIVES THE WORKER A NEW ROLE
EACH OF THESE TEACHERS WILL ASSEMBLE A DIFFERENT LESSON FROM THESE MODULE COMPONENTS.

<table>
<thead>
<tr>
<th>KO</th>
<th>PO</th>
<th>AO</th>
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<tbody>
<tr>
<td>KE</td>
<td>PE</td>
<td>AE</td>
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<tr>
<td>PR</td>
<td>AR</td>
<td></td>
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</table>

KO - KNOWLEDGE OBJECTIVES
KE - KNOWLEDGE EVALUATIONS
KR - KNOWLEDGE RESOURCES
PO - PERFORMANCE OBJECTIVES
PE - PERFORMANCE EVALUATIONS
PR - PERFORMANCE RESOURCES
AO - ATTITUDE OBJECTIVES
AE - ATTITUDE EVALUATIONS
AR - ATTITUDE RESOURCES
Now you can personalize our thoroughly modern course. Writeable goals make it easy.
A module is self-standing when it can be used by itself alone without the physical presence of a teacher.

A module is compatible when it can be used by a number of different learners in a variety of circumstances both inside and outside the school.

Each module must have clear goals that are self-standing and compatible.

Learners can then build a wide variety of careers with the modules they master.
**THE MODULE GAME**

**INSTRUCTIONAL AND SELF-INSTRUCTIONAL**

**BINGO!**

**CHECK THEM OFF**

<table>
<thead>
<tr>
<th>YOUR MODULE</th>
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<tbody>
<tr>
<td>knowledge targets</td>
</tr>
<tr>
<td>✓</td>
</tr>
<tr>
<td>knowledge tests</td>
</tr>
<tr>
<td>✓</td>
</tr>
<tr>
<td>knowledge technology</td>
</tr>
<tr>
<td>✓</td>
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</tbody>
</table>

NINE CHECKS MEANS THAT A BALANCED MODULE HAS A LITTLE BIT OF EACH COMPONENT

(✓) = component present