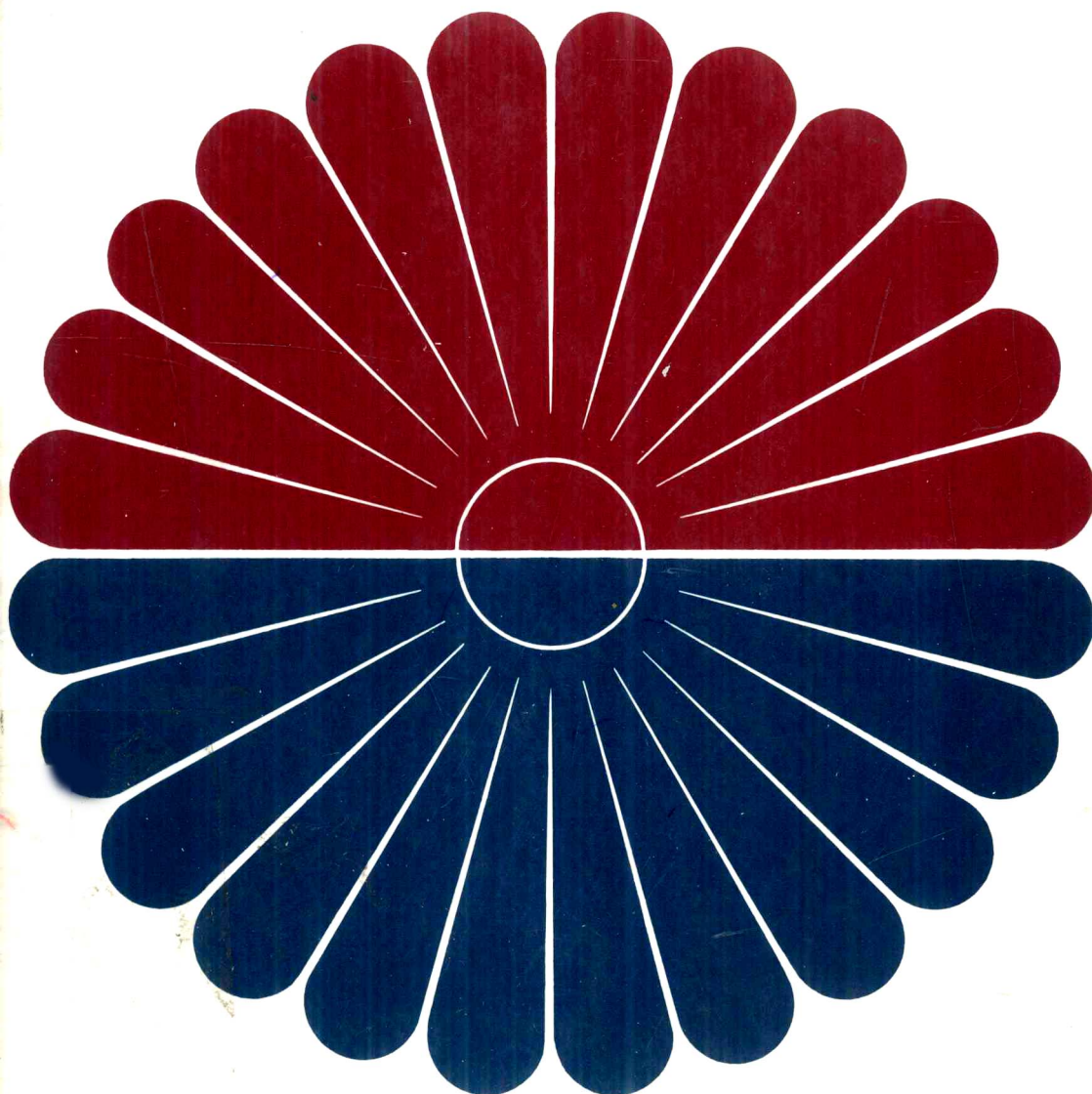


ON TEACHING AND LEARNING IN COLLEGE

Paul L. Dressel and Dora Marcus





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Reemphasizing the Roles of Learners and the Disciplines
by Paul L. Dressel and Dora Marcus

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Preface

As a prelude to writing this volume, I reflected upon my experiences as both student and teacher over a period of some sixty-five years spent in elementary, secondary, college, and postgraduate schools. My general intent was to identify those teachers who stood out as decidedly good or bad and then attempt to explain why. I found that, although I could recall many individual elementary and secondary school teachers by name and subject taught, none stood out as having provided an extraordinarily stimulating learning experience. Indeed, the only episode of my elementary school experience I recalled vividly was one in which a teacher of arithmetic insisted (reinforced by the textbook used) that in working problems of the type, if 3 percent of a number is equal to 24, what is the number?, one must proceed as follows: If 3 percent of the number equals 24, then 1 percent of that number equals 8, and 100 percent of that number equals 100 times 8 or 800. My observation that if the 3 percent were written as .03 and divided directly into 24 the result achieved was obviously 800 and all intervening steps were subsumed was met by the threat that unless the correct protocol was followed, the answer would be declared incorrect. From that example, I was led to recall many other incidents in classrooms over the years in which teachers utilizing procedures originally developed to expedite understanding, so used them that they routinized education. The net recollection, especially of

my elementary and secondary educational experiences, was that teaching emphasized memorization of specific procedures and correct answers but seldom provided opportunity for or rewarded original or creative thought and insight.

From my undergraduate years, I recalled only two teachers outstanding in stimulating my interests and learning. The first was a teacher of mathematics who was perhaps the worst classroom performer I ever saw. But he was wise enough to encourage and even require me to work through a calculus textbook on my own and report my progress to him only occasionally. Freed of the boring classroom experience, I accomplished a great deal. In particular, I developed an independence of teachers which, in some measure, every undergraduate student should achieve. The second outstanding teacher of my undergraduate years was a history professor. He was very demanding but won my admiration by forthrightly stating that remembering the particular names and facts to be covered in the course was of minor importance. The real purpose of the experience he defined as arriving at some understanding of the difficulties of writing history, and of the inevitable fallibility of history due to incomplete or fallacious records and the unfathomable motivation of historical figures. In that professor's course, I was led, by reading, writing, and recurring explication and comment, to see that history is a creation of man and an imposition of that creation on a period and series of events. As a result of the experience, I have continued to read history with pleasure and benefit.

From my years as a graduate student, again I was able to identify only two outstanding teachers, both in mathematics. One was a man who continually nudged his students (usually by hints rather than overt direction) to redefine problems or to find some unusual and creative way to solve them. The praise and recognition for seeking and communicating distinctive insights provided an incentive in each class session. My respect was marvelously increased when I learned much later that the professor himself had almost invariably worked out at an earlier time some of the intriguing approaches that he encouraged his students to explore. The other memorable professor of my grad-

uate years was one who engaged himself to demonstrate his research approach before a small group of advanced students and faculty members. He undertook to do his research on a blackboard and to restrict it to that while the group was together. Striving to put into words the thoughts going through his mind, he thereby provided insights into the working of the mind of a research mathematician such as are never revealed by the final written account. In some cases, nothing of significance was covered in the hour-and-a-half or two-hour seminar. In a few cases, the material tentatively developed in the previous seminar was destroyed or modified or declared obvious by some un verbalized later insight. The unusual individual who engages in such a demonstration is the direct antithesis of the professor adept at covering materials he or someone else has repeatedly polished. Knowledge and thinking in the raw have a character different from the well honed. Strangely enough, knowledge can often be better understood when viewed as it develops than when polished to impress.

I found these reflections a useful basis for pulling together many other observations and readings on the process of teaching and learning. I would urge those concerned with improving their teaching to engage in that same kind of critical reflection and then go on to review the impact of their own classroom teaching practices, assignments, and evaluations on students. One conviction that may emerge is that the individual teacher is far less important in a student's development than many teachers are inclined to think.

In moving to a more abstract level in my reflections on teaching and learning, I shortly concluded that the major weakness of most of the teaching (including some of my own) that I had experienced was that the teacher had given too much attention to the classroom and to the teacher's activities in that classroom. Judging from my own student experience, most classroom sessions were largely a waste of time. They were useful only when they provided some direction and motivation for learning outside of the classroom. Learning is, after all, a very personal thing, and some of the most profound aspects of it are at a level of ideation and mental manipulation that goes far be-

yond the words, sentences, and principles that provide the primary fodder in the classroom. Understanding is more than a matter of memorizing and recalling verbalization; it requires time and effort.

The second significant insight that came out of this summary reflection was that the strong and narrow disciplinary orientation of most teaching I had known at the undergraduate level was a major deficiency in cultivating the type of learning related to the problems of human existence and to deriving some satisfaction from that existence. I concluded that it was not that the disciplines in themselves represented an undesirable way of organizing knowledge, but rather that teachers, having become so immersed in these disciplines, no longer viewed them in relationship to the basic problems and concerns of mankind. Hence they could not grasp and interpret to learners the essential nature of their discipline. In teaching, the concepts and modes of thought of the several disciplines must be interrelated and applied if they are to be meaningful to the student who moves from the classroom to the complicated reality in which we all live.

As a result of this reminiscing on my own experiences, extensive reading of the views of others about the nature and objectives of college teaching, and some prior attempts to express my own views about college teaching, I have come to a set of assumptions or convictions that is always implicit and often made explicit in this volume. These assumptions deserve prior statement here so that the reader may be warned in advance of my convictions and values.

1. I strongly disagree with those who regard the good teacher as one who knows students well and sees close interaction with them as an opportunity to direct and to enhance their personal development. My dissent is based upon several considerations. First of all, I do not believe that people looking to a career in college and university teaching are generally suited for or motivated toward developing personal relationships with students in which the teacher is to be viewed as a pal, a therapist, or an ideal model. The pri-

mary qualification of a professor is a depth of knowledge in a particular discipline and sufficient continuing interest in that discipline to maintain an awareness of disciplinary developments and their implications for curriculum and instruction. The only purpose of instruction is to enable students to learn, and the individual who engages in teaching without stimulating others to learn cannot be considered an effective member of the teaching profession.

2. I do not believe, as many professors argue, that it is essential for an undergraduate college teacher to be involved in frontier research devoted to expanding the discipline. However, extensive reading and some synthesizing scholarly investigations to keep the teacher aware of recent developments and to provide some basis for revising courses and stimulating the students are essential. Furthermore, I doubt that it is wise to take up much time of the able researcher in the instruction of undergraduates. Teaching, well done, is tremendously time consuming. Researchers will usually, and quite understandably, give inadequate time to teaching and to evaluating student work.
3. College or university teachers should not assume that they are members of an elite that society is obligated to support in semi-luxury to do as they wish. Teaching is a social service occupation, and the administrators who manage a social service, whether designated as a service bureau or as a college or university, have an obligation to account to society for the expenditure of the funds provided. This is true in all public and private service, but in the case of the college and university, each teacher is presumably a professional and must, in deference to that professional status, collaborate with the administrators and associates in providing evidence of the continuing commitment to the task at hand and full accountability in performance of it.
4. The obligations of a professor to a student neither require nor justify intimate and dominating relationships, but anyone who presumes to be a teacher has an obligation to become familiar with the students' backgrounds and with their hopes and aspirations. Too often I have witnessed pro-

fessors teaching even the introductory courses as though every student ultimately sought a Ph.D. in the discipline. At one time, professors in each discipline were expected to develop courses especially designed for students in particular fields. I recall being involved, in the early 1930s, in teaching mathematics for agriculture students, mathematics for science students, mathematics for business students, and mathematics for engineers, as well as mathematics for prospective mathematicians. If one believes, as I do, that the search for meaning requires some grasp of the essential nature of each of the major disciplines and some appreciation of its possible role in a variety of life issues and problems, then some reasonably clear path must be found between disciplinary courses taught for students building a career in that field and those courses offered to cover a smattering of ideas in current use. Every college or university teacher should be concerned with knowing the interrelationships in objectives, methods, concepts, and structures between his or her discipline and other disciplines. Every teacher also needs to be aware of general course requirements and some of the more common patterns of course experiences prevalent among students so that these can be drawn upon in the development of a particular course.

5. My awareness of human frailty makes it impossible for me to assume that a professor should have complete autonomy in development of courses, the means and processes by which they are offered, or the grading of students who take them. There are many pressures from many directions on every citizen in a democratic society. Professors are not exempt. When these pressures emphasize research, it is only human nature to weight one's activities in that direction unless there is a counterbalancing force toward other academic functions. If there are subtle pressures (or obvious rewards) for passing athletes, it is inevitable that some professors will thereby be induced into iniquity, with resulting inequity to other students and teachers.
6. I have grave doubts about the recurrent enthusiasms of a

novel gimmick or gadget as a promoter of learning. Clowning in the classroom, computer-assisted instruction, individually programmed instruction, case studies, games, field studies, travel—these all have, no doubt, validity with some students for some kinds of learning, but any one carried to an extreme is unlikely to survive long. One highly deviant course cannot resolve the problem of providing high-quality education, and it can detract from the worth of other courses and educational experiences.

7. Ultimately, the provision of a learning environment and a set of principles must be buttressed by a system of rewards so distributed as to make clear to everyone that an institution desires, supports, and rewards good teaching. Governing boards should demand regular accounting from administrators and faculty on the character and quality of teaching and on the satisfaction of the students with their experiences, and should create a system of rewards that ensures the continuance of good teaching.

It will become clear to the reader of this book that I have no simple prescription for good teaching. Ultimately, the good teacher must want to be a good teacher. Then that individual must become objective and continually self-critical in seeking feedback from students and peers, as well as evidence in student performance that his or her teaching is indeed effective in stimulating learning. It should be equally clear to each professor in a college or university that those who do not commit themselves to good teaching but continue to perform will be assigned to other necessary and well-performed activities or be let go. In some sense, a college or university ought to model some of the ideals of living in a democratic society. Students know more than we think about the productivity and quality of performance of faculty members, and they see in the operation of the reward system some values and their application that are hardly in accord with what higher education should exemplify.

The major weakness in college teaching is that too many teachers operate as though teaching a particular segment of a discipline (content) constitutes a fixed and constant assignment

regardless of time, place, students, programs, or other factors. *The essence of good teaching is to adapt it to the particular context in which it is provided in such manner as to promote the student's inevitable search for meaning.* The purpose of this volume is to point out the significant elements in the context based upon a concern for stimulating meaningful learning.

As usual, in the preparation of this book I have drawn upon the ideas of many others. In some cases, where these ideas are particularly significant or have been specifically stated, I have made direct acknowledgment. On the whole, however, I see little new in the last fifty years in the writings about either college teaching or curriculum, and I decline to make special recognition of individuals unless their particular phraseology is unusually apt or rich in its connotations. I have, however, provided some suggestions for further reading at the end of each chapter and an extensive bibliography for readers who wish to explore supporting or contrasting views about college teaching and learning.

As has been the case for many years, I am indebted to a number of people for their assistance and encouragement in this task. I would recognize particularly Laura Bornholdt, vice-president of the Lilly Endowment, with whom I have shared many conversations on these matters. I would also express appreciation to E. Alden Dunham of the Carnegie Corporation, who was instrumental in having some funds made available to me to view and comment on the developments in the Doctor of Arts degree for college teaching. Many of the ideas in this volume were supported, if not originated, by experiences in review of these Doctor of Arts programs. My doctoral students were generally a continuing source of stimulation. I would mention especially Nellie Hardy, whose dissertation dealt with the teacher typologies discussed in Chapter One.

My coauthor, Dora Marcus, has, as a former student and a friend and constructive critic over several years, helped to clarify my thinking and to expand it by elaborating her own ideas, which I find remarkably consonant with mine. She was ably assisted by Shari Cisco, who was of invaluable help in expediting an early typed draft. Special credit is due Katherine McCracken

for her expert editing and revising of the entire manuscript in its early stages.

Finally, I would mention Ruth Frye, who has been my assistant for many years. Through her devotion to the task of providing many copies of parts of this book at various stages and her excellent assistance in the preparation of special charts and forms and in editing and proofing, she enabled this book to come to final form.

East Lansing, Michigan
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Paul L. Dressel



To the Reader

Any reader of this volume should be forewarned that it does not contain recommendations or solutions ensuring good teaching that the reader can directly apply to his or her own teaching. Through the years, as we have had opportunity to review new methods of teaching and new types of courses, we have concluded that overenthusiasm about any single approach to teaching is the road to a stereotyped performance that will ultimately produce poor teaching. There can be no one model of good teaching that will suit the variety of teaching roles and differing objectives of undergraduate teaching. Thus good teaching must be adapted to the particular *context* in which it takes place and appraised by the learning that results. An understanding of the nature of the disciplines and their relationship to education, life, and work is essential to contextual teaching.

A teacher's commitment to learning and a sense of excitement in pursuing that commitment must be accompanied by an abiding awareness that, in the long run, it is what the learner does rather than what the teacher does that really counts in teaching. Accordingly, we are concerned that each reader be stimulated to think seriously and in depth about the nature of learning, both as a process and as a result. Then, we hope, the reader will be led to a state of mind in which teaching practices and materials are continually reviewed, revised, and rejected in

keeping with teachers' special obligations to stimulate scholarship in their students' lives.

This volume is divided into three parts, each of which can be read more or less independently of the others. Part One reviews much that has been said about teaching in the past but is organized around our four prototypes of teaching and the interplay between teaching and learning. In particular, we contend that the primary role of education is humanizing rather than disciplinary mastery. Part One reflects our recognition of the pervasive role of the disciplines and their interrelations in good teaching and meaningful learning.

Part Two arises out of our perception in recent years that those who regard education largely as personal development have ignored the tremendous resources in knowledge, methodology, and values that have evolved within the various disciplines over the centuries. Part Two attempts to show that the disciplines are not so distinctive as they sometimes seem, although the totality of knowledge is so vast that it cannot be dealt with in a unitary fashion. The various disciplines represent ways of investigating the totality of knowledge and the means used to acquire and to organize it. The teacher should never forget that disciplines are artifacts of man's search for meaning—they are means of arriving at meaning. For effective teaching and learning, teachers must acquire knowledge of these characteristics of the disciplines and the complex interrelations among them.

Part Three may be read in the context of relevant sections of the senior author's *Handbook of Academic Evaluation* (1976) and *Improving Degree Programs* (1980). It suggests some of the implications of contextual teaching both for curricular organization and the preparation and selection of college teachers. These implications come as close as we believe to be compatible with the need for each person to work out his or her own salvation as a teacher. We do give some explicit suggestions on deciding and preparing to be a teacher and occasionally offer critical judgments of some existing practices.

If, having completed this volume, readers criticize us for not providing definitive solutions to the problems discussed, allow that they have been forewarned. If they gain a new con-

ception of the interplay between teaching and learning and the relevance of the disciplinary context, and are motivated to incorporate this conception into a lifelong professional commitment, we will have been effective teachers.

Dora Marcus
Paul L. Dressel



The Authors

Paul L. Dressel is professor emeritus of university research at Michigan State University in East Lansing. He received his bachelor's degree in mathematics from Wittenberg College (1931), his master's degree in mathematics and physics from Michigan State (1934), and his doctoral degree in mathematics from the University of Michigan (1939).

Since 1932, when he first joined the mathematics faculty at Michigan State University, Dressel has served in various capacities and was often the first person assigned to a particular responsibility. In 1936 he began coordinating the orientation program for new students, which led gradually to developing a testing program, remedial services for students, and a counseling center that he directed for over a decade. For several years he was chairman of the Board of Examiners, which was empowered to grant, by any appropriate means, credit in any course offered in the institution. The Board eventually became the Office of Evaluation Services and was charged with designing and carrying out numerous studies on educational issues. From 1949 through 1952, Dressel was director of the Cooperative Study of Evaluation in General Education sponsored by the American Council on Education; results of the study were reported in *General Education: Explorations in Evaluation* (1954), coauthored by Dressel and Lewis B. Mayhew. In subsequent years, Dressel's staff was expanded to conduct educational research and related studies at

Michigan State, and in 1959 he became the first person to head the newly created Office of Institutional Research.

Dressel has served as a consultant to numerous colleges and universities. He was long active in accreditation with the North Central Association of Colleges and Universities and served on the executive board of the Commission of Institutions of Higher Education, 1966-1970. For over ten years he has been chairman of the Illinois Commission of Scholars, which reviews and recommends or denies all new doctoral proposals from Illinois state-assisted higher education institutions. He was president of the American Association of Higher Education, 1970-71, and has been involved in studying Doctor of Arts programs, resulting in the publication of *The New Colleges: Toward an Appraisal* (1971); *Blueprint for Change* (with Frances DeLisle, 1972); *College Teaching: Improvement by Degrees* (with Mary Magdala Thompson, 1974). He also was involved in critiquing nontraditional graduate programs as reported in *A Review of Nontraditional Graduate Degrees* (1978) and *Problems and Principles in the Recognition or Accreditation of Graduate Programs* (1978).

Dressel has received awards for research from the American Personnel and Guidance Association (with Ross Matteson, 1950) and from the American Educational Research Association (the E. F. Lindquist Award, 1980). He was granted an honorary Doctor of Laws degree by Wittenberg University in 1966.

Dora Marcus is assistant professor at Michigan State University in East Lansing. Her early training was in the social sciences; she received her bachelor's degree in sociology from Wayne State University (1954), her master's degree in sociology from the University of Michigan (1956), and more recently her doctoral degree in administration and higher education from Michigan State University, specializing in evaluation research.

For twelve years, 1955-1966, Marcus conducted organizational research as a staff member of the Institute for Social Research at the University of Michigan. She is coauthor with Philip M. Marcus of an article on control in organizations, which has