ABSTRACT
        This paper is based on two premises. The first is
that there are five conditions of readiness which determine the
success or failure of educational innovations such as that of mastery
learning. These are: (1) The desire to change the status quo, (2) a
systematic management process, (3) effective leadership, (4) a
receptive teaching staff, and (5) financial resourcefulness. The
second premise is that instructional innovations, including mastery
learning, will be successfully implemented and will persist only when
the teaching staff, administration, board, students, and patrons work
together to (1) assess student learning needs; (2) analyze existing
educational goals, objectives, and instructional programs; (3) derive
new goals, objectives, and programs based on needs assessment and
problem analysis; (4) implement and monitor revised programs,
including instructional innovations; and (5) evaluate the outcomes of
instructional innovations. The assertion is also made that the lack
of or the weakening of any of these conditions will lessen the
chances of successful and lasting educational innovation. (Author)

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MASTERY LEARNING: ITS ADMINISTRATIVE IMPLICATIONS

Dennis Carmichael

North Clackamas School District
Milwaukie, Oregon

EA 005 174

MASTERY LEARNING: ITS ADMINISTRATIVE IMPLICATIONS

OVERVIEW

This paper is based on two premises.

The first is that there are five conditions of readiness which determine the success or failure of educational innovation such as mastery learning. These are:

1. Desire to change status quo
2. Systematic management process
3. Effective leadership
4. Receptive teaching staff
5. Financial resourcefulness

The second premise is that: When the five conditions of readiness are satisfied and when the teaching staff, administration, board, students, and patrons work together....

1. Assessing student learning needs
2. Analyzing existing educational goals, objectives, and instructional programs
3. Deriving new goals, objectives, and programs based on needs assessment and problem analysis
4. Implementing and monitoring revised program including instructional innovations, and
5. Evaluating outcomes of instructional innovations,

instructional innovations, including mastery learning, will be successfully implemented and will persist.

Further, it is asserted that the lack of or the weakening of any of the conditions will lessen the chances of successful and lasting educational innovation.

CONDITIONS AND STRATEGIES FOR EDUCATIONAL CHANGE

Public education in this country is under critical examination.
Educators and lay critics are calling traditional group instruction
methods destructive to the young people in our public school systems.
Evidence that there is a desire to change the status quo can be noted in
a newspaper reporter's preview of the 1973 Oregon legislative session.[1]
The reporter indicates that the new legislature will be chiefly con-
cerned with education issues and that the changes contemplated will be
the most far reaching educational changes Oregon has ever experienced.
The changes proposed are designed to guarantee that a far higher percent-
age of students leave school with functional knowledge of reading, writ-
ing, math, basic science, and how to be a good citizen in today's
society.

The author has participated in four extensive needs assessment
surveys in the last four years which involved parents, students, and
representatives of business, industry, and labor. In each survey these
groups concluded that typical curriculum and instructional methodology
were not meeting the needs of today's students.[2,3,4,5]

[1] The Oregonian (Portland, Oregon), January 8, 1973.

[2] An Assessment of the Educational Needs of Santa Clara County, Califor-
nia: A Summary, Santa Clara County Superintendent of Schools Office
(San Jose, California), 1968.

[3] Carmichael, Dennis, An Assessment of Educational Needs in the Santa
Clara Unified School District, Santa Clara District Board of Education
(Santa Clara, California), 1969.

[4] Eastmond, Jefferson, An Assessment of Educational Needs in the San
Francisco South Bay Area of California (Fremont, California; Fremont
Unified School District), 1971.

[5] Bolt, William J. and Carmichael, Dennis, "Survey of Student Learning
Objectives and Support Activities to Determine Budget Priorities,"
Journal of Secondary Education January, 1971, 16-31.

The problem is how to change and how to manage change success-
fully. There is evidence that change and innovation have already begun
to occur at a more frequent and rapid rate than one would anticipate in
view of education's reputation for inertia and conservatism. The signs
of progress are far from consistent. The Coleman report[6] and a recent
Ford Foundation report[7] revealed that instructional innovations thus far
have yielded little in the way of measurable student achievement or fav-
orable changes in student attitude. Innovations studied include Team
Teaching, Programmed Instruction, Individually Prescribed Instruction in
addition to commercially prescribed programs of instruction.

Innovation in schools has generally occurred as a reactive event
rather than as a deliberate event based on assessed needs, analysis,
strategy development, programming, critique and evaluation. The educa-
tional establishment has reacted to criticism by installing solutions
which were not specifically designed for that system. Solutions have
been implemented without any determination of what the problems actually
were. This reactive approach to improving instruction through innovation
of borrowed solutions hasn't left a very good track record.

Strategy for Pro-Active Innovation

With the public demanding better education and educators being
receptive to change, what strategies need to be employed to bring about
improved instruction? The answer is pro-active change brought about by

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[6]Coleman, James S., et al., Equality of Educational Opportunity (Washing-
ton, D. C.: Department of Health, Education, and Welfare), 1966.

[7]Nachtigal, Paul, A Foundation Goes to School, Ford Foundation (New York
City), 1972.

the community, the students, educators, the superintendent, and the
board working together--working together to determine needs, in analyz-
ing present educational goals and programs of instruction, in setting
new goals and objectives, in programming and in evaluating. In North
Clackamas District* the mastery learning concept became the programming
element and the pro-active educational innovation. This is not sur-
prising inasmuch as mastery learning specifications are predictably
generated through this process. The pro-active process resulted in
mastery learning specifications being adopted for instructional pro-
gramming including curriculum and methodology. The mastery learning
specifications adopted by North Clackamas are very simple, very gen-
eral, NOT NEW, but very logical. They recognize that: (1) Some stu-
dents learn faster than others, (2) different students respond best to
different methods of teaching, and (3) various learning styles require
alternative learning materials. Specifications for mastery learning
require that time, materials, methods are varied with the individual in
accordance with individual needs.

Teaching strategies in North Clackamas seek to effect positive
change in student aptitude so that subject mastery is not prohibitively
long and difficult for slower students nor too stifling for more able
students. Narrowing the time gap will require its teachers to offer

*North Clackamas District is located in the Portland, Oregon, metropoli-
tan area. It is a suburban area approximately fifty square miles of
physical geography in which the district enrolls 14,400 students in
twenty-seven elementary and secondary schools. Demographically it is
made up of a predominantly middle class socio-economic white popula-
tion. The assessed valuation and expenditure per student is above the
national average but no more than the average when compared to other
districts in Oregon.

group, small group, and individualized teaching strategies and mater-
ials. A feedback-correction system indicating the individual progress
of each student is necessary. Mastery learning specifications and
strategies are too overarching and non-specific to yield very good
results when introduced on a reactive basis. The problem of generality
and lack of specificity cause mastery learning to be a very difficult
and time consuming program to innovate. It must start as a pro-active
process.

Conditions Necessary for Pro-Active Innovation and Mastery Learning

Before mastery learning can make a positive change in the
improvement of education, the following readiness states or conditions
must be satisfied:

Desire to Change Status Quo. There must be acknowledgment that
the present educational product falls short of expectancy and what
ought-to-be. There must be agreement that the curriculum and instruc-
tional methodology can be improved and that they should be improved.
There must be an openness to question, to analyze and to evaluate the
existing process of instruction and the product of the instructional
process.

The readiness state of the public, the professional staff, the
governing body of the district, and its chief executive (the superin-
tendent) must be sensed and evaluated. If the attitude for change and
innovation is not shared by all, chances of successfully implementing
mastery learning are limited.

Systematic Management Process. The school district must have
organized and have functioning a management system* capable of

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*Such a management system is depicted in Exhibit A.

fulfilling the specifications for successful educational change. It
must be capable of: (1) Assessing student needs, (2) analyzing exist-
ing programs, (3) deriving objectives, (4) developing instructional
programs to accomplish the derived objectives, and (5) monitoring and
evaluating student progress in these programs. Mastery learning
requires that teachers perform these same functions at the classroom
level for each student. If the district doesn't have the capability,
it cannot expect to implement mastery learning except as isolated
discrepant instances.

The vast majority of school districts are traditionally organ-
ized to "run" the district on a recipe basis, innovating usually in
reaction to criticism or for the purpose of being "innovative."

To operate in a pro-active systematic way will frequently
require district reorganization and drastic changes in the allocation
of funds and personnel types employed. There will be far less need for
general supervisorial staff and a greater need for those trained in
needs assessment, instructional analysis, program development, and
evaluation techniques. The emphasis will have to be changed away from
administering and supervising to assessing, analyzing, programming, and
evaluating. Such changes will be difficult.

Inservice and even pre-service personnel training opportunities
are spotty. It is in this area that federal subsidies and private
funding such as the Ford Foundation grants, which are designed to
improve education, would find the more fertile ground than with
"canned" patent medicine type instructional innovations.

The management system must be capable of providing for free
interchange of ideas among teachers, public, students, and

administrators so that the specifications of successful innovation are
satisfied. The system must be geared so that the process of educa-
tional change is properly sequenced. It must avoid the "solution
first" syndrome.

Effective Leadership. Leadership at the school and district
level is the third condition for implementing mastery learning. The
superintendent cannot be merely a spectator in the stands cheering on
the winning team. A superintendent whose leadership style supports the
concepts of mastery learning and who has knowledge of and participated
in a systematic management process is necessary.

Just as important--perhaps more so--is the leadership at the
school level. The school system must have principals who are conver-
sant with and subscribe to district goals and objectives and who are
skilled at involving and motivating their teachers to implement programs
designed to accomplish these goals and objectives.

The principal must be able to identify those teachers who will
assist and support mastery learning concepts and teaching strategies.
He must be able to neutralize or even deflect teacher opposition when
it arises. This may be difficult in the emerging power struggle for
more policy making rights being engaged in by national teacher organi-
zations and school boards. In this struggle the superintendent, his
district administrative staff, and the school principals are right in
the uncomfortable middle.

The innovative principal must be able to motivate and involve
parents, students, and teachers in the whole process of implementing
mastery learning.

<u>Receptive Teaching Staff</u>. The classroom is where the action is. If teachers are not receptive to change, change will not take place. Efforts of superintendents, principals, boards, the public, and students will be futile if teachers are not ready to change the educational status quo.

The basic condition of readiness for the teaching staff is that of being student oriented. Successfully implementing mastery learning requires that the teacher diagnose, prescribe, monitor, and evaluate each student's activities. Student activities are the focal point--not teacher activities..

One of the findings of the Peterfreund report[8] in regard to teacher receptivity was as follows:

> "Superintendents, principals, school board members, and parent leaders indicted their teachers for being the major barrier to change and innovation in school systems; resistant to change, afraid of change, and resistant to technology."

The same report indicated that the image teachers have of themselves is quite different. While teachers themselves confirmed some of the comments of superintendents, principals, board members, and lay leaders, they put them in a somewhat different perspective when interviewed for the Peterfreund study. The study drew the following conclusions from the interviews with teachers.[9]

> "1. Teachers are grasping for help and guidance in an era of change.
>
> 2. Their professional training did not adequately prepare them for teaching in the present era of educational change.

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[8]"Innovation and Change in Public School Systems"; An unpublished report; Stanley Peterfreund Associates, Inc. (Englewood Cliffs, New Jersey), p. 11.

[9]Ibid, pp. 11-13.

3. Motivation and dedication are not lacking among the teachers in the districts surveyed."

Teachers who satisfy the condition of readiness to successfully implement mastery learning are described as follows.

1. <u>Enthusiastic</u>. They view their work as satisfying and rewarding. They are creative and use a variety of techniques in their classrooms. They find children likable and do not disparage children for their shortcomings. They measure their success in terms of individual student learning.

2. <u>Awareness of Learning Process</u>. They are aware of the differences in cognitive and affective processes of learning and they set objectives in both these areas for student learners.

3. <u>Student's Role Seen as Participative</u>. They establish classroom learning processes so that learners take an active rather than passive role in their learning activities. They allow students to participate in planning, programming, and evaluating their work and their progress. When students have learning difficulties, they view this as a learning problem rather than a student failure.

4. <u>Assumes Role of a Director of Individual Learning</u>. Instead of being presenters of information for group-paced learning, they take a directorial role. Objectives are established jointly with the student. They become familiar with the different learning capabilities and styles of each student and use this information to work out the student's best program of learning to accomplish his predetermined objectives.

5. <u>Well Informed and Participate in School and District Planning</u>. They question educational status quo or changes in that status quo. They desire participation in school and district decision-making. They seek out information rather than rely on rumor.

6. <u>Participate in Inservice Training</u>. They have a positive attitude toward professional development activities including seminars, workshops and graduate courses. They can identify the type and areas in which they need inservice training. Further, they believe in continuous self-development to keep pace with changes in education...

<u>Financial Resourcefulness</u>. The fifth condition is the ability of the district to manage funds at its disposal and acquire supplemental
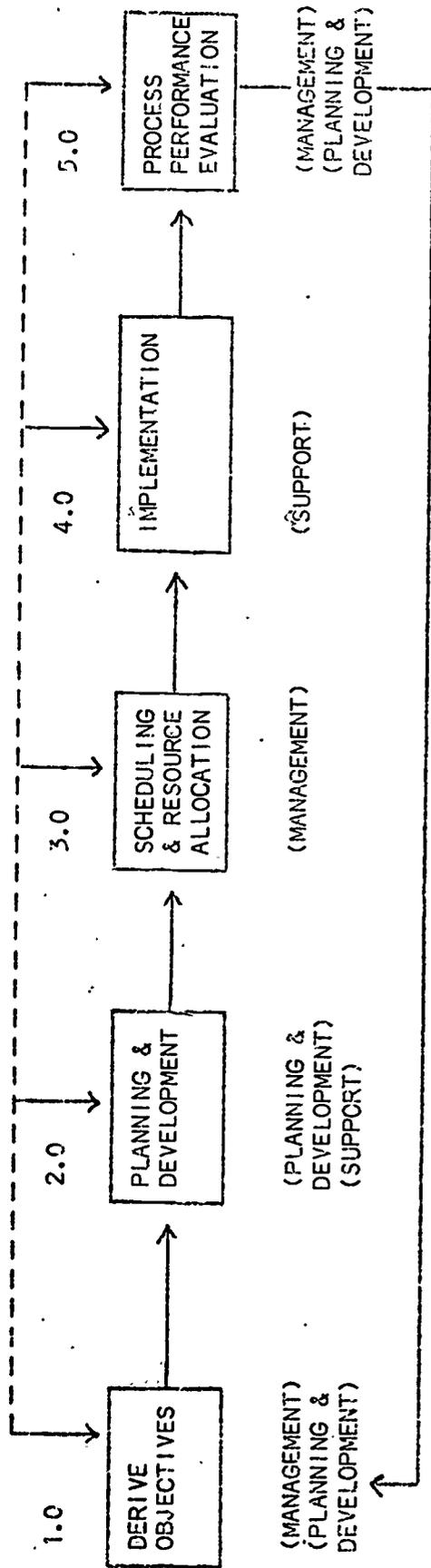
funds from external sources. Districts that allocate 100% of their funds for day-to-day operations and do not seek external funding will never be able to innovate successfully. Funds must be allocated for planning and development purposes. Implementation of mastery learning requires both economic trade-offs and additional funds for start-up activities. Obtaining additional funds is not an easy task with the current taxpayer rebellion making it exceedingly difficult to fund even minimal programs in a period of inflation and salary demands.

Conclusion

Each district should determine its readiness to implement mastery learning by carefully assessing the five conditions of readiness and its capability of operationalizing the five strategies. When districts make efforts to implement these strategies and ascertain that conditions of readiness are present, a much better track record for successful implementation of mastery learning and improved student achievement in the affective as well as the cognitive domains of the intellect will result.

EXHIBIT A

DISTRICT MANAGEMENT FUNCTIONAL PROCESS MODEL


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1.0              2.0            3.0            4.0            5.0

            ┌──────────┐   ┌──────────┐   ┌──────────┐   ┌──────────┐
┌──────────┐│ PLANNING │   │SCHEDULING│   │          │   │ PROCESS  │
│  DERIVE  ││    &     │──▶│ & RESOURCE│──▶│IMPLEMEN- │──▶│PERFORMANCE│
│OBJECTIVES││DEVELOPMENT│   │ALLOCATION │   │ TATION   │   │EVALUATION │
└──────────┘└──────────┘   └──────────┘   └──────────┘   └──────────┘

(MANAGEMENT)  (PLANNING &     (MANAGEMENT)    (SUPPORT)    (MANAGEMENT)
(PLANNING &   DEVELOPMENT)                                 (PLANNING &
DEVELOPMENT)  (SUPPORT)                                    DEVELOPMENT)
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1.0 DERIVE OBJECTIVES - process by which management decides on the objectives of the organization, on changes in objectives and policies that are to govern the acquisition, use, and disposition of district resources.

2.0 PLANNING & DEVELOPMENT - process of identifying and assessing opportunities, risks, and capabilities of the district's achieving agreed-upon objectives, establishing requirements, specifications, and criteria involved in alternative actions designed to accomplish agreed-upon objectives.

3.0 SCHEDULING & RESOURCE ALLOCATION - scheduling is calendarizing the plan - resource allocation is the deployment of human, physical, and financial resources in accordance with a plan designed to achieve agreed-upon objectives.

4.0 IMPLEMENTATION - process of installing an agreed-upon plan into operation.

5.0 PROCESS PERFORMANCE EVALUATION - as execution takes place, progress is measured and compared to predetermined specifications and objectives. Any serious deviation or variance from the predetermined plan is considered to be a managerial problem. Such problems are then cycled back through the managerial process for decision regarding derivation of objectives, planning and development, etc.

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