Data Analysis Manual

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Zig Engelmann on Mastery

"The basic assumption that drives specific details in this manual is that the job of instruction is to induce mastery at a relatively high rate**. The key is mastery.** Students do not benefit from exposure; they do not benefit from working on something or struggling with it—unless they achieve mastery. Everything that is mastered serves as a building block for further learning. Everything that is not mastered is mislearned and serves as an impediment to the learning of skills and concepts that are related to the mislearned concept.

Our goal is to induce mastery as fast as we reasonably can. And if we do it, we will not merely accelerate students; we will change them. We will make them smarter because we will increase their capacity to learn new material. If we do it the right way, we can start with low performers in kindergarten and by the end of fourth grade have virtually no low-performing students.

But these changes will happen only if we direct all our efforts to achieving mastery as fast as we can comfortably achieve it. Note that this requirement does not mean that we turn the school into a sweatshop or that we push students beyond very comfortable placement. As soon as we push too hard, we actually reduce the rate at which students are able to achieve mastery. The ideal setting is one in which the students are challenged, in which they work hard, and in which they are placed appropriately and receive plenty of reinforcement for showing off what they can do."

All the details in the National Institute for Direct Instruction (NIFDI) sites are designed to facilitate mastery, both of students and teachers (*). Unless we train teachers to be highly competent, students will not meet performance projections. The goals of the Direct Instruction (DI) implementation are to focus on the student, train teachers to achieve mastery, monitor mastery, make the rate and quality of mastery very visible, provide schedules and procedures to enable all qualified teachers to achieve mastery, and celebrate academic achievement.

Therefore, the **goals of coaching** are to:

- Focus on the student
- Train teachers to achieve mastery
- Monitor mastery
- Make the rate and quality of mastery very visible
- Provide schedules and procedures to enable all qualified teachers to achieve mastery
- Celebrate academic achievement

(*) “teacher” refers to anyone who implements DI programs, whether paraprofessionals, classroom teachers, school counselors, parents, or others.

Introduction to the Coach's Role

In a Direct Instruction (DI) implementation, teachers carry out many procedures to help students achieve mastery. Teachers need to be proficient at helping students to be accurate and fluent on what has been taught, accelerating students when appropriate, and being efficient with time. Ultimately, teachers are responsible for all details of teaching: grouping students, following effective schedules, teaching and firming the full range of students in all subject areas, and managing and reinforcing students so they are excited about learning. However, in a full-immersion implementation, building-level or district-level facilitators or consultants providing internal or external support carry out or oversee many of these details. (In NIFDI, they are called building coordinators, implementation managers, and project directors.)

In a DI implementation, the coach is the key person who assists the teacher in bringing students to mastery. The role of coach could be carried out by a principal, project director, implementation manager, building coordinator, grade-level peer, or cross-grade level peer. Coaches share responsibility for students and teachers being successful by assisting the teacher to achieve a classroom environment where students are learning rather than mislearning. The coach is a teacher of teachers, a guide, a model, and a helper. The coach is not an evaluator. Instead, the classroom teacher and the coach work together to achieve and celebrate the successes of the students, to identify problems that prevent or delay successes, and to construct solutions that will solve the problems. Problems always refer to student performance that is less than desired. Solutions always reference what the teacher needs to do to solve the students' problems.

Coaches and teachers must have a very special attitude about problems. Statements that identify student performance problems are not statements of blame. It is important to treat problems simply as indicators of what must be changed and to treat such problems with urgency. Remedies must be implemented right away because the longer things are not as they should be, the more difficult it will be to change them. If problems are solved as soon as they occur, progress will be satisfactory and both the number and severity of the problems will diminish as students progress through instructional sequences. Unless teachers and coaches focus on identification and resolution of problems, however, this goal will not be achieved. The longer students are confused about how to perform a mathematical operation, for example, the further "over their heads" the students will be and the more elaborate the remedy will need to be. Thus, in a DI implementation, coaches and teachers must have a problem identification and solution orientation.

In a NIFDI implementation, stakeholders come together weekly on the phone to identify and discuss problems and assist each other with solutions. During the weekly conference call, this problem identification and solution orientation is critical.

A. Responsibilities of Coach Level A

During the first year of a full-immersion implementation, coaches serve to identify problems in a timely manner, present solutions suggested during conference calls or in coaches' meetings, and follow-up after solutions have been implemented to document that problems have been solved. First year coaches do not construct remedies or do interventions in classrooms. Level A coaches examine student performance mainly by looking at written records and talking with teachers. Level B coaches spend more time working in classrooms. The goal for a Level A coach is to identify problems and explain them in enough detail to permit someone else to specify a reasonable solution. Level A coaches should not communicate problems and/or solutions to teachers until they become skilled at identifying and describing problems and can reference the problems to student performance.

The coach might also fill another role in the organization. The coach could be the principal, the building coordinator, or a consulting teacher. He/she might also be the implementation manager, the project director, or a specialty consultant. Therefore, classroom teachers and their students may work with different people acting as coaches. Regardless of what other roles the coach fills, actions taken as a coach must be communicated to and filtered through the implementation manager or someone the implementation manager designates. The implementation manager is responsible for the site and, in collaboration with the building coordinator, monitors the coaches' schedules and actions.

B. How to Get Started

Before the Level A coach begins working with teachers, the school has already made attempts to make the following true:

1. Teachers have all necessary Direct Instruction materials.
2. Teachers have adequate schedules for teaching each subject.
3. Students are grouped according to their skill levels and will be regrouped on a regular basis.
4. Students are placed appropriately in programs. In addition, teachers provide seatwork at the same level as students' instructional placements.
5. Teachers received preservice training, during which they learned standardized procedures for teaching Direct Instruction lessons, mastery techniques, and general rules for grouping and regrouping students.
6. Teachers know criteria for lesson progress and for mastery and are keeping written records that demonstrate whether these criteria are being met.
7. Teachers, coaches, and implementation managers have had preliminary conversations about looking at data together and about how important identifying problems is. These teams have agreed to the problem-solution orientation; they are also committed to celebrating student learning together.

If the above statements are not true, these items must be worked on before proceeding with the coaching tasks. Most importantly, a Level A coach should not begin problem solving, improving written records, or rehearsing with teachers who have not been through preservice training. If a teacher was hired late and missed the scheduled training, then an alternate training must be arranged before coaching can be effective.

If the above statements are largely true, coaches may proceed with tasks described in the following sections.

C. Problem-Solution Orientation: Focus on Student Performance

The most important part of the coach's job is to identify problems in student performance and to implement remedies that will solve the problems. The word "problem" must be interpreted differently from what you might think. To identify a problem means to find aspects of student performance that are not as they should be, not to be picky or procedural about unimportant details of the teacher's way of teaching. Sometimes, coaches describe problems that are not problems. If there is not a problem with student performance, there is not a problem. Conversely, even if the teacher looks like he/she is doing very well, but students are not achieving mastery, there is a problem. **The problem is found by focusing on student performance.**

To keep the focus on student performance while identifying problems, first look at written records of student performance and pay close attention to what you see. Not all problems have to be identified by being in classrooms with students present. When you see (a) a group of students achieving 100% on mastery tests for many weeks (e.g. nine or ten weeks in a row), (b) a group of students consistently completing checkouts in half the time required, (c) students making errors on mastery tests week after week, (d) individuals reading at less than desirable reading rates and/or with too many errors, (e) groups at a performance level lower than mastery, (f) groups completing too few lessons, or (g) individual students completing independent work at a low level of performance, you are seeing a problem.

Talking with teachers without children present can also be useful for identifying some problems. For example, a teacher might tell a coach that a student who has moved into the group from another school isn't firm on sounds, yet the group is in Reading Mastery II. The teacher has been very specific about the problem and you can bring the problem to the weekly conference call or coaches' meeting without needing to go into the teacher's classroom to observe.

On the other hand, while looking at written records such as the LPC, you might see what looks like a problem, but won't know for sure until you talk with the teacher, have someone observe in the classroom, or look at other written records. For example, a discussion on the phone conference call or in the weekly coaches' meeting that raises questions about retesting students who failed a mastery test may require someone to work individually with a particular child.

While describing problems to others, continue to focus on the students. The temptation is to first name problems with the teacher or the environment and find blame. Even after coaches have data sheets that focus on students, the temptation is strong to report a problem by talking about the teacher first. “The teacher doesn't get enough lessons done in a week”. Instead, first describe student behavior, and then talk about the related teaching or structural details. “Students aren't completing as many lessons as they need to be—having to schedule art twice a week during the reading time is getting in the way of teaching a new lesson every day.” Describing a problem with students as the focus makes the solution more obvious. Your ultimate goal as a coach is to learn to **describe problems in enough detail that your description implies the solution**.

