Mastery Learning: The Current State of the Craft

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Having established that mastery learning works, researchers are beginning to investigate components of the system and theorists are integrating it with other recent trends.

About a decade ago educators first encountered the philosophy and practices that have come to be known as mastery learning. Virtually *all* students could learn *excellently*, mastery learning contended, if instruction were approached systematically, if students were helped when and where they had learning difficulties, if they were given sufficient time to achieve mastery, and if there were some clear criterion of what constituted mastery (Bloom, 1974).

A few educators immediately considered this message to be a great educational boon (McNeil, 1969), while a few others viewed it to be an equally great boondoggle (Cronbach, 1972). But most educators waited on the sidelines of the boon-boondoggle controversy until mastery learning proved itself to be more than fad.

Well, the decade has passed, and mastery learning is still alive. Indeed with the help of dedicated practitioners and administrators, innovative teacher training institutions, progressive national and international educational organizations (ASCD, NEA, NASA, UNESCO, IEA), leading educational publishers (McGraw-Hill, SRA, Westinghouse Learning Corporation, Random House), and powerful news media (*The New York Times*, CBS), mastery learning has helped reshape the face of contemporary educational practice, research, and theory.

As we move into the 1980s, therefore, educators should study closely this important legacy of the 1970s. This article will provide a backdrop against which readers of this special issue can begin or continue their study of mastery learning (see articles by Bloom [1978] and myself [1976, 1977] in past issues of *Educational Leadership*).

Mastery Learning Practice

One word captures the essence of current mastery learning practice. The *spread* of mastery learning over the last decade has been phenomenal.

Quantitatively speaking, this spread is most obvious in the *number* of subjects, classes, teachers, and schools now experimenting with mastery learning. Whereas in the early part of the 1970s the typical experiment involved one subject, class, teacher, and school, current experiments often involve many subjects, classes, teachers, and schools. Entire school districts throughout North America (Chicago, Denver, District of Columbia, New Orleans, Vancouver) are actively testing the value of mastery learning for their particular educational situation.

What is true here is even more true abroad. Countries such as South Korea and Indonesia already have large scale tests of mastery learning underway. Between 10 and 20 other nations should have additional large-scale tests off the ground by 1981-82.

Qualitatively speaking, the spread is most apparent in the *variety* of subjects, classes, teachers, and schools now experimenting with mastery learning. Whereas in the early part of the 1970s, the typical experiment involved one type of subject, class, teacher, and school, the emerging experiments often involve several types of subjects, classes, teachers, and schools. To be specific, mastery learning is being used more in subjects that are intermediate or ad-

vanced as well as basic, elective as well as required, open as well as closed, and that require divergent as well as convergent thinking. These subjects are being taught to large as well as to small classes, and to "special" (handicapped, disadvantaged, bilingual) as well as to "regular" ones. The teachers of these subjects are old hands as well as new, humanists as well as cognitivists and behaviorists, and minority as well as majority members. Finally, these teachers work in urban and rural as well as suburban schools; in tertiary and secondary as well as in primary and elementary schools; in technical/professional as well as academic institutions; and in private as well as public settings.

Of course, no single type of mastery learning strategy has been used for all these subjects, classes, teachers, and schools. In fact, each has required a somewhat different type of strategy. The point is that when practitioners have decided to teach for mastery, they have not let the nature of their subjects, classes, colleagues, or schools get unnecessarily in their way.

Research

Just as there has been great activity on the mastery learning practice front, there has been similar activity on the research front. Having decided mastery learning works, researchers are now focusing on a variety of new questions. Perhaps one word best describes the focus of these questions. Researchers are deeply concerned with *understanding* why mastery learning works so well.

One branch of the current research is concentrating on isolating factors essential to the successful application of mastery learning ideas. Here, in so-called "component studies," researchers are experimentally parsing selected mastery learning strategies into their various structural and functional components and testing the individual and joint contribution of these components to each strategy's overall effectiveness. For example, one central component of any mastery learning strategy is the mastery performance standard used to monitor the quality of the teaching-learning process as it unfolds. So, researchers have designed studies to evaluate the effects of various mastery performance standards. Not only have mastery strategies utilizing various mastery performance standards been evaluated against comparable traditional strategies, but the former strategies have also been evaluated against one another.

The other branch of current research is concentrating on sharing what is being learned from the component studies with others. One tactic has been to offer synthetic mastery learning research reviews for scrutiny by practitioners and scholars alike. An

article by Bloom in the April 1978 issue of *Educational Leadership*, for example, gave practitioners access to research that scholars have encountered primarily in his book *Human Characteristics and School Learning* (Bloom, 1976). Likewise, the article by Robert Burns in this issue (page 110) gives practitioners access to research that scholars have encountered primarily in our recent article for the *Review of Research in Education* (Block and Burns, 1977).

A second tactic has been to publicly review others' instructional research from a mastery learning research perspective. Recently, for example, I was asked to review the findings of the California *Beginning Teacher Evaluation Study* (Block, 1978b). My review intentionally drew parallels between what BTES and mastery learning researchers have found to constitute effective teaching. For example, I indicated how mastery learning provides the classroom teacher with one framework for orchestrating and executing five generic teaching behaviors found in the BTES research. I labelled these behaviors:

1. *Diagnosis:* the accurate prediction of each student's future performance based on her/his present and past history;

2. *Prescription:* the provision of appropriate learning tasks for each student based on the teacher's diagnosis;

3. *Orientation:* the clarification of each learning task for each student in terms of what is to be learned and how it is to be learned;

4. *Feedback:* the provision of constant information to each student regarding learning progress;

5. *Correction:* the provision of timely supplementary instruction for each student whose learning progress is insufficient.

Theory

Not to be outdone by their practitioner and researcher colleagues, mastery learning theorists have also been very active over the past decade. Perhaps the word *striving* best captures the gist of their efforts.

Readers of *Educational Leadership* are already familiar with one manifestation of this striving. I am referring to mastery theorists' attempts to generalize mastery learning ideas and research findings into new theories of school learning. In the April 1978 issue, for example, Bloom presented his latest theory, which holds that under appropriate learning conditions individual differences in learning ability, rate of learning, and motivation for further learning should approach a vanishing point. That is, virtually all learners (95 percent) should learn excellently, quickly, and self-confidently.

Readers may not be as familiar with other manifestations of this striving, however. I am speaking primarily of mastery theorists' attempts to integrate mastery learning with other salient contemporary educational trends. Since Lorin Anderson will provide one example of these attempts later in this special issue, let me focus on two other examples here.

One example has been efforts by mastery theorists to integrate mastery learning to the steamroller national movement known as CBE (competency-based education) (Spady, 1977). As numerous advocates have pointed out, mastery learning ideas and practices lie at the heart of CBE (Schalock, 1976; Spady, 1977). Yet many CBE practitioners throughout the country, with some notable exceptions (the D.C. public schools), have overlooked these ideas and practices as they have wrestled with the question of how to *teach* for competence rather than just test for it.

Recently I (Block, 1978a) have explored in greater detail the theoretical linkages between learning for mastery and learning for competence, and Torshen (1977) has done likewise. My work clearly indicates that students cannot learn for competence without first having learned for mastery. Indeed, it suggests that competent students are precisely those who have mastered physically, intellectually, and emotionally the various competencies required for effective interaction with the various socially prescribed, self-selected, and self-developed environments they will face upon graduation. Torshen's (1977) work demonstrates concretely how learning for mastery ideas and practices can be used effectively and efficiently in fostering learning for competence.

The second example has been efforts by mastery theorists to integrate mastery learning to the humanistic education movement. Though many of the basic underlying concepts of mastery learning derive from classical and neoclassical humanistic thought, many humanism practitioners throughout the country, again with some notable exceptions (Philadelphia Public Schools), have overlooked mastery learning as one vehicle for pursuing humanistic educational ends.

Quite recently, both Bloom (1978) and Lynne Cantlay and I (Block and Cantlay, 1979) have turned our attention to this problem. Specifically, Bloom has proposed that mastery learning ideas and practices might be used to teach the humanistic arts—music, dance, poetry, painting—as well as what Maslow (1959) and other humanists call "peak experiences." Lynne Cantlay and I have set out a model for the application of mastery ideas and practices when the learning is self-developmental or emotional in nature. At the heart of this "self-mastery" model lie the following concepts:

1. That humanistic educators believe that all students can learn excellently in the self-developmental or emotional domains;

2. That they believe they can teach so that virtually all students will learn excellently in these domains;

3. That they approach their instruction systematically so that it provides a bridge between learners and outcomes;

4. That they clearly define the self-developmental or emotional outcomes they wish to pursue;

5. That they provide appropriate help in learning each outcome as well as appropriate learning time;

6. And that they personalize their student evaluations.

This, then, is the current state of the mastery learning craft. Practitioners are spreading mastery learning to quantitatively more and qualitatively different subjects, classes, teachers, and schools. Researchers are understanding why mastery learning works so well and are sharing their understanding with practitioners and scholars alike. And theorists are integrating mastery learning with other key contemporary educational trends.

Personally, I am extremely pleased with the craft's scope and depth. Just a decade ago, mastery

learning was an idea. Today, it is a reality. But mastery practitioners, researchers, and theorists cannot afford to sit back on their laurels. There is still much to be done.

On the practical front, there are still some subjects, classes, teachers, and schools that have not yet been touched by mastery learning. I would encourage mastery practitioners to seek them out and to explore why they have not been touched and whether they can be touched. Sometimes, it will be the case that they are simply unfamiliar with mastery learning. One can then make the unfamiliar familiar through discus-

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sions, training, and appropriate small-scale demonstrations. Other times, it will be the case that they are familiar with mastery learning but reject it on the basis of past experience or of educational philosophy. Here one can find out what went wrong. And since breakdowns—empirical or philosophical—of educational experiments are often more informative than breakthroughs, one can use this information to make things go right in the future.

There are also many questions that remain to be answered on the research front. Earlier I spoke of mastery researchers' attempts to answer questions as to *why* mastery learning works so well. Equally important, though far less studied, are the questions as to *what* are mastery learning's personal and societal implications. One of the striking personal features of mastery learning, for example, is the degree to which it encourages cooperative individualism in student learning as opposed to selfish competition. Just how much room is there left in the world for individualists who are more concerned with their own performance than the performance of others?

Consider another example. One of the striking societal features of mastery learning is the degree to which it presses for a society based on the excellence of all participants rather than one based on the excellence of a few. Can any society afford universal excellence, or must all societies make most people incompetent so that a few can be competent?

The theoretical front is no less challenging than the practical and research ones. Although from the outset mastery learning theorists have been concerned with the development of talent rather than its selection, we have tended to attack only part of the talent development issue. Specifically, we have formulated our theory in terms that tell the practitioner or researcher what to do only *after* misdevelopments in

learning occur. Remediation of misdevelopments, however, is only one way to develop talent. Prevention of misdevelopments in talent in the first place is another way. It is time, I believe, that we add to our present remedial formulations of mastery learning theory some new preventative ones. These new formulations would tell the practitioner and researcher what to do *before* misdevelopments in learning occur.

Note that I said we must add to our present theoretical formulations. I am not saying that our current formulations are passé. Clearly, schools throughout the world have many students, especially older ones, who have already failed to learn excellently, and we must find ways to *discontinue* their failure. Schools throughout the world also have many students, especially younger ones, who have not yet failed to learn excellently. Mastery theorists must also find ways to *continue* these students' success.

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