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An effective, research-based instructional approach to meet the needs of all students: Direct instruction. The case for employing direct instruction in America's schools

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An Effective, Research-Based Instructional Approach to Meet the Needs of *All* Students: Direct Instruction

The case for employing Direct Instruction in America's schools: Examples and explanations for administrative personnel.

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Abstract: Low-test scores in literacy and mathematics have resulted in increased accountability for educators, as evidenced by statewide "high stakes" testing. The push by federal and state mandates, such as the "No Child Left Behind" Act and the Massachusetts Comprehensive Assessment System (MCAS) have increased the amount of teaching and learning required of educators and students. As a result, administrators are continuously searching for and utilizing instructional approaches that are research-based, have a proven record of effectiveness and efficacy, and are able to meet the increasingly diverse academic needs of the general education population. The authors suggest that incorporating DI in the classroom may be the answer. A crucial element in the implementation of DI in most cases is change. A total embracement of direct instruction by administrators is necessary for DI to be effective in the classroom. This article discusses how administrators can effectively implement DI into their schools by providing definitions and examples of DI, discussing the types of DI available and providing examples of the cost of these materials, and addressing the role of the administrator in embracing DI in their districts.

It is the third day of school in Mrs. Johnson's fourth grade class. The class is seated at their desks ready for morning meeting time. Mrs. Johnson is standing in front of the class ready to teach a very important lesson. Today's lesson is a lesson common to all primary and elementary schools in this country. Today's lesson is that of fire safety and how students' should behave in the event of a fire drill.

Mrs. Johnson: "Good morning class. This week we have been learning about our school rules. We have learned the importance of keeping our school and classroom clean and treating each other with fairness, kindness, and respect. Today we are going to learn a very important lesson. We are going to learn about how to behave if the fire alarm goes off".

"Everyone needs to have their eyes up front, their mouths quiet, and their ears open. This is a very important rule. If the fire alarm goes off then we need to put down our work and line-up quietly at the door."

"Listen again, the rule is if the fire alarm goes off then we need to put our work down and line-up quietly at the door".

"I want everyone to say the rule with me".

Mrs. Johnson & class: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Say it with me again".

Mrs. Johnson & class: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Excellent class! When I put my hand down (hand up) I want you all to say the rule together".

Class: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Very good! Say it again".

Class: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Julie, What is the rule?"

Julie: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Julie, What is the rule?"

Julie: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Excellent Julie! Thomas what is the rule?"

Thomas: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Excellent Thomas! Class when I put my hand down (hand up) I want you all to say the rule together".

Class: "If the fire alarm goes off then we need to put our work down and line-up quietly at the door".

Mrs. Johnson: "Very good class! You have all worked very hard today learning the fire alarm rule. I'm very proud of you all. Please take out your chapter books and read silently for ten minutes. We will practice our new rule again at our end of the day meeting. Part of your homework tonight will include writing and illustrating our new rule".

The brief synopsis you have just read is a very common example of how the principles of direct instruction are used to teach important classroom rules. Direct instruction may be used to teach a myriad of curricula. Supporters of direct instruction believe curriculum encompasses all learning experiences necessary to achieve learning standards including social behavior, skills, concepts, and rules. The following are some frequently asked questions regarding direct instruction.

What exactly is Direct Instruction?

Direct Instruction (DI) is a teaching model that emphasizes well-developed and carefully planned lessons designed around small learning increments and clearly defined and prescribed teaching tasks. Direct Instruction is a highly successful and supported instructional strategy (Carnine, 2004). DI is a teaching strategy that many effective teachers are already employing in their classrooms. To support this teaching strategy a wide-range of DI instructional materials are available in pre-packaged curricula. It is accepted that these materials are taught using these strategies and principals embodied in DI. It is important to note that direct instruction in the classroom can occur without the use of these pre-packaged materials.
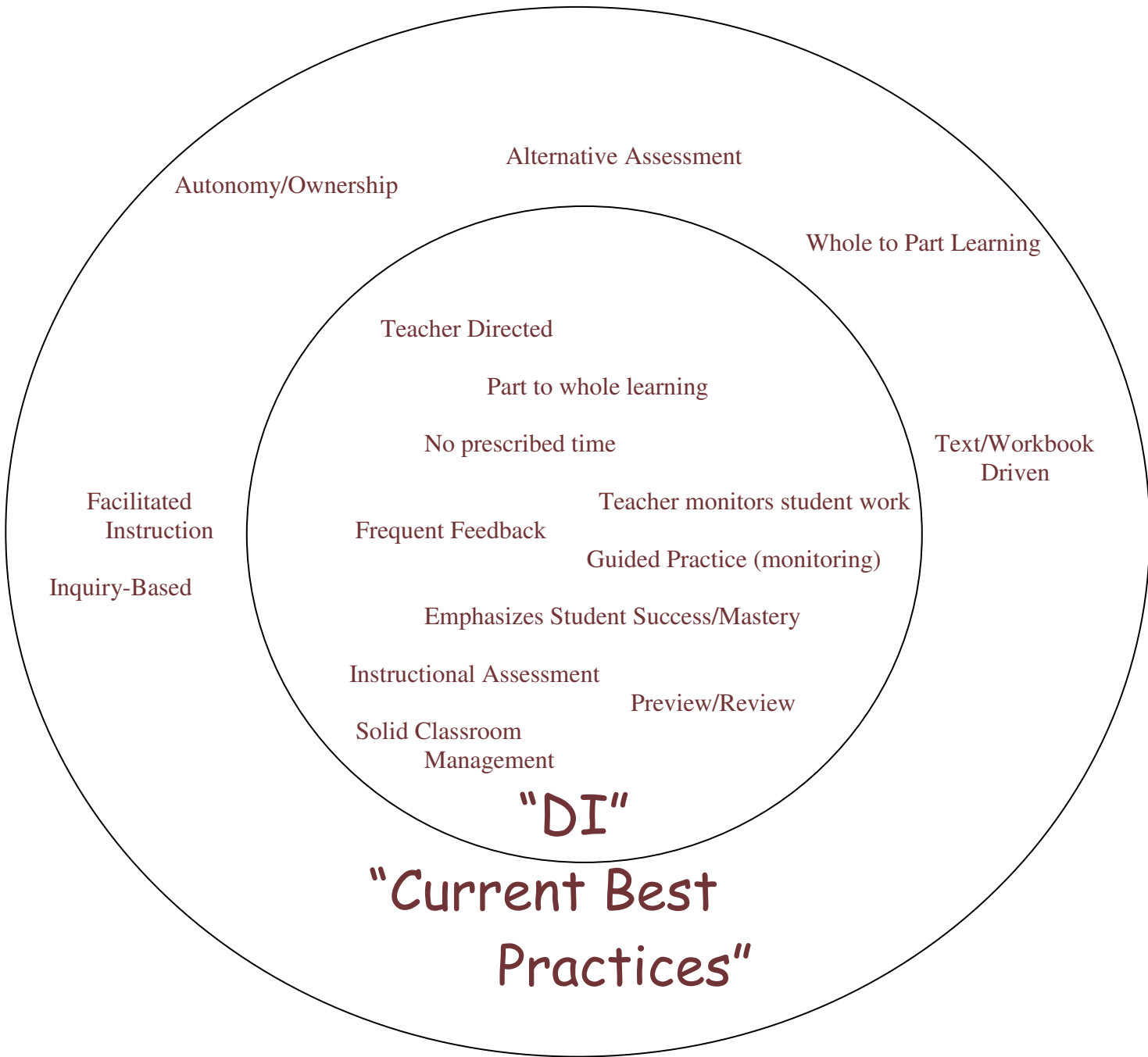
Alternative Assessment

Autonomy/Ownership

Whole to Part Learning

Teacher Directed

Part to whole learning

No prescribed time

Text/Workbook Driven

Facilitated Instruction

Frequent Feedback

Teacher monitors student work

Guided Practice (monitoring)

Inquiry-Based

Emphasizes Student Success/Mastery

Instructional Assessment

Preview/Review

Solid Classroom Management

"DI"

"Current Best Practices"

DI is based on the theory that clear instruction eliminating misinterpretations can greatly improve and accelerate learning. Direct instruction involves providing immediate correct feedback in a manner non-threatening to the student. Direct instruction does not allow for students to learn skills, concepts, and facts in an incorrect manner. This eliminates the "unlearning" process that often needs to occur before correctly "re-learning" the material. The firming cycle, consistent in all DI lessons, includes the repeated presentation of new and/or problematic tasks throughout and at the conclusion of a lesson to assure that students have a solid mastery of the taught skill (Kameenui &Simmons, 1990). "Direct Instruction works, providing rapid gains, gains that persist, gains that increase self-esteem because children have real skills they can be proud of" (Lindsay, 2004).

DI embodies the principles of direct, teacher centered, instruction. The core belief of this approach is that all children can learn and that instruction needs to be designed to provide planned, full and errorless learning experiences. "The goal of DI is to accelerate learning by maximizing efficiency in the design and the delivery of instruction" (retrieved from http://darkwing.cuoregon.edu). The use of positive reinforcement and immediate feedback, are key traits of this methodology. The use of positive reinforcement and feedback in direct instruction differs slightly from the types of reinforcement used in more traditional teaching styles in that it is specific to the student(s) and task. Children are not expected to direct/guide their own learning and feedback rather it is explicitly presented and directly reinforced. The teaching of students through scaffolding, shaping, approximations, and directed, concrete, experiential learning activities replaces student driven learning. This instructional approach has been proven to be highly effective in meeting diverse academic challenges.

Who supports and Uses DI?

Some general educators have begun to consider and adopt these types of published direct instructional materials. The parents of under achieving students, district superintendents, and curriculum specialists have championed the aforementioned materials. Administrators, general educators and special educators who have experienced student successes through the use of direct instruction often also strongly advocate for their use in the general education classroom.

General education building principals and their general education staff are likely to be introduced to direct instruction when developing or providing an inclusion model. This may occur when a student who is on an IEP receives instruction in both a general education classroom and a special education classroom or when a special educator brings direct instruction methods and materials into the general education classroom. Collaboration between the general education teacher and the special education teacher to provide carry-over and generalization skills for the child who has an IEP may lead to direct instruction in the general education classroom. Although, DI has long been used with students who struggle with learning, it is important to note that DI has been proven effective with **all** learners.

Who is DI for?

DI was first used with students with special needs beginning in the late 1960s. Currently, DI is being used with special education students, English as a second language (ESL) students and students in the general education population. Substantial and compelling research supports the proposition that if students are taught fundamental skills directly, explicitly, and strategically they will learn to read (Martella, 2004). Its creators, Siegfried Engelmann and Dr. Wesley Becker and their colleagues believe and have proven that when correctly applied, DI can improve academic performance as well as certain affective behaviors for all learners (Becker, 1976).

Our school employs current best practices for educating students. Why should we discuss Direct Instruction, isn't DI a bit outdated?

Low-test scores in literacy and mathematics have resulted in increased accountability for educators, as evidenced by statewide "high stakes" testing. The push by federal and state mandates, such as the "No Child Left Behind" Act and the Massachusetts Comprehensive Assessment System (MCAS) have increased the amount of teaching and learning required of educators and students. Therefore educators need to teach more in less time. Skills and concepts must be taught and learned in a shorter period of time. One means to accomplish this is through the use of DI in the classroom. Many in the field of education are embracing the principles of Direct Instruction (DI), an instructional strategy popular in the 1960's, by some in the field of education. "The term 'Direct Instruction' refers to a rigorously developed, highly scripted method for teaching that is fast-paced and provides constant interaction between students and the teacher" (Lindsay, 2004). Administrators and educators are continuously searching for and utilizing instructional approaches that are research-based, have a proven record of effectiveness and efficacy, and are able to meet the increasingly diverse academic needs of the general education population. The authors suggest that incorporating DI in the classroom may be the answer.

Do direct instruction materials come in a pre-packaged curriculum?

Instructional materials designed using the principles of direct instruction are plentiful and fairly popular. Your school is likely already utilizing some form of direct instructional curriculum. "Open Court" and Saxon Math are two popular examples of this type of empirically supported curriculum. Additional examples of pre-packaged curricula include "Handwriting Without Tears", "Edmark Reading", "Telian phonics", "Touch Math", and "Second Step Violence Prevention Program".

How much staff training is involved prior to implementing direct instruction?

The amount of staff training necessary to employ DI directly correlates to the type and amount of direct instruction your school will employ. If your school system wishes to implement specific pre-packaged instructional materials the amount of training required would be fairly minimal. Instructional manuals typically accompany pre-packaged instructional materials and are relatively user-friendly. Programs such as Touch Math are fairly easy to understand and implement for the competent teacher. Other pre-packaged curricula (i.e. Open Court) are less simple and involve more practice and implementation.

Implementing direct instruction as a teaching strategy in your school system would entail that staff members be trained. This training could take on many forms including an in-service, a graduate level course, a mentor teaching program or staff being instructed to watch a series of videos pertaining to DI and logging their successes/failures and sharing these with colleagues. Adopting DI in your district is really no different then adopting any other type of "new" instructional material (i.e. basal readers), philosophy, or practice (i.e. whole language) into your school. Learning to utilize direct instruction in the classroom is fairly simple and non-stressful as many of the teachers in your district are likely already practicing at least one form of direct instruction.

Our school's budget is already extremely tight. We can't afford any extras.

Similar to other pre-packaged curricula the cost for purchasing direct instruction teaching materials varies. However, many of the programs mentioned are less costly than the more commonly purchased curriculum materials. The Touch Math kindergarten set, which includes readiness, counting, addition, and subtraction kits as well as accompanying teaching posters, is priced at $495.00. The first grade Touch Math set is priced at $559.00. The upper grade set currently sells for $1475.00 (www.touchmath.com). The Telian phonics "lively

Letters" basic instructional set sells for $53.00 (www.readingwithtlc.com). The Edmark Reading Program Level one print version is priced at $469.00 and is designed to instruct up to ten students (www.riverdeep.net).

Well all this information sounds good. What does implementing DI in my school involve?

A crucial element in the implementation of DI in most cases is change. All involved in the implementation of direct instruction must embrace this change. Success will occur when enthusiastic support for DI comes from the "top". Thus creating a positive trickle down effect. "This method, rich in structure and drilling and content, is the opposite of the favored methods of today's high-paid education gurus, and contradicts the popular theories that are taught to new teachers in our universities" (Lindsay, 2004). Change in theoretical perspectives, philosophies, and beliefs will often be necessary. The popular valuing of teacher creativity and autonomy as high priorities must give way to a willingness to follow certain carefully prescribed instructional practices. An exemplary example of this is the continued use of whole language reading instruction, despite overwhelming evidence of ineffectiveness (Lindsay, 2004). Remaining the same, however, is the importance of hard work, dedication, and commitment to students. Teachers will generally be required to behave and educate students in a manner significantly different than the practices utilized prior to DI. Schools may need an entirely different organization than they previously employed. Even staff members will be called upon to alter some operations. A crucial element of DI is that all concerned adopt and internalize the belief that all students, if properly taught, can learn.

How do I implement DI in my school or classroom?

DI is a teaching strategy/methodology that can be fairly simply learned and implemented in the classroom. In fact, you are probably implementing DI in your school or classroom already. DI involves utilizing a specified instructional cycle. The cycle includes three distinct parts: 1) Before instruction: learning objectives and the design of the instruction. 2) During instruction: delivery of the material and the management of instruction. 3) After instruction: evaluation of the learning outcomes. More simply stated, DI involves planning lessons, carefully presenting the intended materials, and assessing students' learning. Sound familiar? A simple DI teaching sequence involves a model-lead-test/check format. This is sometimes referred to as the "I do", "We do", "You do" sequence. When DI lessons are carefully planned and executed they can be simply implemented and very successful.

How much learning time will employing DI consume?

The amount of time allotted for direct instruction will vary and is dependent upon your school system's willingness to adopt this philosophy and how the adoption of these principles are implemented. Implementing pre-packaged direct instruction curricula in the classroom would require the teacher to complete the prescribed curriculum material. This could mean a brief ten-minute social skills lesson like those found in the Second Step curriculum. Conducting a Telian phonics or Touch Math lesson would require a bit more time. Implementing the Open Court curriculum could entail using an entire English language arts period. Employing the principles of direct instruction into pre-existing curricula lessons also requires variable amounts of time. The amount of time required by these programs directly relates to the rate of student success. For example, teaching the simple fact a square has four sides to a primary class could last anywhere from 4 to 10 minutes depending on how quickly students demonstrate mastery of the fact. The keys to teaching effective DI lessons is to present students with a well-planned, well-executed lesson and continue on with the lesson until students have mastered the new material. Maintenance, practice, or independent work activities (mastered skills) should follow students' mastery of new material. More clearly stated, multiple facts or pieces of new information could be presented in a single

learning/teaching period. DI does not consume learning time but makes learning more purposeful and directed, thus allowing for or adding to "time on learning".

Some of the educators in my building have voiced concerns and expressed reluctance whenever direct instruction is discussed?

Although these materials are highly regarded by some as effective teaching methods, many classroom teachers have demonstrated significant resistance to adopting such materials. This resistance can be partially contributed to the fact that direct instruction, structured and drill based, contradicts many of the more favored teaching theories. Direct instruction does not embrace Piaget and developmentally appropriate learning theories, two popular teaching philosophies taught in numerous teacher preparation programs. Misconceptions about direct instruction also contributes to this seemingly perpetual resistance to a teaching method that has proven highly effective in varied and numerous settings. Education and examples of effective, successful ways to implement direct instruction may help reduce resistance, fears, and reluctance. Direct instruction need not be the controlling teaching philosophy implemented in the classroom, incorporation of this technique into pre-existing classroom routines may help alleviate misconceptions, resistance, and offer concrete proof of the effectiveness of this method. Slowly introducing this teaching strategy into your classroom teaching paired with the resulting students' successes would be an optimal way to decrease teacher resistance.

What about other teaching strategies/methodologies? Should I expect my teachers to forego their preferred teaching methods?

DI is by no means the end all be all of effective teaching. It is a methodology that when incorporated into a solid, successful repertoire of teaching strategies can produce highly effective, efficient student success. There does not need to be a prescribed amount of time set aside each day to " do DI".   The authors suggest that DI be used as a means to teach facts (i.e. addition facts), concepts (i.e. size/bigger), and rules (i.e. estimation) within the academic domains.

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