Individualizing Teaching in Beginning Reading

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THE BEST WAY TO TEACH YOUNG CHILDREN how to read has been debated for more than a century. Accumulating research now shows that there is no one best way to teach reading. The effect of various types of instruction depends on the constellation of skills learners bring to the classroom. In this article, we discuss the idea of child- characteristic-by-instruction-interaction effects and how teachers can use this information to effectively individualize (or differentiate or personalize) their reading instruction more effectively from kindergarten to third grade (Year 1 to Year 4).

Why is it important to individualize reading instruction?

For more than a century, educators have debated the best way to teach reading. Some believed that learning to read was like learning to talk and so all children needed was rich literature, experience enjoying books, and opportunities to construct meaning from text. Others argued that children had to learn the alphabetic principle– that letters stand for sounds in language (orthographic knowledge) and that when you change the sounds (phonemes), you can create new words (eg, changing the /i/ in "bit" to /a/ creates "bat"). It turns out that both of these approaches-whole language and phonics – are effective, but not for all children all of the time. The effect of instruction depends on the oral language, basic reading, and comprehension skills that students bring to the classroom, called child-characteristic- by-instruction (CXI) interaction effects on reading. Understanding CXI interactions and using assessments to individualize reading instruction is important because more than 30% of fourth graders in the US are unable to read above basic levels on the National Assessment of Educational Progress.

How do we use assessment data to inform reading instruction?

By using CXI interaction effects, we can figure out exactly how much time in meaning- and code-focused instruction to provide to each child using valid and reliable assessments. For the years from kindergarten to third grade, we have created computer algorithms that compute recommended amounts in minutes/day for four types of instruction (see Table 1 & Figure 1 opposite) using a:

- ✎ Target outcome – grade level reading by the end of the school year or a school year's gain in skills if the child is already at or above grade level expectations;
- ✎ Vocabulary score;
- ✎ Decoding score; and
- ✎ Reading comprehension scores.

These four types of instruction have two important dimensions. The first dimension is whether the teacher is actively interacting with students (TM) or whether children are working

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What we know

- ✎ Individualized student instruction (ISI) is more effective because the effect of different reading instruction strategies depends on students' language and reading skills education.
- ✎ ISI has three parts: planning, classroom organization, and implementation.
- ✎ Expert teachers use centers or stations (small flexible learning groups for teacher/student-managed instruction) while other children are involved in meaningful child/peer-managed activities during the literacy block. Teachers also make sure that learning opportunities match learning needs.

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independently or with peers (child-managed, CM). The second is whether instruction is focused on decoding and foundational skills (CF) or whether it is focused on meaning-based skills (MF). We put these two dimensions together to identify teacher/child-managed code-focused (TMCF) and meaning-focused (TMMF) and child/peer-managed code-focused (CMCF) and meaning-focused (CMMF) instruction. Any evidence-based reading-instruction strategy fits into one of the four types of instruction. We typically consider fluency to be a code-focused activity because the aim is fluent and automatic reading of text.

The four types of instruction can be provided in small groups or to the whole class. However, TMMF and TMCF are about four times more effective when provided in small groups.

The other important ingredients for individualizing instruction effectively are valid and reliable assessments of vocabulary, decoding, and comprehension. The more accurate the scores, the more accurate the recommendations will be. We suggest that students be assessed in the autumn, winter and spring at a minimum.

When we calculate the recommended amounts for each of the four types of instruction, we find out that the results are highly complex. Figure 1 shows the recommended amounts of the four types of instruction for first grade. Graphs for the other grades are available upon request. To use the graph, find the student's reading grade equivalent score on the horizontal axis and draw a vertical line. Then find the recommended minutes for each type of instruction on the vertical axis where the line intersects each type of instruction. For example, the recommended minutes for

	Teacher/Child Managed (TM)	Child/Peer Managed (CM)
Code-focused (CF)	The teacher is working with a small group of children on how to decode compound words such as "cowboy" and "base- ball". She says: "What word do you have when you take the 'boy' out of 'cowboy'?"	Children are working together to sound out and then write words that have the rime "-ake". They have written the words "bake" and "cake" on the white board.
Meaning-focused (MF)	The teacher is discussing the story "Stone Soup" with the class. She starts by asking the children: "What is the main idea of the story and what are the supporting details?" She then tells them to: "Think, pair, share" so the children turn to their partner to discuss the main idea and supporting details. After the children have discussed with their partner, the teacher asks the pairs to share their ideas.	Children are silently reading a book of their choice at their desks. Other children are writing in their journals.

Table 1: Examples for each of the four types of instruction

Ted, a first grader reading at a kindergarten level, is:
- 30 minutes/day of TMCF;
- 21 minutes/day of TMMF;
- 20 minutes/day of CMCF; and
- 5 minutes/day of CMMF.

These recommended amounts change as the student's reading skills improve. For example, after 2 months, Ted has improved his reading skills by half a grade level so his new recommended minutes are:
- 20 minutes/day of TMCF;
- 20 minutes/day of TMMF;
- 21 minutes/day of CMCF; and
- 7 minutes/day of CMMF.

What does individualizing student instruction (ISI) look like in the classroom?

Once we worked out the recommended amounts for each type of reading instruction, the challenge became: "How do we pull this off in the classroom?" Working with teachers who were nominated as excellent teachers (master teachers), we developed ISI strategies, which have three parts:
- Planning;
- Classroom Organization; and
- Implementation.

Effective ISI starts with planning. First, our master teachers recommend using the results of the assessments to organize flexible learning groups. These are small groups of children who have similar recommendations and skill levels. As the children progress, the groups are reorganized. Teachers also schedule an uninterrupted block of time, lasting at least an hour, that they devote to literacy instruction (i.e., the literacy block). Next, they plan the lessons. The master teachers recommend planning for the week and selecting learning activities that match children's skill levels and meet the recommended minutes. Figure 1 provides minutes per day, so they multiply the amount by the days per week the group meets.

Next is classroom organization. Our master teachers suggest using centers or stations, particularly when students in the classroom have very different constellations of skills. They meet with students in flexible learning groups of four or five students for TMCF and TMMF activities, while other students are engaged in meaningful CMCF and CMMF activities. Many ISI teachers use color-coded folders so that the CM activities are aligned with students' learning needs. Our expert teachers also recommend using very explicit signals when it is time to move to new activities, such as bells and songs. They also use various forms of charts posted in the classroom so that students can figure out what they are supposed to be doing without interrupting the teacher table. Rules like: "Ask three and then me" also help. There are excellent resources at http://fcrr. org/for-educators/sca.asp.

The last and most important step is implementing ISI in the classroom – teaching

students how to regulate their own learning, how to transition between activities, and how to work with peers early in the school year makes implementing ISI much easier. Students make greater reading gains when their teachers are more responsive to how well they are learning, provide explicit instruction and coaching when needed,
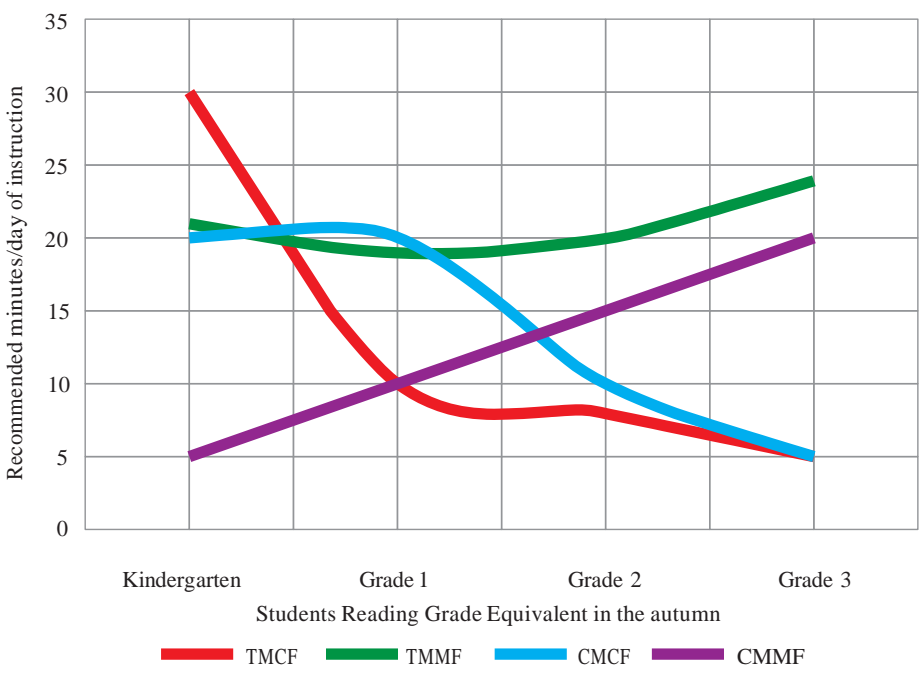
Figure 1. Recommended amounts of the four types of instruction for first graders with reading skills varying from kindergarten to third grade at the beginning of first grade. Notice that the lines are not straight but curved. Students with different reading skills will make greater reading gains when they receive their recommended amounts of each type of instruction, based on their own reading score.

provide feedback, and encourage students to think about what they are learning during both CF and MF instruction. Students are also more likely to make greater reading gains when they are actively involved in the learning activity – when they raise their hand, read out loud, ask questions, respond to how and why questions, and monitor their understanding. Here is how one expert teacher described an exemplary ISI classroom:

As I observed Mrs. D's first grade classroom, all of the students were involved in meaningful literacy learning activities. Several students were writing on computers while others were reading in the library corner. Still others were at the phonics table playing a decoding game. There was a large circular chart with the children's names and their color groups for the day, as well as the schedule of activities. Students carried their color-coded folders with them. Because Mrs. D changes her groups about every two weeks based on informal and formal assessment, the children have learned to work with every student in the class. Mrs. D was teaching a group of four students who she knew were having difficulty learning to read. I was listening when she asked Ted: "How do you sound out this word?" Ted responded: "/t/ /u/…It's a long word." Mrs. D then covered half of the word. Ted responded: "Oh! I think it is a compound word." She responded: "How can you tell?" Demario said: "Because it is two words smashed together! Tooth and brush." Mrs. D then asked Valerie: "Do you agree with Demario?" Valerie nodded. Mrs. D asked her: "Why do you agree?" and Valerie responded: "Because 'toothbrush' is like 'earthworm' – two words. Tooth and brush; earth and worm."

Research
Our research, using randomized controlled trials in schools, has shown that ISI is effective from kindergarten to third grade and that the effects of ISI accumulate. That is, when children participated in ISI from first to third grade, they were reading, on average, at a fifth-grade level. They also made greater literacy gains than did children who were receiving high quality but not individualized reading instruction. An important part of ISI is Assessment-to-instruction (A2i) software that computes the recommended amounts of reading instruction (shown in Figure 1) using assessment results, provides recommended flexible learning groups, and helps teachers plan and implement individualized reading

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A three-year study of individualized student instruction

This study examined whether student reading outcomes differed when they received one, two or three years of individualized reading instruction, compared with a control group. The children were in first through third grade (UK Years 2 to 4).

From schools in north Florida, 28 first-grade teachers and their 468 children were recruited in the 2008/9 school year. Teachers where then randomly assigned to either the individualized student instruction (ISI) reading intervention or to a mathematics intervention. The children were then followed into second grade (where their teachers and classmates were also recruited) and then into third grade (again, teachers and classmates were recruited).

The results showed that children who spent more years in ISI reading classrooms made significantly greater gains in reading. The results were inconsistent as to whether or not the first "dose" of ISI in first grade had a larger, or inoculating, effect in future years; however, they did show that, regardless, more years of ISI were better.

The study findings also have implications for the debate on teacher accountability. The models used in the study were similar to those used to calculate teachers' value-added scores. Most teachers in the study, when given training and support, were able to provide more effective mathematics or literacy teaching. This implies that teachers who are generally less effective can learn to improve. It contradicts the assumption that teaching is a talent that some possess, while others do not, and that there is nothing to be done when teachers have low value-added scores.

Source: Connor CM, Morrison FJ, Fishman B, Crowe EC, Al Otaiba S, and Schatschneider C (2013), A Longitudinal Cluster-randomized Control Study on the Accumulating Effects of Individualized Literacy Instruction on Students' Reading from 1st through 3rd Grade. *Psychological Science*, 24(8), 1408–19. doi: 10.1177/0956797612472204

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instruction using any evidence-based reading instructional resource (for more information please go to LearningOvations.com). The aim of ISI is to make sure all students achieve strong reading skills by the end of third grade.

Further reading

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