

The Challenge of Individualized Instruction in Corrections

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Abstract

Given the apparent suitability of individualized instruction for correctional clients, it is surprising that uniform guidelines for implementing such instruction are not readily available. Also, results of systematically conducted programs are not routinely reported. In this article, we pose 14 challenges faced by correctional educators in implementing individualized instruction. Each challenge is developed in the context of available knowledge and our own experience in working with adult offenders. The hallmarks of individualized instruction are described with particular emphasis on a *systems approach* that includes: A theory-driven model of behavior change, specification of learning goals, assessment of skills, and a focused prescription of instructional lessons that promote and shape academic skills. Motivational tools also are a central component of effective systems. We argue that the successful instructional environment encourages students to become independent learners. This goal initially requires sustained and frequent attention by the instructor or learning manager to the student's performance and alteration of the prescription if lesson completion and post-test success are not occurring at a high rate. In addition to describing our own success with programmed instructional materials, we review other validated approaches such as Direct Instruction and Precision Teaching. We also suggest that some traditional instructional tools can be integrated with individualized approaches. The recommendations in this article should provide a basis for constructing a highly accountable and successful—educational program.

Strong evidence is accumulating that educational intervention has a positive impact on offenders (Anderson, Schumacker, & Anderson, 1991; Jancic, 1998; Jenkins, Steurer, & Pendry, 1995). Such programs may particularly benefit those who are substantially deficient in academic skills (Windham School System, 1994, cited in Jancic, 1998). However, many offenders have had very limited classroom success, and traditional instructional practices—recreated in an institution or residential program—are unlikely to yield maximum benefit.

In contrast, the potential of individualized instruction, particularly to remediate basic academic deficiencies, has been widely recognized by correctional educators and researchers (McKee, 1971; McKee & Douglass, 1971; Milan, 1999; Muse, 1998). A number of professional groups (ACA, 1991; CEA, 1996) also have officially endorsed many of the concepts associated with individualized instruction—for example, “individual pacing,” “programming,” and “flexibility.” However, the correctional literature provides no uni-

form description or list of characteristics that would help one to distinguish effective individualized instruction. Published reports of successful programs or “how-to” guides are in notably short supply. Nor do we find much discussion of the theoretical underpinnings of fundamental learning and behavioral principles or the use of essential measures of process and outcome. The available literature tends to be case-study oriented. Thus, the necessary building blocks for effective practice are not highly visible. It is perhaps time to merge theory and practice so that models can be tested and successful programs can be replicated.

In this article, we pose 14 challenges that correctional educators face in delivering high quality, individualized instructional programs. Each challenge is discussed in the context of available knowledge and our own experience in developing interventions for adult offenders. This work incorporates principles of applied behavior analysis and performance technology (cf. Gilbert, 1978). Additionally, we believe that integration of proven techniques into an *instructional*

system advances the goal of reaching the broadest spectrum of correctional clients. Below we describe the evolution of our work and others' in the context of these challenges and report promising strategies that can turn challenges into markers of success.

Challenge 1: Recognizing the Pervasive History of Negative Educational Experiences

Our own journey in correctional education began in 1962 at Alabama's Draper Correctional Center. At the time, the first author (McKee) was director of the state's community mental health program. From this vantage point he observed an increasing number of school-age referrals (mostly male) with behavior problems. Nearly all had one characteristic in common: *They were academic failures*, many hopelessly so. Unfortunately, the prognosis for these youth was continued failure. The fields of psychology and education had few instructional or motivational strategies to promote effective learning for these students. School attendance was painful and unrewarding.

We view this dilemma as a no-win situation—and as a telling example of both victim-blaming and the “punishment model.” First, as these students fall further behind, they are often judged responsible for their failure to learn. Second, the aversive, punishing school environment creates in these students two primary reactions—*escape* and *avoidance*. Many escape by dropping out at the age of 16, or even earlier. Those who remain may attempt to cope by acting out or by mentally disengaging from their role as student/learner. From this group of school failures comes the largest number of our juvenile and, eventually, adult offenders. Contemporary research has established the recurrent theme of school failure (McKee, Melvin, Ditoro, & McKee, 1998; Wolber & Banze, 1998) and the critical need for early intervention for high-risk youths (Mulvey, Arthur, & Reppucci, 1993).

Challenge 2: Applying Behavior Change Theory and Empirical Research to Instruction

In 1962, drawing from advances in behavior theory and its emerging applications to mental health and educational problems, McKee hypothesized that sustained success experiences would be a good antidote to past failure as well as a positive prevention measure. With this perspective, McKee visited Draper Correctional Center and met its progressive warden, John C.

Watkins. Watkins had a similar view: The offenders in Draper had a long history of failure not only in school, but in family living, work, and in their community. “They’ve even failed in crime or they wouldn’t be here,” he remarked.

McKee proposed a program to intercept this chronic condition by giving these inmates the opportunity to succeed in the very area where their failure history had begun—academics. The work of B.F. Skinner (1954), who had applied the principles of positive reinforcement to the organization and delivery of academic subject matter, seemed quite relevant. Skinner had “programmed” some material in math and language and invented what he called a “teaching machine.” This device presented material in the form of “frames”—a small amount at a time—and required the student to respond actively to each frame by composing correct answers. This instructional format, with its associated immediate feedback and “shaping” of skills, was highly motivating and effective in teaching basic academic material.

After the success of an experimental demonstration project, McKee obtained long-term funding from the National Institute of Mental Health (1962-1968). The second author (Clements) joined the project in 1963 as its first “college corpsman”—a kind of prison-based, summer “Peace Corps” experience. He continued full-time for two years after graduation and maintained contact thereafter. In 1964, the Draper Project (as it became known) also received Manpower Development and Training funds from the U.S. Department of Labor and the U.S. Office of Education to extend the principles of individualized instruction and motivational support from basic academic skills to the critical area of vocational training. In 1968, this project was designated the Experimental Manpower Laboratory for Corrections (EMLC).

Challenge 3: Responding to the Diversity of Offenders' Deficits, Skills, and Goals

Across the U. S., prison officials have described educational assessment as one of the essential components of offender classification (Clements, 1986). These assessments establish what correctional educators have long observed—the incredible diversity of offenders' emotional structures, aptitudes, adaptive behaviors and educational backgrounds. A given offender may have huge gaps in some academic areas and be fairly strong in others. This diversity across

and within individuals is the fundamental impetus for individualized instruction in corrections. Offenders also differ in their educational goals—whether self-selected or urged on them. Correctional and educational assessments must identify deficits in relation to specific target goals. The value and aim of individualized instruction is to respond to those highly unique profiles.

We have found a useful guide in the formula: $G - E = D$ where G is the instructional **Goal** (e.g., a certain grade level score in math on a standardized test), E the **Entry** skills of the student in a given academic area, and D the difference between G and E, or the student's **Deficits**. These specific deficits are, in turn, the basis for the instructional prescription. Coming full circle, carefully selected individualized instructional materials usually provide the most promise of remediating the deficits, especially in the context of crowded classrooms attended by diverse students.

The same general formula also can be applied to other teachable skills. We are aware, for example, that many writers have called for an expansion of traditional academic programs to include "applied life skills" (e.g., Miller, 1997). Resume writing, job search, understanding credit issues, and parenting skills are examples of life skills for which individualized instructional materials are increasingly available. Tailoring these programs via the Goals minus Entry equals Deficits formula ($G - E = D$) noted earlier seems a logical next step. In the larger correctional context, matching treatment interventions to specific deficits is a widely accepted objective of offender classification (Andrews & Bonta, 1998; Clements, 1996). Although understanding and responding to every nuance of an offender's profile may not be possible, or even desirable, the goal of individualized treatment is well-founded.

Challenge 4: Identifying Effective Materials and Strategies that Support Individualized Instruction

A chief shortcoming of some educational approaches is the uncertain relation between the instructional materials or methods selected and the student's specific deficits or target skills. In the 1960s, we began to address this concern by developing an early version of what was to become the Individually Prescribed Instructional System (IPIS)©, a system now in use by numerous correctional institutions, public

schools, day treatment and adult education programs. The Individually Prescribed Instructional System—IPIS—is a prototypic but still evolving model of individualized academic instruction (McKee, 1974). Initially, we had access to programmed lessons that were highly varied in quality and limited in number and scope. (Some 400 programmed lessons were available commercially by 1964; another 2,000 appeared over the next four years.) To compensate for notable gaps, project staff received training in order to develop materials to teach needed skills. Our materials had these features that drew upon behavior science principles:

- Skills were "shaped" by small steps.
- Active responding from the student was required.
- Feedback was given immediately following each response.
- Error-free learning was approximated.
- Programmed materials, commercially developed or our own, were evaluated for their capacity to teach.

As staff became more skillful and as better commercial products emerged, more complex techniques such as generalization and discrimination learning were included, and students were required to display a higher level of understanding.

Learning materials were not prescribed in an across-the-board fashion. Fortunately, such assessment tools as the Tests of Adult Basic Education (TABE) allowed for entry-level assessment of each student:

- *Specific* deficiencies in each academic area were identified and recorded (e.g., deficits in multiplying and dividing fractions; incorrect use of quotation marks).
- Each student's deficiencies were determined in relation to the student's goal (e.g., mastery of the skills measured by the TABE or passage of the GED Test.)

Assessment results were then translated into an intervention plan:

- A personalized prescription was developed consisting of numerous *small* programmed modules in math, reading, and language that would teach needed skills. Relatively short, discrete modules allowed frequent task completion—a powerful reinforcing event for most students.

Close instructional monitoring and management were built into the system.

- As each module or lesson was completed, the student was administered a test to confirm mastery. Mastery was defined as 90% or higher.
- When the student's prescription was completed, a comprehensive posttest was administered. If selected deficiencies remained, another, focused prescription followed, and the same or, preferably, alternate modules were administered.

As will be obvious in our discussion of several of the following challenges, these components have formed the backbone of IPIS and related instructional systems. A thorough review of the history and success of programmed instruction is provided by Vargas and Vargas (1992).

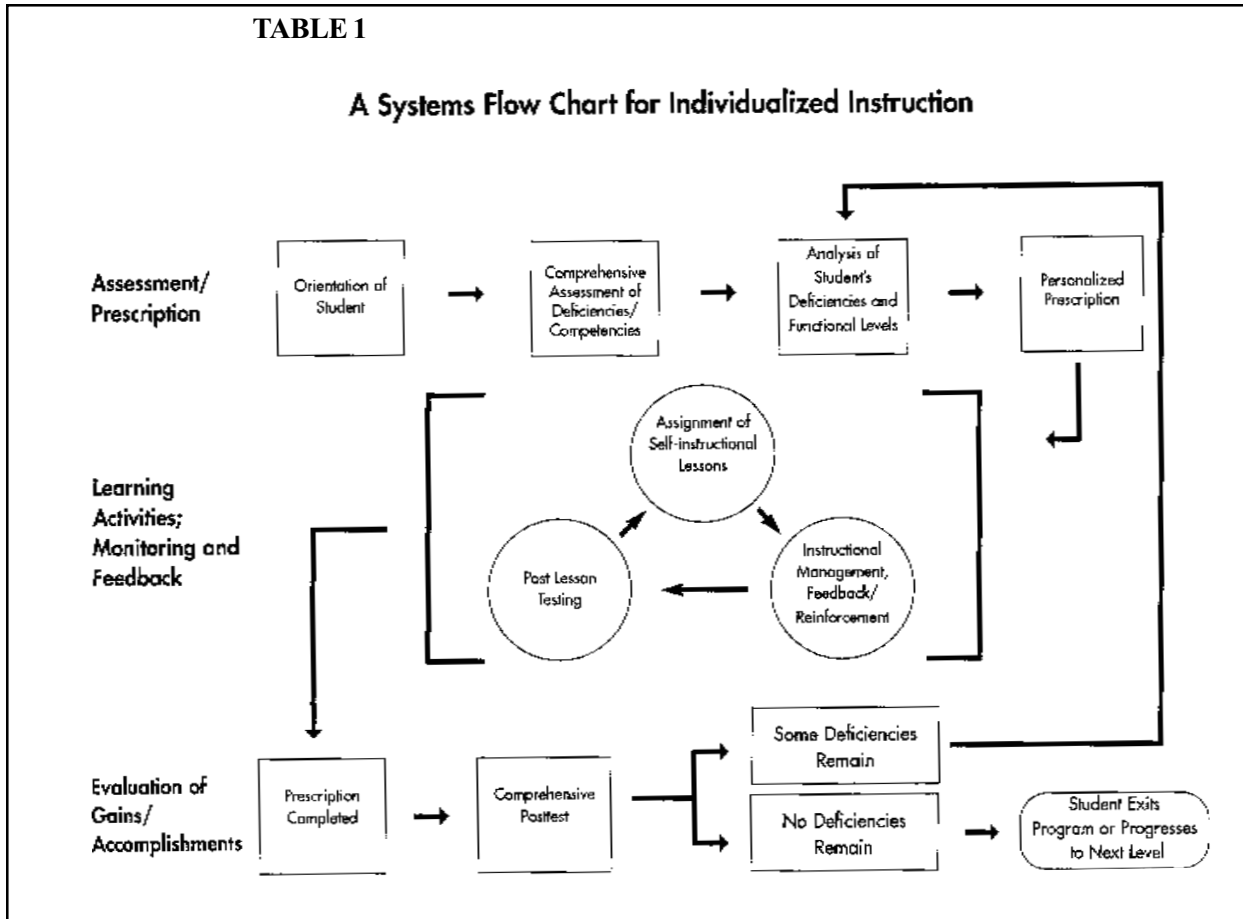
Challenge 5: Combining Successful Components into a Systems Approach

The steps we followed early on have elements of a *systems approach*, briefly defined as a series of in-

terconnected processes that provide both guidance and feedback to other elements of the system. In the educational context, this would include:

- (1) Orientation of the student to the instructional approach and plan,
 - (2) specification of the instructional goal,
 - (3) a detailed assessment of current skills and deficits,
 - (4) a highly focused prescription of proven instructional lessons or technologies,
 - (5) continuous evaluation of student progress, and
 - (6) strategies to respond when such progress is below target objectives.
- Also critical are motivational tools such as "contingency management," frequent positive feedback, and high rates of active, successful responding (Homme, 1969; Lindsley, 1997). These elements encourage and shape both academic knowledge and skills and the increasing persistence of learners who have rarely succeeded in the classroom.

This systems approach to instruction described above is depicted in Figure 1. To be most useful, the actual instructional resources within a system must be sufficiently diverse to accommodate a wide spectrum of learners.



Challenge 6: Collecting and Using Outcome Data

How effective is this instructional approach? Assessment of the early stages of the IPI System goes back at least three decades. At that time, we documented relatively rapid learning, high levels of inmate motivation, and sustained performance (Clements & McKee; 1968; McKee & Clements, 1971). When performance incentives and learning contracts were added, inmates doubled their lesson completion rate (compared to baseline) and test performance actually went up. Their academic success and accelerating pace were equally impressive when they set their own daily goals as when assignments were teacher-directed. Now, as then, the critical questions of instructional effectiveness can be addressed only by collecting and analyzing *outcome data*. Such data, e.g., number and rate of lessons completed, percent correct responses, posttests passed, and grade-level gains, should be a natural byproduct of an individualized instructional system.

In a typical educational prescription, adult offenders are assigned sequential modules in several subject areas, e.g., punctuation, spelling, measurement, and vocabulary. As noted, these are prescribed following an individual assessment of deficits in fundamental

skills. Student success in the early phase of a prescription serves as a backdrop to more advanced instruction. In our experience, even poorly prepared offenders in a minimally adequate instructional environment typically gain a full grade level in all areas of instruction in 60-75 hours of study time. More ambitious goals are quite realistic; the majority of inmate-students make rapid progress, e.g., one grade level per 30 hours of self-instruction. This fast-paced learning is fostered by the availability of *on-target, validated instructional materials* in a classroom setting that *focuses on results* and which provides *close monitoring* and *systematic reinforcement of student performance*—in short, a systems approach.

Subsequent studies using the IPIS as well as second- and third-generation instructional systems have been conducted, not only in corrections but in other settings where clients (or employees) have marked learning deficits. These studies continue to support the viability of a systematic, individualized approach to instruction. Table 1 presents a sample of performance data recorded at several sites in Alabama, Mississippi, and Texas. As in this example, it is informative to register the achievement of grade gains within a given time frame, e.g., hours of instruction.

Table 1. Results from Sites Using Individualized Instructional Materials-1998*

Site	Type of Student	Program Duration	Deficiencies	Results
Lincoln Street Alternative School, Texarkana, Texas	Alternative students Grades 8 – 12	1 semester, 3 hours/wk.	Average grade levels behind: 3.3	Average grade levels gained: 1.7
Community Intensive Treatment for Youth (C.I.T.Y.) of Alabama	466 adjudicated delinquent youth	7 months: 3 hours/day	Average grade levels behind: 3.4	Average grade gained: 1.0 per 5 weeks of study
Tuscaloosa, Alabama, City and County Schools Accelerated Skills Program	110 middle school students	6-week summer program 3 hours/day	All had failed the 8 th grade and were expected to repeat the grade.	No. students promoted to the 9 th grade: 105 Reading gain: 1.5 grades Math gain: .5 grades
Decatur High School, Alabama (Comparison of students in PACE Lab versus students in regular classroom)	139 11 th /12 th graders in PACE Lab 141 in regular classroom	One Semester 1.5 hrs. per day	All had failed at least one section of the Alabama High School Graduation Exam. (Reading, Math, or Language)	Percent of PACE students passing exam: 78.8 % Regular students passing exam: 45.5 %
Central Alabama Skills Center Summer Enrichment Program (JTPA) Tuscaloosa, Alabama	197 high school students	29 days, 4 hours/day 116 hours	Average Reading pretest score: grade level 5.1 Average Math pretest score: grade level 7.0	Average Reading posttest score: grade level 7.4 (grade level gain: 2.3) Average Math posttest score: grade level 8.8 (grade level gain: 1.8)
HOL-MAC Manufacturing Company, Mississippi Workforce Training	51 adult workers	Avg. hours in PACE Lab: 16.7	Reading, Math, and Language deficiencies	Average grade levels gained in Reading, Math, and Language: 2.0

* Source: PACE Learning Systems; additional details available.

In an adult site such as HOL-MAC (a Mississippi company that manufactures parts for tractors), gains are comparatively greater than those in settings comprised of youth. HOL-MAC identified a problem of employee turnover, principally because many new hires lacked skills in reading and basic math. In response, an individualized learning lab was established, and students were informed that HOL-MAC would pay workers their normal wages for a maximum of 50 hours of study. This arrangement apparently provided incentives sufficient for initial participation which was then reinforced by the employees' academic successes.

Challenge 7: Selecting a Valid Instructional Approach

The first requirement of a valid instructional system is the selection of effective instructional materials—materials that, ideally, have been field tested before being incorporated into a comprehensive system. Unfortunately, pre-testing has not been fully adopted into educational standards, and data from such tryouts are rarely included in teacher's manuals. Not only should materials and techniques be supported by such research findings, it is also important to know whether specific materials (lessons, modules, etc.) teach the targeted knowledge and skills. Our recommendation is that if such validating questions have not been addressed, then correctional programs should carefully evaluate materials before they are widely adopted.

Instructional materials are but one, albeit important, element of a validated system. We suggest that correctional educators should raise the following additional questions and issues when considering any instructional approach:

- *What skills will students be able to demonstrate at the end of given periods of time?*
- *What "formative" measures of student progress are to be used?*
- *What "summative" measures are used to evaluate learning outcomes?*
- *What functions or behaviors will instructors engage in while students are learning?*
- *What techniques are described to sustain student motivation?*
- *Are there instructional materials for all levels of skill and ability?*
- *Are materials well within the reading capability of targeted students?*

Is the chosen approach able to reach desired objectives in a cost-effective manner?

Given the tight constraints of most correctional education budgets, the total costs of an approach, including adequate funds for staff training, should not exceed the relative benefits expected. Approaches that are capable of achieving significant improvements for the greatest number of students should be given priority.

Challenge 8: Actively Monitoring Student Progress

Individualized instructional systems cannot be passively managed. Effective implementation requires us to consistently follow established procedures, especially those of data collection and continuous feedback. Such data might include average times for module completion. We have found that the optimum length of an instructional module is one that permits the student to complete it in approximately 20 minutes to one hour. As we demonstrated in 1968, inmate students will increase their rate of learning if academic success and other reinforcers are delivered at high rates (Clements & McKee, 1968). Thus, a major incentive—lesson completion—is put to best effect when short unit tests are given very frequently. These and other reinforcers (see Challenges 10 and 11) are, in turn, made directly contingent upon student performance. To come full circle, such high rates of success are likely only if materials teach effectively and are targeted specifically toward the individual learner's deficits.

The instructor or learning manager must be informed constantly about the learner's progress and be prepared to make quick, timely modifications in prescription, motivational techniques, or other factors effecting performance. If a student requires an inordinate amount of time to complete academic assignments, we have found that the problem is likely one of misdiagnosis, usually in reading skills. Since the IPIS and most other materials or systems rely primarily on written lessons requiring approximately a 5th grade reading level, those who are below this level will experience difficulty completing modules, not only in reading but also in math and language. Such students should first enter a literacy program that will bring them to the 5th grade reading level. Direct Instruction, a technology reviewed later in this article, has been successful with such basic skills training. In our experience, once students can read at this level, they are much more likely to become *independent learners*.

Challenge 9: Creating Independent Learners

The concept of the independent learner is a valuable one. Raising the level of performance to that of independent learner should be an objective for as many students as possible. If students can read and comprehend materials with minimal aid from an instructor, then constant tutorials and imprecise, sometimes unnecessary, group instruction can be avoided. The instructor may be freed from teaching many basic concepts such as subject-verb agreement, the multiplication tables, and new vocabulary, and will, instead, have time to monitor performance, speed up the acquisition of skills through special motivational techniques, and provide a reinforcing presence to students who most need it. In this conception, teachers add a new and powerful role to their portfolio, namely, the ability to organize and promote learning for a widely diverse group.

The goal of creating independent learners is more readily achieved in a system that permits self-paced instruction. Students can pause or accelerate when they wish to. Self-direction and “ownership” of learning is promoted. Independent learning reflects the often unstated goal of many educational ventures, i.e., that students gain the academic tools with which to build additional knowledge and pursue more advanced study.

The role of the instructor in a self-instructional format requires intensive involvement in motivating and supervising students and evaluating progress. This role change can create a cost savings on instruction that would otherwise require direct delivery by teachers or tutors. Materials and strategies to promote effective independent learning rely heavily on skill-specific lessons, active responding, and means for reinforcing feedback at a level that will sustain interest and enthusiasm. It should also be apparent that effective teaching materials, prescribed to fit the learner, make it much easier to use the services of non- or paraprofessional volunteers as educational adjuncts.

Challenge 10: Developing a Positive Reinforcing Environment

Even the most sophisticated and effective individualized instructional materials will not guarantee sustained performance, particularly for those learners with mixed or predominantly negative experiences. A chief concern is how to generate and maintain moti-

vation. Educators perennially discuss student motivation, and many books have been written on the subject. One perspective, held by professionals and laypersons alike, assumes that motivation is solely an internal state. The student must really “want” it—in some cases, badly enough to overcome poor instruction. However, the overwhelming conclusion of behavioral research is that sustained, goal-directed performance—i.e., motivation—is directly enhanced by success experiences and diminished by failure experiences (McKee, 1998; Skinner, 1968). Thus, a major source of motivation, classroom or otherwise, is a history of *positive reinforcement* for the desired behaviors.

During the early stages of acquiring new habits and skills, the more frequently a person receives reinforcement, the greater his or her willingness to continue. This is technical confirmation of the old saw, “Nothing succeeds like success.” The inmate-learner, often a school dropout, has had little success, and the correctional educator must compete with this negative learning history. The principal tool for promoting student performance is positive reinforcement. To be effective, the positive consequences administered by the instructor must be carefully and systematically applied and must be performance-contingent. An extensive literature exists on the application of reinforcement principles (Chance, 1998; Gardner, et al., 1994). As we have noted, effective materials and instruction will prompt active, usually correct responding. Supplementing this instructional success with visual and other forms of recognition is easily accomplished.

Nevertheless, many offenders show low rates of sustained on-task study behavior—not a surprising finding given that most have a long history of receiving reinforcement for being *off-task*. They have typically sought and have been reinforced by an environment that places few demands on them while avoiding academic tasks. Although this behavior pattern might suggest a diagnosis such as attention deficit disorder or learning disability, the correctional educator should realize that, for many inmates, sustained study is a complex skill. As with any new behavioral repertoire, it must be gradually “shaped” through reinforcement of approximations (small steps) toward being on-task for longer and longer periods of time. The frequent collection and analysis of student performance data will identify those students who require special management and support for developing sustained study patterns.

Challenge 11: Using a Range of Research-Based Tools to Maintain High Levels of Student Motivation

Motivation also can be enhanced by employing *contingency management* techniques, such as the use of progress plotters, reinforcing “menus,” point systems, performance contracts, and token economies (Clements & McKee 1968; Homme, 1969; Milan, 1988; Milan & McKee, 1974). These techniques harness a wide range of reinforcers that students “earn” based on performance. Achievement gains themselves can generate interest in the subject matter and then permit fading of such contrived reinforcers. In time, natural reinforcers for academic accomplishments can include access to new reading sources, discussions with others, short-term goal attainment, and new-found sense of mastery.

All educators, counselors, and other helping professionals would prefer students and clients to be highly motivated. These students are usually more successful and thus reinforce our own efforts. More typically, we face clients whose motivation is low or inconsistent, and we must accept the challenge of increased motivation as a program goal. Students often lack confidence in their ability, have few study skills, and aren't convinced of the payoffs. A system of individualized instruction directly confronts these demotivating barriers by:

- Raising confidence through rapid and frequent success feedback,
- Making the educational payoffs more immediate and visible through the achievement of short-term prescription goals, and
- Directly teaching study and self-management skills.

Although long-term incentives, such as GED completion, are not to be ignored, they typically are not sufficient for the sustained, daily motivation needed by many remedial learners. Such remote consequences have little effect on behavior unless more immediate reinforcers have been constructed to bridge the time gap. A history of boredom or frustration in the classroom is also counteracted by the insistence on *active and interactive responding*. Active participation has long been recognized as an antidote to the humdrum often associated with inefficient learning.

Challenge 12: Staying Abreast of Other Research-Based Instructional Developments

We have emphasized programmed instruction (PI) in the *systems approach* described in this paper. Major strengths include PI's capacity to address a wide range of skills, to accommodate students—side-by-side—with marked variation in their deficit profiles, and to promote active participation with frequent feedback (Vargas & Vargas, 1992). Our own work helped establish PI's efficacy in corrections. Other effective instructional methods have been described, all based on behavioral and learning principles and validated by careful, controlled study. These include Direct Instruction (Englemann & Carnine, 1982), and Precision Teaching (Binder, 1996; Lindsley, 1997). Potential ways of combining these methods have also been described (Binder & Watkins, 1990). These methods, like PI, gain the most power in a well organized and well managed individualized systems approach.

Direct Instruction (DI) emphasizes scripted and sequenced instructional material presented by an instructor to a small number of students (6 to 10). DI arose from studies of Bereiter and Englemann (1966) at the University of Illinois. Their experimental approach to instruction was later fused with behavior analysis by Becker and Carnine (1980). The central visible features of DI include frequent responding by the students as teachers and aides follow scripts in an active, highly participative classroom. These scripts are developed from a logical analysis of what is to be taught. “Teach more in less time” is an additional DI operating rule that dictates highly structured procedures (Becker, 1992). DI now purports to be “a systematic approach to the design and delivery of a range of procedures for building and maintaining basic cognitive skills” (Becker, 1992, p.71). Research shows that learning is fast, effective, and generalizable (Kinder & Carnine, 1991; Tucci & Hursh, 1994; Weisberg, 1994). Although DI has been administered primarily to younger students, more adult DI materials are now being produced.

Precision Teaching (PT) is a precise and systematic method of evaluating instructional tactics (West & Young, 1992), drawn from principles developed by Skinner (1968). In the late 1960s, Ogden Lindsley at the University of Kansas began an intensive effort to make these principles particularly relevant and useful for teachers (Lindsley, 1972). PT includes a set of measurement procedures for direct and daily moni-

toring. The following steps characterize PT: (1) Specify target behaviors. (2) Count and chart behaviors. (3) Select and arrange reinforcing consequences. (4) Establish tight procedures to cue appropriate learning activity. (5) Design total instructional environments by using the teacher plan form. (6) Program a shift in control from teacher management to student management.

These procedures are quite consistent with the systems approach we described earlier. A central facet of PT is counting and charting the behavior to be developed or modified. Applied to academic learning, PT concentrates on skill development beyond the usual definition of mastery, e.g., 70%-100% accuracy in un-timed performance conditions, and instead takes the student to a higher level of responding, called "true mastery." Students attain very rapid production of correct performance, referred to as *fluency* or *automaticity*. A ready example of fluency is the rapid reciting of multiplication tables. PT, however, may speed this recitation to even higher rates of error-free responding. It is also applicable to a wide range of important academic proficiencies.

PT has had a slow and not so steady adoption by public education, perhaps because it requires considerable training and experience to become an effective PT teacher, and also because its undergirding principles are not well understood or accepted by mainstream education. However, its effectiveness has been repeatedly demonstrated by skilled PT practitioners (West & Young, 1992).

Challenge 13: Integrating Traditional Tools with Individualized Instruction

Most correctional educational programs use a mixture of traditional and individualized activities. For example, many employ objective measures of accomplishment (e.g., TABE) or use criterion-referenced checkpoints (lesson posttests) to evaluate short-term progress. At the same time, some of the most essential features described in this paper—immediate feedback; self-pacing; fail-safe instructional materials—are often missing. As we have emphasized, a diagnostic-prescriptive system that provides targeted instruction and frequent success feedback is probably ideal for the diverse, often poorly-motivated, under-performing offender population.

What about "traditional" instruction? As long as we remain focused on results, i.e., academic achieve-

ment, the selection of materials—"traditional" or otherwise—will be based on whether they serve that purpose. Generally, standard textbooks have had few of the features of individualized instruction. Their pitfalls are primarily the result of encyclopedic coverage with minimal attempts to integrate material. Another difficulty of traditional instruction lies with its lack of timely feedback to the learner about his or her progress. We think textbooks are particularly problematic for learners whose independent study skills are lacking. For these students, mere exposure to material does little promote mastery and generalization.

Traditional workbooks are one step closer to individualized instruction but usually lack the "front-end analysis" (the diagnostic procedure) of a systems approach. How does one know where to start? Must the whole workbook be done? Most workbooks also fail to supply the rapid feedback of responses essential for learners with marked academic deficits and poor tolerance for open-ended study. On the other hand, many workbooks provide assessments at the conclusion of an instructional unit to determine mastery. But most are not built around other central learning principles such as prompting (providing cues that help the learner build on a previously mastered fact or concept) or fading (gradually withdrawing cues now unnecessary to prompt correct responding).

The correctional educator need not give up methods that may work best for certain topics or issues, e.g., group discussion, exercises and activities, or demonstrations. In addition, the computer software boom, interactive CDs, and the like can also be harnessed. A number of computer-based PI materials have been developed, including those we have recently used in remedial and basic skills instruction. Technology-based instructional materials, whether primary or supplemental, are soon to be a major force in education. The attractiveness of computer-based learning includes its capacity for self-pacing. Frequent concept checks and review may promote more effective learning. Instructional software also can be a boon to data collection and feedback for individuals and an entire class. However, as is true of any teaching material, delivering it via computer is no guarantee of broad effectiveness. For example, instead of "shaping" by reinforcing successive approximations toward a target skill, many computer-based lessons merely present a concept or operation and then request the student to solve a variety of complex examples. This strikes us as an interesting enrichment activity for advanced, highly

motivated, and independent learners but not one based on the learning principles so central to basic and remedial skills acquisition.

Challenge 14: Meeting the Requirements of Accountability

It should be clear from the evidence and the tone of our remarks that “results” is the proverbial bottom line. To date, correctional educators in general have been neither required to nor sufficiently convinced of the need to demonstrate the effectiveness and efficiency of their instructional programs. Simply put, educators are not frequently reinforced (via pay, commendations, or other perks) directly for student accomplishment. The accountability movement so apparent in public education will undoubtedly soon influence how correctional educators teach and manage their students. Resources are limited, additional funds for programs are hard to obtain, and more offenders may need to or be expected to enroll. These are times that demand effectiveness and efficiency. The individualized instructional approaches described in this paper are directly responsive to these demands and are consistently supported by research data.

In a well-designed systems approach, virtually all participating students can succeed. Staff can be trained to monitor performance and to effectively apply motivational techniques. With these approaches in hand, correctional educators can produce results that will measure up to the challenge of efficiency and meet the increasing demands of accountability. Moreover, they can concentrate on preparing offender-students with valuable skills, knowledge, and positive learning attitudes that promote successful reintegration into the community.

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