SELF-INSTRUCTION PEDAGOGY

SELF-INSTRUCTION PEDAGOGY

How to Teach Self-Determined Learning

By

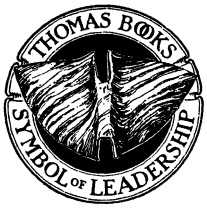
DENNIS E. MITHAUG
Teachers College Columbia University

DEIRDRE K. MITHAUG
St. John's University

MARTIN AGRAN
University of Wyoming

JAMES E. MARTIN
University of Oklahoma

MICHAEL L. WEHMEYER
University of Kansas



CHARLES C THOMAS • PUBLISHER, LTD.
Springfield • Illinois • U.S.A.

Published and Distributed Throughout the World by

CHARLES C THOMAS • PUBLISHER, LTD.
2600 South First Street
Springfield, Illinois 62704

This book is protected by copyright. No part of
it may be reproduced in any manner without written
permission from the publisher. All rights reserved.

© 2007 by CHARLES C THOMAS • PUBLISHER, LTD.

ISBN 978-0-398-07722-8 (hard)
ISBN 978-0-398-07723-5 (paper)

Library of Congress Catalog Card Number: 2006051430

With THOMAS BOOKS *careful attention is given to all details of manufacturing and design. It is the Publisher's desire to present books that are satisfactory as to their physical qualities and artistic possibilities and appropriate for their particular use.* THOMAS BOOKS *will be true to those laws of quality that assure a good name and good will.*

Printed in the United States of America
UB-R-3

Library of Congress Cataloging-in-Publication Data

Mithaug, Dennis E.
Self-instruction pedagogy : how to teach self-determined learning / by Dennis E. Mithaug ... [et al.].
p. cm.
Includes bibliographical references and index.
Contents: Direct instruction vs. self-instruction: what's the difference? -- Your instruction teacher-or student-directed? -- How students develop learner control -- How students adjust to learner control -- How students direct their learning -- How self-determined learning increases at school and work -- Why teachers are reluctant to choose choice -- Will you choose self-instruction pedagogy?
ISBN 978-0-398-07722-8 (hc) -- ISBN 978-0-398-07723-5 (pbk.)
1. Learning, Psychology of. 2. Autonomy (Psychology) 3. Self-culture. 4. Instructional systems--Design. I. Title.
LB1060.M58 2007
370.15'23--dc22 2006051430

PREFACE

For decades we have known that students who are good self-regulators do better in school and are more successful in life than students who are not. In the 1960s, for example, Walter Mischel provided the first evidence of this when he used the now famous Marshmallow Test to assess levels of self-control in four-year-olds. He found that some children were able to resist the impulse to grab marshmallows when they were available and other children were not. The first group became known as "waiters" and the second as "grabbers." In a follow-up of these children more than a decade later, Mischel found that the grabbers who were poor self-regulators were seen by others as being stubborn, overactive, envious, jealous, easily upset, and troubled with low self-esteem, whereas the waiters who were good self-regulators were seen as competent, self-assertive, socially adjusted, adaptable in difficult situations, dependable, and academically successful (Mischel, Shoda, & Rodriguez, 1989). Recently, *New York Times* editorial writer David Brooks reported on this study again, this time suggesting that educators and policymakers had ignored its implication for solving the education crisis.

> . . . children who waited longer [to get marshmallows] went on to get higher SAT scores. They got into better colleges and had, on average, better adult outcomes. The children who rang the bell quickly [to get marshmallows] were more likely to become bullies. They received worse teacher and parental evaluations 10 years on and were more likely to have drug problems at age 32
>
> . . . Young people who are given a series of tests that demand self-control get better at it over time. This pattern would be too obvious to mention if it weren't so largely ignored by educators and policy makers. . . . Walter Mischel tried to interest New York schools in programs based on his research. Needless to say, he found almost no takers. (Brooks, 2006)

Since this study, we have learned much about the nature of self-regulation, how it affects learning, and what can be done to develop it in all learners. Indeed, hundreds of studies on self-control, self-management, and self-instruction have reported robust adjustment gains when children and adults develop this capability. Nonetheless, as Brooks suggests, most educators and policymakers, including those in special education, are unaware of this work. In the book we address this oversight by identifying some reasons special educators resist the use of self-instruction strategies when teaching students with disabilities. Then we present a four-step pedagogical strategy for empowering students to become self-directing, self-determined learners before they leave school.

The first two chapters argue that special educators are reluctant to use self-instruction strategies when they teach because they believe direct control of student responding as prescribed by pedagogies of direct instruction is the best way to guarantee learning. They are also reluctant to empower students to learn on their own because of the belief that controlling all aspects of the learning process is necessary for students who lack self-control to learn on their own.

Chapter 1 on *Direct Instruction vs. Self-Instruction: What's the Difference?* challenges the first claim by comparing the theoretical, empirical, and practical advantages of self-instruction pedagogy over direct instruction and then concluding that although the two are comparable in some ways, self-instruction pedagogy is superior because it teaches students to regulate their own adjustments to any learning challenge and hence become better prepared for the self-determined learning challenges they face once they leave school.

Chapter 2 on *Is Your Instruction Teacher- or Student-Directed* provides evidence for the second claim that teachers like yourself are reluctant to adopt student-directed methods of control because of a strong preference for controlling all functions of the teaching-learning process for students with disabilities, which include (a) identifying their needs and disabilities, (b) setting of goals to meet those needs, (c) developing instructional plans to meet those goals, (d) implementing instructional plans, (e) evaluating student progress, and (f) adjusting goals and plans based on evaluations. The chapter presents evidence indicating that when general and special education teachers rate their control levels for these functions, they report significantly higher ratings for teacher- than for student-control during their instruction and in their curriculum.

Chapters 3–6 present a four-step pedagogical strategy for shifting this agency of learner control to students. Chapter 3 on *How Students Develop Learner Control* describes the first step in the shift showing that when students develop the capacity to self-record, self-evaluate, and self-reinforce when completing work, they exhibit the self-control needed for self-determined learning. For example, when students learn self-monitoring strategies, they learn to control what they are doing when adjusting to a new challenge. When they learn to self-evaluate, they learn to control the accuracy and appropriateness of their behavior in these situations, and when they learn to self-reinforce, they learn to control the rewards they receive for the work they complete.

Chapter 4 on *How Students Adjust to Instructional Control* describes the second step in this shift in agency of control. It builds on the previous chapter by showing how students learn to engage in repeated episodes of goal setting, choice making, self-recording, self-evaluating, and self-adjusting until they accomplish what they set out to do. During this phase of their assumption of control, students self-regulate by comparing their results with their expectations for gain and then changing their expectations, choices or behaviors as needed to improve the match between them during subsequent learning attempts. This step yields remarkable gains in students' adaptive capabilities across behaviors, settings, and time.

Chapter 5 on *How Students Direct Their Learning* presents the last step in this shift of control. It teaches a pattern of self-regulated goal setting, planning, acting, and adjusting that satisfies students' self-identified needs and interests. The step introduces three interconnected problem-solving strategies that students implement using 12 self-instructions. The first sets goals that are consistent with what students choose to learn. The second provokes self-engagement to discover what they want to know, and the third sustains recursive problem solving until students meet their goal and discover what they want to know.

Chapter 6 on *How Self-Determination Increases at School and Work* describes a curriculum designed to teach students to develop their own IEPs and to direct their own school-to-work transitions. The curriculum is based on three learning-to-learn self-questions: "What do I want to know? What is my plan for finding out? Have I learned what I want to know?" The chapters show how use of picture-cued forms that regulate searches for answers to these questions helps students with disabilities learn by adjusting to the challenges posed in their self-directed IEPs and during their school-to-work transitions.

Chapter 7 on *Why Teachers Are Reluctant to Choose Choice* addresses the question posed earlier as to why teachers prefer teacher- to student-directed pedagogies when they teach. The chapter describes studies showing that preservice teachers tend to persist in teacher-directed methods even when instructed in the use of student-directed strategies. The chapter concludes that in order for teachers to consider adopting a self-directed learning pedagogy, they need to understand its theoretical, empirical, and practical advantages over direct instruction as explained in Chapter 1, the directedness of their own teaching as indicated in Chapter 2, and the four-step shift toward student control as described in Chapters 3–6.

Chapter 8, *Will You Choose Self-Instruction Pedagogy*, concludes with a review of the four principles that promote self-determined learning: the choice principle, the self-instruction principle, the matching principle, and the persistence principle. The *choice principle* predicts that opportunities to choose motivate learners to select the opportunity that best matches their interests and capabilities, which in turn provokes them to self-engage, adjust and learn from their adjustment. The *self-instruction* principle describes the remarkable effects of strategy use when regulating expectations, choices, and actions to adjust to new learning opportunities. The *matching principle* describes the effects of matching expectations to results, which provokes learner persistence in adjusting and hence learning from new opportunities. And the *persistence principle* predicts that the more frequent and persistent the learner's adjustments to challenge, the more likely that learning will maximize.

The main claim of this book is that when the four principles are fully incorporated in teaching as they are in self-instruction pedagogy, the engagement of challenging choice opportunities is provoked, the resulting adjustments to those opportunities generalize across settings and time, and the learning that results from those adjustments maximizes.

REFERENCES

Brooks, D. (May, 7, 2006). Marshmallows and Public Policy. In *The New York Times: Opinion.* New York: New York.

The Marshmallow Test, http://www.cde.state.co.us/ssw/pdf/SSWConf2005_Caselman_Tonia_Marshmallow.pdf.

Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of gratification in children. *Science, 244*, 933–938.

CONTENTS

SELF-INSTRUCTION PEDAGOGY

Chapter 1

DIRECT INSTRUCTION VS. SELF-INSTRUCTION: WHAT'S THE DIFFERENCE?

DENNIS E. MITHAUG

The most effective pedagogies for educating students with disabilities offer contrasting approaches to improving their adjustments and learning. Direct instruction, arguably the most widely-used pedagogy in special education today, prescribes teacher control of student learning, whereas the less widely-used self-instruction pedagogy prescribes student control of adjustments. This chapter compares the two to give you a basis for deciding how best to teach your students. We believe that after considering these differences you will choose the latter because it promises the greatest long-lasting benefits for students.

However, in presenting these comparisons, we recognize that adopting this approach to teaching may be difficult given the pervasive view among special educators that direct instruction is the only viable method of teaching students with significant learning problems. To illustrate this perspective, consider Lewis and Doorlag's (2003) comparison of direct instruction with other teaching methods in their introductory text, which claimed that instruction should consist of:

> . . . selecting the desired student behavior, arranging instructional antecedents, and providing consequences such as feedback regarding performance accuracy. . . .
>
> [These authors claimed] it is important to differentiate between direct (or explicit) instruction and an alternative approach, discovery learning. In discovery learning, information and skills are not taught directly. Instead, the teacher arranges the learning environment and students explore that environment as they attempt to discover the facts, concepts, principles, and skills that make up the school curriculum. Discovery approaches are considered constructivists because students are expected to construct their own knowledge by building on prior knowledge they bring to the learning task. . . .

> Unfortunately, [they claim] some students do not succeed in programs in which discovery learning is the norm (Gersten & Dimino, 1993). Students with mild disabilities and others at risk for academic learning problems are more likely to succeed when instruction is presented using the principles of direct teaching. (King-Sears, 1997; Vergason & Anderegg, 1991)

Beliefs like these reflect a long-standing dominance of direct instruction that Heshusius (1991) described more than a decade ago.

> The measurement and control procedures of CBA/DI [curriculum-based instruction/direct instruction] are wide ranging. First, these techniques offer a framework for teacher preparation. . . . A survey of the methodological content of teacher training programs in learning disabilities (Pugach & Whitten, 1987) showed that up to 69% of programs surveyed fell into related categories of CBA, DI, and DBI.
>
> Second, CBA offers a set of procedures to use for student referral for special education services (Blankenship, 1985, p. 238). Third CBA/DI provide the methodology for research to show that a certain program "Works" (to name a few studies and overviews of research. (see, e.g., Bursuck & Lessen, 1987; Fuchs et al., 1984; Gersten, Carnine, & Woodward, 1987; Jones & Krause, 1988; Moore, 1986; Peterson, Heistad, Peterson, & Reynolds, 1985)
>
> Finally, it has been proposed that school psychologists master CBA as a way to save school psychology from sliding into the background – particularly in the light of the Regular Education Initiative and the resultant lessening of relevance of testing. (See Reschly, 1988.)
>
> The CBA/DI literature portrays its constructs and procedures as near-scientific tools to solve many of our assessment, instruction, student referral, and research problems. (p. 316)

Ramsey and Algozzine (1991) reported the same pattern of pedagogical dominance in their survey of 15 state competency tests. They found that knowledge of behavior theory and direct instruction was required for state certification in special education. Indeed, for most states in the survey, knowledge of behavior theory was required in the areas of behavior modification procedures (14 states), primary reinforcers (13 states), secondary reinforcers (13 states), schedules of reinforcement (14 states), punishment techniques (14 states), contingency management (14 states), backward chaining (10 states), and discrimination principles (10 states). Most states also required knowledge of direct instruction in such areas as task analysis and criterion measurement (14 states), task difficulty levels (14 states), learning rates (13 states), intentional learning and memory procedures (13 states), and massed and distributed practice effects (13 states). By contrast, only six of the 15 state tests required knowledge of self-instruction pedagogy.

This institutionalization of direct instruction methods in special education practice is also evident in introductory texts published today. Our review of 12 such

texts, for example, indicated greater coverage of direct instruction methods than coverage of student-directed methods (Friend & Bursuck, 2002; Gargiulo, 2003; Hallahan & Kaulfman, 2003; Hardman, Drew & Egan, 2002; Heward, 2003; Hunt & Marshall, 2002; Kirk, Gallagher, & Anastasiow, 2003; Lewis & Doorlag, 2003; Smith, 2001; Turnbull, Turnbull, Shank, Smith, & Leal, 2002; Vaughn, Bos, & Schumm, 2003).

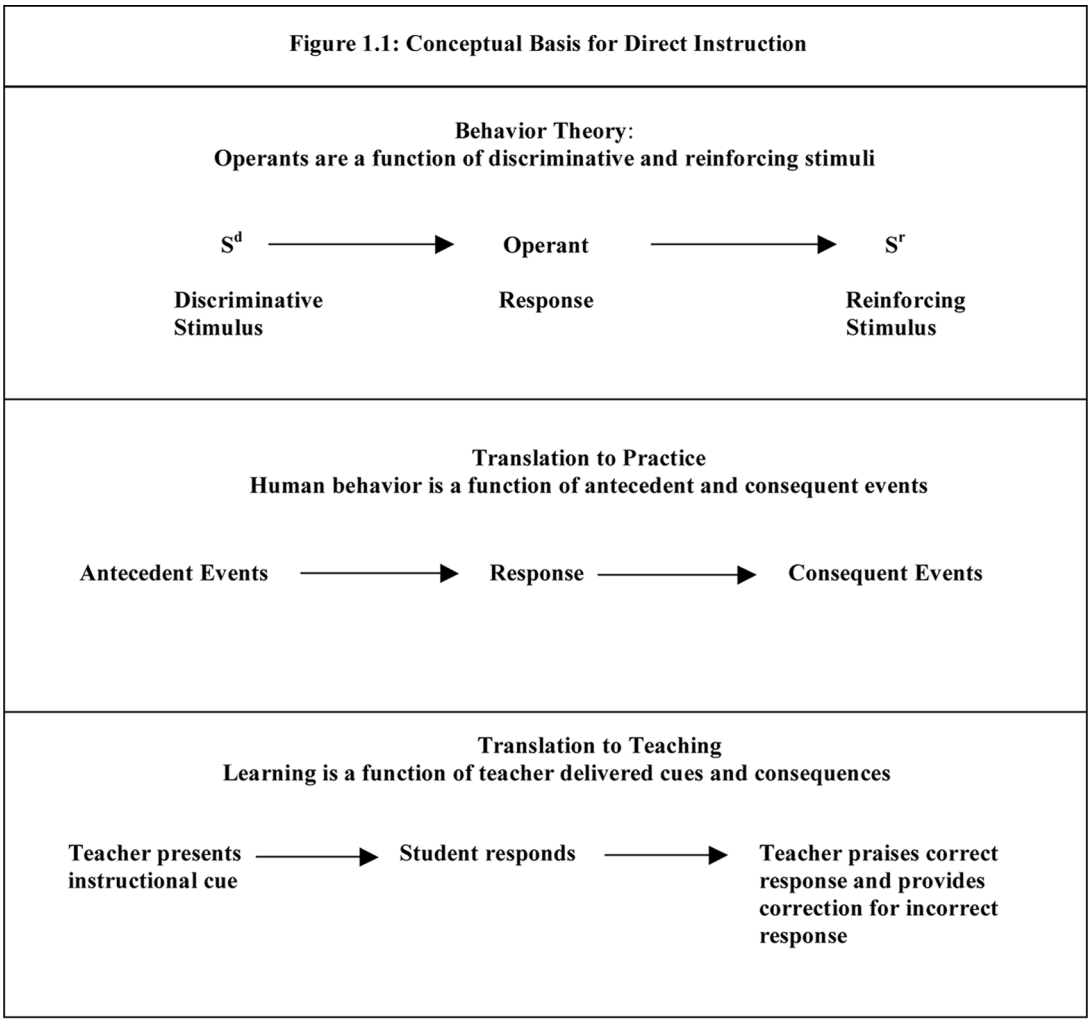
This chapter presents the theoretical, empirical, and practical reasons for direct instruction's dominance in special education. It compares these factors with equally robust theoretical, empirical, and practical reasons for adopting self-instruction pedagogy. The chapter concludes that self-instruction pedagogy would be the preferred approach among educators like yourself were they aware of its long-term, sustainable impact on students' prospects for self-determined learning and achievement in school and beyond.

What's the Theoretical Difference?

But before getting to this conclusion, we should remember that theoretical support for direct instruction was already in place long before the Education of All Handicapped Children's Act of 1975 required individualized instructional programs for every student with a disability. By then, the effects of direct instruction on student learning had been established by advocates of operant learning theory who used the theory's discrimination and reinforcement principles to develop teacher-directed methods of instruction (Holland & Skinner, 1961; Haring & Phillips, 1962; Bereiter & Engelmann, 1966; Englemann, Osborn, & Engelmann, 1969; Haring & Lovitt, 1967; Hewett, Taylor, & Artuso, 1969; Homme, deBaca, Cottingham, & Homme, 1968; Lindsey, 1964.

These innovative applications of the theory prescribed direct *control* of all components in a student's individualized program, which included (a) the presentation of salient instructional cues to increase correct responding, (b) immediate reinforcement of correct responses and correction of incorrect responses, and (c) continuous monitoring of response rates to evaluate the effects of that control on learning. These prescriptions in turn became central dictates of direct instruction. Figure 1.1 illustrates this correspondence between operant learning theory, applied behavior analysis research methods, and direct instruction. The first panel presents the operant theory claim that when discriminative stimuli provoke new responses and when reinforcing stimuli follow, future responding to those events is likely. The second panel presents that causal paradigm to describe applied behavior analysis research. The third panel presents the same defining sequence for direct instruction.

Looking back, it appears that these straightforward links between theory, research, and practice were imminently more useful for teachers than anything



available at the time, including self-instruction pedagogy. This was especially evident during the decade of the 1960s when direct instruction advocates were forging functional connections between theory and practice and self-instruction pedagogy was little more than a backup to be used occasionally. During this early period, self-instruction had no comparable theoretical backing for its role in developing self-directed learning. Contemporary theories by Luria (1960) that focused on language development in children, and by Miller, Gallanter, and Pribaum (1960) that focused on internal reinforcement mechanisms offered little help nor did the self-regulation models developed in subsequent decades (Jackson & Boag, 1981; Jeffrey & Berger, 1982; Kanfer, 1971; Carver & Scheier, 1983; Corno & Mandinach, 1983; Pesut, 1990).