Promoting Successful Literacy Acquisition through Structured Pedagogy

Global Reading Network Critical Topics Resource

March 2019

This paper was made possible by the support of the American people through the United States Agency for International Development (USAID). The paper was prepared for USAID's Building Evidence and Supporting Innovation to Improve Primary Grade Reading Assistance for the Office of Education (E3/ED), University Research Co., LLC, Contract No. AID-OAA-M-14-00001, MOBIS#: GS-10F-0182T.

On the cover:

A teacher helps a student during class in Tajikistan.
Photo: GPE/Carine Durand

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This resource is one of several focused on consolidating research and experiences about best practices in early grade reading with the intention of supporting all stakeholders involved in designing, implementing or managing early grade literacy program development and implementation. The paper was authored by Young-Suk Kim, an independent consultant, with important technical inputs from Marcia Davidson, an expert practitioner in the field. Amy Pallangyo, REACH Technical Advisor, provided helpful technical review and assistance to ensure maximum utility of the paper to program designers and implementers. Members of the Global Reading Network shared information and insights about structured pedagogy in earlier technical reviews of the paper.

List of Acronyms

ECCRN	Early Child Care Research Network (NICHD)
GRN	Global Reading Network
NICHD	National Institute of Child Health and Human Development
PTA	Parent Teacher Association
RCT	Randomized Control Trial
TaRL	Teaching at the Right Level
URC	University Research Co., LLC
USAID	United States Agency for International Development

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Purpose of the Paper

This "critical topic" brief is intended to provide USAID education officers, and their partners and collaborators around the world, with a clear explanation of what structured pedagogy is, and the important role it plays in building reading skills for learners of any age who have not yet acquired decoding and comprehension skills. USAID considers the acquisition of reading and literacy skills to be essential to ending the need for foreign assistance, (as mandated under the USAID Policy Framework), to achieving the goals of the U.S. Government Strategy on International Basic Education, and to addressing the priorities of the USAID Education Policy. Structured pedagogy, correctly implemented, facilitates and accelerates the development of reading abilities through the application of the 6 principles explained in this brief.

Introduction

As this paper will show, the acquisition of these proficiencies will be greatly accelerated, among audiences of any age who are just beginning to build decoding and comprehension skills, by careful attention to the use of structured pedagogy.. We also delve into the challenges posed in implementing structured pedagogy in developing country contexts, and offer some recommendations for addressing these challenges. Finally, we offer an illustrative case of a classroom employing structured pedagogy in reading instruction.

Structured pedagogy has been proven to have a significant, measurable effect on students' learning outcomes.[1] This is because it offers learners evidence-based, effective learning opportunities through which to practice and acquire core skills. When all the principles of structured pedagogy are applied to reading instruction in primary school classrooms, learners have ample opportunities to become experts in essential tasks such as matching sounds to letter shapes, or recognizing how certain vocabulary words contribute to the meaning of text. As a result, they become more competent readers, laying the groundwork for lifelong literacy. Sometimes, structured pedagogy can be misconstrued and receive unwarranted criticism. For example, structured pedagogy is sometimes mischaracterized as not sufficiently inquiry-based or failing to promote critical thinking. As detailed below, structured pedagogy is very much aligned with these ideas and is necessary to promote higher order critical thinking skills.

What is Structured Pedagogy?

Structured pedagogy is an instructional framework that integrates multiple principles to promote students' successful learning. This paper discusses the following principles of structured pedagogy:

1. Maximizing instructional time;
2. Practicing systematic and explicit instruction;
3. Establishing instructional routines;
4. Providing scaffolding;
5. Making assessment-informed decisions, and;
6. Fostering Social and Emotional Learning and Engagement.

To illustrate the case for structured pedagogy, consider a simple example from outside the realm of formal schooling: teaching a child how to ride a bicycle. The goal is to teach a child a new skill of riding a bicycle. To achieve this goal, competent parents or siblings (acting as teachers) would not just tell the child to ride a bike. Instead, they "structure" instruction (or, to stretch the analogy, their "pedagogy") into several manageable chunks (e.g., getting started [holding brakes, getting onto a bike], scooting, pedaling, practicing riding), and each aspect is taught explicitly and systematically, e.g., demonstrating how to scoot (with one foot initially, followed by two feet off the ground), providing support (holding the bike for the child), checking and evaluating the child's performance and providing specific feedback, providing opportunities to practice, and encouraging the child throughout the process. While this is a simplistic comparison, it may help readers grasp a fundamental tenet of structured pedagogy: teachers employing its principles to effectively teach target skills.

[1] World Bank, *Facing Forward: Schooling for Learning in Africa,* (Washington, DC: World Bank, 2018).

The use of structured pedagogy, as described below, is particularly relevant in the case of education programs funded through U.S. Government Agencies, including USAID, that aim to improve literacy rates of diverse populations. In its "Strategy on International Basic Education," the U.S. Government states that it will "work with partner countries to increase the percentage of students who attain a minimum proficiency in reading and math, particularly at the end of primary school."[2] As this paper will show, the acquisition of these proficiencies will be greatly accelerated by careful attention to the use of structured pedagogy. In addition, the 2018 USAID Education Policy calls for USAID investments to "focus and concentrate on measurably and sustainably improving learning and educational outcomes." This policy sets out three priorities (see text box to the right), the pursuit of which will require continued investment in reading and literacy instruction. As such, across multiple initiatives and country contexts, the use of structured pedagogy has the potential to accelerate progress towards the learning and skills gains that the U.S. Government targets through its investments in international basic education.

USAID Education Policy Priority Areas Relevant to Reading & Literacy Instruction

- Children and youth, particularly the most marginalized and vulnerable, have increased access to quality education that is safe, relevant, and promotes social well-being.
- Children and youth gain literacy, numeracy, and social & emotional skills that are foundational to future learning and success.
- Youth gain the skills they need to lead productive lives, gain employment, and positively contribute to society.
- Higher education institutions have the capacity to be central actors in development by conducting and applying research, delivering quality education, and engaging with communities.

Key Concepts

Because structured pedagogy is a framework for designing and delivering instruction, it incorporates many important concepts. Among these, two essential ones include *i) explicit instruction* and *ii) practice*. Both "explicit instruction" and "practice" have very particular meanings in educational contexts. Unfortunately, both are also frequently subject to misunderstanding and misinterpretation in teacher training programs and in educational literature. Here, we provide clear definitions for each of these key concepts, and then distinguish them from some other terms with which they sometimes become confused.

What is explicit instruction? *Explicit* instruction is a structured, direct, clearly articulated methodology for teaching target skills. Explicit instruction relates both to the curriculum and to teaching in the classroom.[3] Archer and Hughes state that, "Effective and explicit instruction can be viewed as providing a series of instructional supports or scaffolds—first through the logical selection and sequencing of content, and then by breaking that content down into manageable instructional units based on students' cognitive capabilities (e.g. working memory, capacity, attention, and prior knowledge). Instructional delivery is characterized by clear descriptions and demonstrations of a skill, followed by supported practice and timely feedback." [3,4]

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[2] USAID, *U.S. Government Strategy on International Basic Education,* (Washington, DC: USAID, 2018), 32.

[3] Anita L. Archer and Charles A. Hughes, *Explicit Instruction: Effective and Efficient Teaching,* (New York: Guilford Press, 2011), 3.

What is practice? *Practice* is a broad term, referring to carefully prepared opportunities for rehearsing, reviewing, and retrieving newly learned material in order to support robust learning. Meaningful practice includes opportunities to engage in appropriate learning activities in a systematic manner.

With these definitions established, we can consider common misconceptions about "explicit instruction" and "practice" in instruction.

a. ***Explicit instruction versus scripted lessons:*** As described above, explicit instruction consists of clear sequencing and modeling of discrete skills that build upon one another. It applies to both curricular design and delivery of instruction (classroom teaching). Instructors using explicit instruction directly demonstrate for students the steps involved in employing a given skill.

   Providing scripted lessons is one important way to support teachers in using explicit instruction. Scripted lessons cannot replace teacher training, nor can they anticipate every type of classroom situation that a teacher may have to manage. They can, however, provide guidance and scaffolding for teachers about what content and instructional techniques to use with students to build particular skills. Scripted lessons have consistently been shown to be effective in improving students' learning.[4] Even in developed country contexts, many school systems provide their teachers with reading programs that accompany their lesson materials. While accomplished teachers may adapt or depart from scripted plans, less experienced or less confident teachers often find that the existence of the suggested plans is a catalyst for successful lessons.

   Scripted lessons can have particular utility for any or all of the following types of teachers:

   - Those who are new to the profession;
   - Those of any experience level who are experimenting with new pedagogical approaches that require substantial changes in practice; and
   - Those who have received insufficient preparation for a teaching career.

   Most teachers in countries receiving development assistance in education belong to one or more of these categories. In many country contexts, despite the best of intentions, many teachers do not have adequate knowledge and skills to implement skills-based curricula with success. For these teachers, scripted lessons may be a key tool in facilitating their use of explicit instruction.

   Scripted lessons are not a panacea for all learning challenges. Nor is scripting a "one-size-fits-all" undertaking; types of scripting are likely to differ by grade level and subject, and teachers' need of using a script may decline over time. With these caveats clearly stated, scripted lessons are one important resource that supports the use of explicit instruction. As research has found explicit instruction to be the most successful instructional model for the teaching of foundational reading and literacy skills, scripted lessons have an important role to play in facilitating the use of explicit instruction, particularly in contexts where teachers do not have adequate training.

b. ***Explicit instruction versus teacher professionalism:*** A common misconception involving explicit instruction is that explicit instruction of clearly identified specific core skills (e.g., in reading, skills like phonological awareness or letter-sound correspondences) is somehow a threat to teacher professionalism,

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[4] Piper, Benjamin and Medina Korda. *EGRA Plus: Liberia. Program Evaluation Report.* Research Triangle Park, NC: RTI International, 2011.

[5] National Institute of Child Health and Human Development, *Report of the National Reading Panel. Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction,* (Washington, DC: National Reading Panel, 2000).

[6] National Research Council, *How People Learn: Brain, Mind, Experience and School,* (Washington, D.C.: National Academies Press, 2000).

creativity, or autonomy. Nothing could be further from the case. Remember, a teacher using explicit instruction simply provides clear descriptions and demonstrations of a skill, and then supports students' practice of that skill with timely feedback that enhances permanent acquisition of the target skill. This structured practice accelerates, rather than slows, skill acquisition. And, the more quickly students can master core skills like decoding, the more quickly teachers can move forward to more complex and demanding skills and content, employing as much creativity as desired. Therefore, explicit instruction that accelerates the mastery of core skills is actually empowering to teachers, and should not be seen as a threat.

c. ***Explicit instruction versus teacher-centered instruction:*** Explicit teaching is not the same as teacher-centered teaching, although the two are often confused. In teacher-centered teaching, a teacher monopolizes instructional time and does not meet student needs or successfully build the skills and capacities of his/her learners. In contrast, explicit instruction is squarely student-centered. The pedagogical principles on which explicit instruction is based (see below, as well as in the resources in this paper's bibliography) are informed by research-backed findings on student learning processes during skills acquisition. In explicit instruction, the learners' needs and progress in gaining a given skill are always the main drivers of the teacher's actions. Teachers using explicit instruction have to assist their students to take risks to master a skill, have to accord their students extensive time to practice new skills, and have to adjust their teaching based on each student's rate of skill acquisition. When implemented correctly, therefore, explicit instruction is never teacher-centered.

d. ***Practice versus drill.*** Practice and drill both involve repetitive practice of a target skill. However, they are not identical. Drill is mindless repetition of a task that is dull and disengaging for children (e.g., simple mindless copying of the words on the blackboard, not a carefully planned activity as part of the instructional routines described earlier). Meaningful practice includes opportunities to engage in appropriate learning activities in a systematic manner, such that a learner's skills increase in ways that are not at the cost of his/her participation or engagement of learning. Practice is a key aspect in structured pedagogy (see below).

   Therefore, practice is not interchangeable with drill. One misconception about practice, (or about practice mistaken as drill), is that practice hinders development of higher order thinking skills or creativity. Research indicates that the opposite is true – practice is critical to development of higher order thinking skills, because practice enables mastery of the basic or foundational skills that then enable higher order skills (e.g., problem-solving). For example, practice to develop reading fluency supports the development of a higher order skill, reading comprehension, because reading fluency allows students' attention and memory to be used for higher order semantic processes rather than to be tied to word reading.[7]

Teachers applying the 6 principles of structured pedagogy may also be asked to consider how the elements of the universal design for learning framework can inform their instruction. The universal design for learning framework promotes the use of multiple means of representation, multiple means of expression, and multiple means of engagement in the classroom. As teachers grow in skill, they can learn how to follow a universal design framework for their lessons while practicing the principles of structured pedagogy.

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[7] Melanie R. Kuhn and Steven A Stahl, "Fluency: A Review of Developmental and Remedial Practices," *Journal of Educational Psychology,* 95 (2003).

Six Principles for Structuring Pedagogy in the Literacy Classroom

The six principles of structured pedagogy summarized in this document are directly relevant to the design and delivery of instruction. Not only should materials provided to teachers be designed to support the use of structured pedagogy, but teachers should also be adequately trained and coached to deliver it as intended (i.e., to implement structured pedagogy). At the center of structured pedagogy are teachers, and therefore, it is important to foster their facility with practicing and using structured pedagogy.

Understanding ***explicit instruction*** and distinguishing ***practice*** from ***drill*** are important first steps for teachers seeking to use structured pedagogy in their classrooms. However, to truly leverage the power and potential of structured pedagogy to advance students' skills, teachers must employ the following six principles:

1. Maximizing instructional time;
2. Practicing systematic and explicit instruction;
3. Establishing instructional routines (including appropriately using materials);
4. Providing scaffolding;
5. Making assessment-informed decisions, and;
6. Fostering Social and Emotional Learning and Engagement.

These principles are drawn from a large body of empirical studies in cognitive, developmental, and education science.[8] Each is discussed in detail below.

1. Maximizing Instructional Time

When determining how to best structure instruction to support student skill acquisition, three aspects of instructional time must be considered: 1) the amount of time allotted for instruction, (***allotted time***); 2) the amount of time teachers are actually spending on teaching, (***actual instructional time***), and; 3) the amount of time students spend learning (***actual engaged time***).

Typically, departments and ministries of education are the decision-makers about allotted time for a given discipline.[9] If education authorities do not stipulate an amount of time to be spent on a subject, topic, or area of learning, per day or per week, it is extremely unlikely that teachers spend time teaching a subject (e.g., reading) and consequently students will not learn about the subject. For example, studies have found that, in many countries where USAID works, no instructional time is designated for reading instruction in curricular or classroom materials, even though many experts in the field consider an allocation of at least 60 minutes a day essential for students to learn to read. Not surprisingly, in those contexts, when classrooms are observed, no reading instruction is found to be taking place.[10]

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[8] www.visiblelearningplus.com/content/250-influences-student-achievement (PDF).

[9] It is easier for teachers to use structured pedagogy when a basic education policy is in place in a given context that creates an enabling environment for the application of the 6 structured pedagogy principles.

[10] Kim, Young-Suk Grace, Helen N. Boyle, Stephanie S. Zuilkowski, and Pooja Nakamura. *The Landscape Report on Early Grade Literacy.* Washington, D.C.: United States Agency for International Development (USAID), 2016

Although teachers cannot usually control the amount of time ***allotted*** to reading in a given context,[11] if time is allotted to reading in their context, they then have a tremendous amount of control over ***actual instructional time*** for reading. To maximize actual instructional time, teachers can focus on the physical organization of their classroom space, making sure that instructional materials and lessons are prepared and in place. They will also find that they need to devote careful attention to the planning and organization of instruction itself (see principle #2, below). Effective instruction has well-established instructional routines (see principle #3, below) such that time spent on non-academic activities is minimal.

Studies show that, in some classrooms, a substantial amount of instructional time is wasted to transition between activities and non-academic tasks (e.g., explaining and finding where things are, where to place things, and what to do when activities are completed). On the other hand, evidence suggests that teachers who invest in establishing classroom routines and explaining procedures at the beginning of the year, and who have, for their lessons, clear instructional plans and class procedures, are able to maximize time spent in academic instruction for their students. Students learning to read with teachers who practice routines and limit time lost tend to have higher achievement after a year than students in classrooms where instruction is less organized and routines are not well-established early on.[12]

Teachers also have an important role to play in maximizing the amount of time that students spend on learning, or ***actual engaged time.*** (This measure of time may also be referred to as ***learning time***, or ***time on task***). Of course, actual engagement in the learning process varies across individual students (Indeed, in one instance, it was found to be just half of the allotted instructional time).[13] Steps teachers can take to increase or maximize ***actual engaged time*** include:

- As hierarchy and context allow, identify and point out to school leadership any operational structures, activities, or schedules that regularly interfere with instructional time;
- Creating efficiencies in non-instructional classroom activities that interfere with instruction, such as taking attendance, collecting student work, or managing required daily classroom paperwork;
- Preparing in advance, and providing quick access to necessary instructional materials for specific lessons each day, and;
- Building a lexicon of "cues" for students, to help them understand (through commonly used direction statements and habituated learning strategies) how to quickly transition from one activity to another, and work efficiently during instructional tasks.

Remember, in structured pedagogy, a clear focus on skills and skills practice is the goal. Maximizing instructional time is therefore of paramount importance to achieve the goal. Ideally, in any country context, not only would substantial amounts of time be allotted to reading instruction in the formal curriculum, but also teachers would be

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[11] Best available estimates suggest a minimum of 60 minutes per day should be allotted in early primary reading curricula to ensure sufficient student practice in core skills of reading. However, it is difficult to estimate how much instructional time is really necessary for reading instruction. It depends on numerous factors, including teacher capacity, the nature of writing systems, and local policy and needs. While it is unlikely that less than 60 minutes per day suffices in most contexts, in some contexts, much more might be needed (see Aro & Wimmer, 2003, for a discussion of how the opaque orthography of English drives a need for greater amounts of instructional time).

[12] Cameron, Claire E, Carol McDonald Connor, Frederick J. Morrison, and Abigail M. Jewkes. "Effects of Classroom Organization on Letter-Word Reading in First Grade." *Journal of School Psychology,* 6, (2008): 173–192.

[13] Mariana C. Haynes and Joseph R. Jenkins, "Reading Instruction in Special Education Resource Rooms," *American Educational Research Journal,* 23 (1986)

well-prepared and supported to organize their classroom, strengthen their instructional routines, and enhance their students' engagement, for maximum efficiency. Under these conditions, teachers would be most likely to be able to maximize instructional time optimally so that they could employ the next five principles of structured pedagogy.

2. Practicing Systematic and Explicit Instruction

One of the key ways to maximize instructional time and to organize content and lessons in ways that are most likely to assist students to build their reading skills is systematic and explicit instruction.

Systematic instruction refers to orderly, planned, and coordinated instruction. In systematic instruction, content is presented in disciplined, step-by-step sequence and progression. The starting point for systematic instruction in reading is the scope and sequence for skill and sub-skill development. In some countries, this might be the same as the curriculum for reading, but in others, the curriculum might not be sufficiently specific. In the latter cases, a scope and sequence for skills development would need to be developed to help teachers plan for efficient and focused instruction that could be adapted and shaped based on formative assessment of student progress.[14]

Curriculum for Systematic Instruction

Sub-units of a reading curriculum that is systematic would include: early segments focused on emergent literacy skills (e.g., phonological awareness, alphabet letters), followed by segments focusing on phonics, progressing from short to longer multisyllabic words, and from simple to complex patterns (see below Figure 4, Reading Development and Instruction).

Although teachers may not be able to influence curricular design, they do have a great deal of opportunity to ensure that instruction ***within*** a given curricular unit is also systematic. For example, when teaching phonological awareness, a teacher could be sure to proceed from a larger phonological unit (e.g., syllable) to a smaller unit (e.g., phonemes), from more common sounds to less common sounds, and from easier tasks (e.g., recognizing sounds) to more challenging ones (e.g. manipulating sounds). These ***delivery*** aspects of instruction in the classroom will be easier to make systematic if the curricular design is systematic from the outset.

In addition to making reading instruction as systematic as possible, teachers also have to make it as explicit as they can. Highly successful teachers present information clearly in small steps, use language and demonstrations that children can understand, and sequence the content and skills deliberately in a logical and coherent manner, based information about the children's learning needs (see Formative Assessment Section). [Next PARA]: For example, consider two different ways to teach the syllable "-ight" (found in words like night, sight, and light, and including the potentially confusing silent consonants 'g' and 'h'). A teacher not using systematic and explicit instruction might just point out this pattern incidentally wherever it could be found in texts, with the hope that students would remember the pronunciation. In contrast, a teacher using systematic and explicit instruction would focus more intensively and intently on this syllable. He/she would likely first explain that 2 of the letters it contains are silent, then model how to read it, then invite the class to read it with him/her, and then have the class practice finding and reading it in a number of different words. This second, and likely more successful teacher, would be delivering his/her instruction following the evidence-based, explicit instructional routines of "I do," "we do," and "you do" (see below the principle of "Establish¬ing Instructional Routines."). A teacher's ability to leverage the power of explicit modeling and instruction in his/ her classroom will increase if he/she is also supplied with a curriculum and/or teacher's guide that outlines clear, direct, and structured steps and cues to use in the classroom.

[14] Kim, Young-Suk Grace, and Marcia Davidson. *Assessment to Inform Instruction: Formative Assessment.* Washington, D.C.: United States Agency for International Development (USAID), 2019.

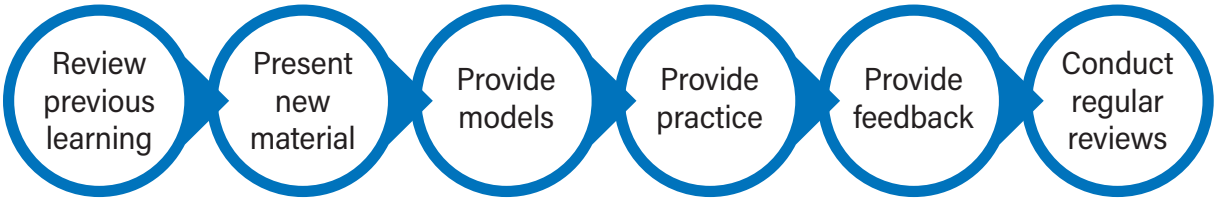
The *Landscape Report on Early Grade Literacy* (2016) provides extensive additional detail about the role of systematic and explicit instruction in the teaching of reading. Systematic and explicit instruction is fundamental to structured pedagogy; without it, whatever time is available for the teaching of reading is not likely to be devoted to the careful practice of sub-skills and skills that help students become independent, competent readers. Principle #3, below, also provides further insight into ways to ensure that instruction is as systematic and explicit as possible.

3. Establishing Instructional Routines

Instructional routines are fundamental to structured pedagogy because they support the efficient and effective classroom management and organization that drive the maximization of instructional time. In this section, we describe empirically validated effective instructional routines.

Research supports the use of the following instructional routine as part of structured pedagogy: a) begin a lesson with a brief review of prior learning; b) present new material; c) provide modeling; d) provide opportunities for practice; e) check student understanding and provide feedback; and f) conduct reviews on a regular basis.[15,16] **Figure 1** below displays these instructional routines.

Figure 1. Evidence-based instructional routines, as part of structured pedagogy



Teachers using this routine are more likely to achieve a tightly patterned structured schedule, both during individual lessons and over the course of an instructional unit (e.g., a week). In addition, teachers are more likely to use the instructional materials and resources they have available to the best effect. By using a consistent daily and weekly structure for instruction, teachers can help students focus solely on the content of instruction (skills development), instead of investing time coaching their students on the processes they are expected to follow in their learning environment.

Unfortunately, in many developing contexts, teachers have little knowledge about what effective instructional routines look like, how to plan for these routines, how to establish these routines with children, or how to integrate routines into their required implementation of national curricula. Therefore, one important way of supporting teachers to establish these instructional routines is scripted lesson plans for teachers, particularly at the outset of new approaches. These scripted lesson plans should reflect best practices, be aligned with national curricula, and be easy to implement, even for novice teachers. All of these characteristics will increase their chances of being used in the classroom.

[15] Archer, Ainta L. and Charles A. Hughes. *Explicit Instruction: Effective and Efficient Teaching.* New York: Guilford Press, 2011.

[16] Barak Rosenshine, *Principles of Instruction. Educational Practices Series-21* (Plaats: Uitgeverij, 2010).

USAID's programming in Kenya is an example of a case where the introduction of instructional routines made a marked difference in student outcomes. The USAID program staff successfully taught thousands of teachers to use the instructional routines described here, operationalizing them with an "I do," "We do," and "You do" delivery structure.[17] In this case, teachers were provided with scripted lesson plans in Kiswahili and English that segmented the practice of sub-skills and skills in reading into these phases of an evidence-based instructional routine. The presence of the scripted lesson plans relieved teachers from identifying, again and again, the appropriate content for each phase of the instructional routine for each day of instruction. It also assisted teachers in remembering the essential content of the reading lessons that needed to be covered in a systematic and explicit way. This was particularly useful because some of the teachers were unsure of their own mastery of the reading sub-skills or skills that are prioritized in a given reading lesson. The Kenyan case is not atypical. In many countries around the world, including Nepal, Malawi, and Tanzania, scripted lesson plans, which teachers who are confident in their own command of reading skills can amend or adapt, can serve as valuable resources for all teachers, providing all with evidence-based instructional routines that offer a lifeline to the less experienced and a template for inspiration to those with more desire to both design and deliver instruction.

One aspect that stands out in instructional routines is practice, which was introduced as "Key Concepts" above. It is important to recognize at least two types of practice, guided practice and independent practice.

- In ***guided practice***, after the teacher presents new material with modeling, he or she presents a similar task where the student is given an opportunity to work on the new material while the teacher provides additional explanations and examples. Guided practice should not be confused with providing brief direction about new material, passing out worksheets, and expecting students to successfully learn new material. Instead, after new material is introduced with teacher modeling, the teacher provides sufficient explanations, asks questions, checks for understanding, corrects student responses or errors, and engages the students through the process (using reading comprehension strategies).
- In ***independent practice***, the teacher reduces her support and lets the student work independently through the problem using the reading processes and strategies learned from teacher modeling and guided practice. Independent practice should involve material that is the same or with a slight variation as guided practice, not completely new learning material, so that students can complete the task independently. Independent practice provides opportunities for additional review and time to work with new material and thus, to "overlearn" the new material. This is important to achieve fluency and automaticity in a skill. Fluency or automaticity allows one to think and solve higher level problems and applications. For example, fluency or automaticity in reading allows students to pay attention to understanding the content of a given passage rather than expending efforts on decoding. In using independent practice in the reading classroom, it is important for teachers to avoid having students only "mimic" the reading of a text to the point of memorization. The goal of independent practice in a reading lesson should always be for students to practice a target skill (e.g., decode and/or comprehend on their own to build further depth of understanding, and to apply new reading skills independently). Independent practice should never be considered simply rote repetition (e.g., a task to memorize text, or to repeat back what the teacher may have said or read without meaningfully engaging in the task) because rote repetition is not a productive use of instructional time, including independent practice time.

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[17] RTI International. *Task Order 7 NALAP Formative Evaluation Report,* Ghana. Research Triangle Park, NC: RTI International, 2011.

In the table below, we describe each phase of the evidence-based instructional routine in detail. It is accompanied by brief examples from the case study included in this document.

Table 1: Phases of the instructional routine

Phase of the Instructional Routine	Description and Details	Example from the Case Study
Review previous learning	Human beings learn better when new materials are connected to what we know already about the subject. Review of previous learning helps recall content and procedures, and also helps connect previously presented materials with new materials. Review can include additional practice on facts and skills from previous learning, going over homework together, correcting errors together, or going over what students had difficulty doing. Particular attention should be paid to material that is relevant to the new material being learned. For instance, the teacher introduces a fluency practice lesson by revisiting a text students have read earlier in the week, asking students to recall the content of the text, and any new vocabulary prior to oral reading fluency practice. This supports students in recalling context and vocabulary necessary to support automaticity and prosody in oral reading.	In the case study on Mrs. Mwanza's class, she reviews letter sounds and names at the beginning of the lesson.
Present new material	When presenting new material, it is important to consider the amount of information presented to students. Learning new information involves memory capacity, specifically working memory – the capacity to hold and process information. Working memory is a limited capacity that can handle only a small amount of information at a time. Too much information at once will overload the processing capacity, and overwhelm students. An effective teacher presents information in the right chunk and at the right difficulty level considering students' developmental phase and learning pace, and provides opportunities to practice the given information before proceeding to the next new material. For example, when introducing a new letter and sound in phonics instruction, it is important for teachers to 1) distinguish between letter name and sound, 2) link the new content to prior content, and 3) limit the number of letters and sounds introduced in a single lesson, until students demonstrate some initial mastery.	In the case study on Mrs. Mwanza's class, she introduces a new letter and sound.
Provide models	Academic content is typically abstract concepts and involves multiple steps. Therefore, teacher modeling that demonstrates how things are done facilitates student understanding of target concepts and content. Teacher modeling includes demonstration of a step-by-step process with verbal explanation of the thinking process in solving a problem or understanding content. This is typically called think aloud, which is verbally expressing the teacher's own thinking process. For example, a teacher reads the following sentences, "It was hot and humid. Bugs were buzzing around. 'How annoying,' he thought." The teacher can verbalize her thinking process in inferring that the season is likely to be summer even though this information is not explicitly stated in the text.	In the case study on Mrs. Mwanza's class, she models understanding of the sound of the letter m, the beginning sound in the word "man."
Provide practice	For students to learn content (or to store content in long-term memory securely), practice with the material is needed. This includes experiencing the materials multiple times through rehearsal, working through, and elaborating new materials before they are forgotten. Therefore, teachers should provide opportunities for students to engage in practice. This is typically done in a two-step process: Guided practice and independent practice. For example, during fluency instruction, students should read passages aloud multiple times and in different ways (choral reading, paired reading, individual oral reading).	In the case study on Mrs. Mwanza's class, she provides practice time, asking students to brainstorm letters that begin with 'm' in pairs.

Table 1 continued

Phase of the Instructional Routine	Description and Details	Example from the Case Study
Provide feedback	Effective teachers frequently check for understanding of new material. This can be done in various ways, including asking questions and asking for elaborating and summarizing of content. This process facilitates learning by providing opportunities to rehearse and connect concepts and procedures. In addition, checking for student understanding helps identify parts of the material that students do not understand or misunderstand, and therefore, need to be retaught. Effective teachers also provide feedback to students. Feedback is information provided about one's performance or understanding, and it goes beyond informing students about correctness of response or performance level.[18] Feedback can be about specific tasks, the process to perform tasks, and one's own monitoring of actions during learning (self-regulation; noticing one's own error and self-correcting it). Not all corrective feedback is equally effective. Feedback that improves student learning provides cues or reinforcement specific to learning goals to learners. Praise for task performance itself does not improve learning.[19] When one is in the process of learning new material, immediate feedback is most effective.[20] In addition, feedback that is perceived to have low threat to self-esteem is more effective than high threat feedback. Too much feedback at once is not effective.[21] Therefore, effective teachers consider the developmental phase and learning pace of students, and provide feedback on key areas with the right amount of information. Feedback is based on assessment of student performance. Therefore, it goes in hand with assessing the student's understanding of the material.[22]	In the case study on Mrs. Mwanza's class, she provides feedback during informal assessment, by correcting student use of specific words during instruction.
Conduct regular reviews	When children learn materials well, content or knowledge is stored in the form of organized, connected or networked ideas in long-term memory. Deep learning of new materials involves understanding and relating them to existing knowledge, and building relational structure among pieces of information. When children have well-organized knowledge, it is easier to retrieve and recall the information, and to learn new material. Forming and strengthening these networks occurs with practice and review of prior learning – the more practice, the more automatic the skill, and the stronger the network. Therefore, providing opportunities for regular review and practice reduces forgetting and facilitates learning. For example, teachers can plan unit, weekly or monthly reviews to support students to revisit prior learning, rehearse new learning, and integrate skills and information together to build coherent and well-connected networks with existing knowledge.	In the case study on Mrs. Mwanza's class, she provides review of previously taught skills throughout the lesson, linking new letters and sounds to already-known letters and sounds, reinforcing prior learning, and connecting it to new learning.

[18] John Hattie and Helen Timperley, "The Power of Feedback," *Review of Educational Research,* 77 (2007).

[19] John Hattie and Helen Timperley, "The Power of Feedback," *Review of Educational Research,* 77 (2007).

[20] James A. Kulik and Chen-Lin C. Kulik. "Timing of Feedback and Verbal Learning." *Review of Educational Research,* 58, no. 1 (1998)

[21] Raymond W. Kulhavy et al. "Feedback Complexity and Corrective Efficiency." *Contemporary Educational Psychology,* 10 (1985)

[22] Kim, Young-Suk Grace, and Marcia Davidson. *Assessment to Inform Instruction: Formative Assessment.* Washington, D.C.: United States Agency for International Development (USAID), 2019.

4. Providing Scaffolding

Scaffolding in instruction refers to "[p]roviding support, structure, and guidance during instruction ..., and systematic fading of this support encourages students to become more independent learners."[23] Like a physical scaffolding structure in construction, scaffolding provides support to complete a task that could not be done otherwise in order to bridge the student's current status with the instructional goal. Initially, a high level of support is provided, but support is gradually reduced so that eventually students can complete the task independently. **Figure 2** illustrates the role of scaffolding in learning by easing student progress from one phase to the next phase of development with teachers' scaffolding.

Figure 2. A heuristic illustration of scaffolding (the triangle portion shows scaffolding support)

Scaffolding is particularly important for complex tasks as well as for students with learning difficulties (e.g., attention and self-regulation problems, weak working memory, and lack of knowledge). Archer and Hughes[24] specified the following elements for scaffolding: a) presenting a complex skill or task in manageable and logical pieces or chunks, and explicitly and clearly laying out multiple steps; b) sequencing skills so that they build on each other; c) selecting examples and problems that progress in complexity; d) providing modeling and worked examples; e) providing hints and prompts as students begin to practice a new skill; and f) providing aids such as checklists and graphic organizers to help students remember the steps and processes used to complete tasks and solve problems.

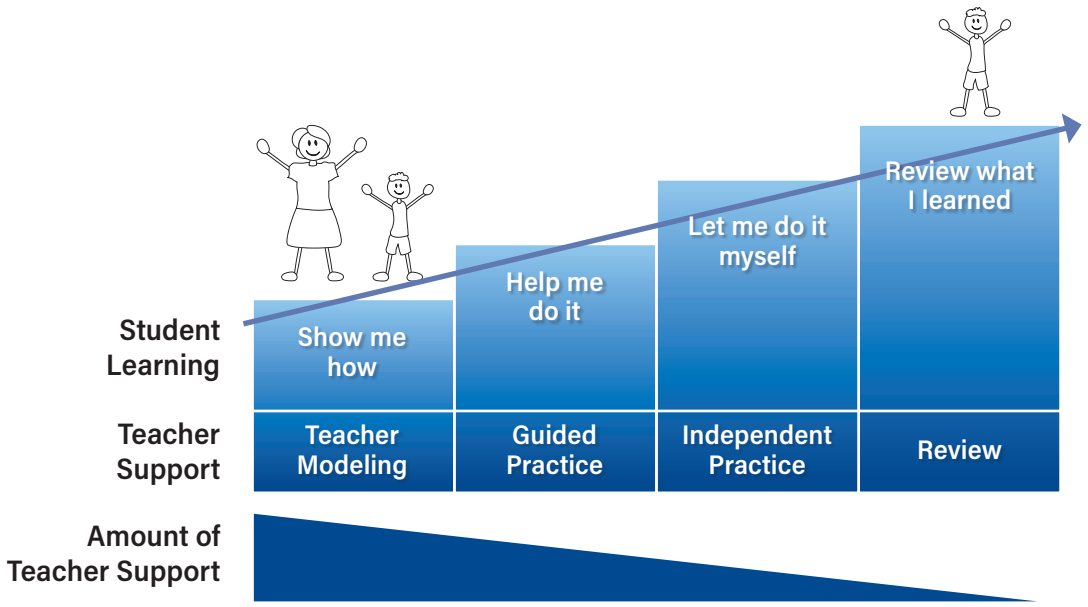
Notice that these elements do overlap with the principle of explicit and systematic instruction described earlier, because explicit and systematic instruction is an approach that provides scaffolding in a direct and organized manner. Scaffolding takes many different forms depending on the students' needs,[25] including approaches and strategies (e.g., teacher think aloud, chunking information in the right amount, providing corrective feedback, and review of previous material). Scaffolding becomes more difficult for a teacher if the curriculum and materials he/she is working with are not designed in ways that support a teacher's choices and actions to break down, present, and practice individual skills and groups of skills during lesson time. While expert teachers might be able to scaffold even the most dense content or complex skill sets for their students without well-designed materials, the majority will find it easier to do so if the lesson plans and books they are using in the reading classroom are intentionally designed to encourage scaffolding during instructional time. **Figure 3** summarizes the concept of scaffolding with the phases of instructional routines discussed in this section.

[23] Archer, Ainta L. and Charles A. Hughes. *Explicit Instruction: Effective and Efficient Teaching.* New York: Guilford Press, 2011.

[24] Archer, Ainta L. and Charles A. Hughes. *Explicit Instruction: Effective and Efficient Teaching.* New York: Guilford Press, 2011.

[25] Barak Rosenshine, "Principles of Instruction: Research-Based Strategies that All Teachers Should Know," *American Educator,* 36, no. 1 (2012).

Figure 3. An illustration of teacher support using scaffolding and associated student learning



5. Making Assessment-Informed Instructional Decisions

In a typical classroom, there are large differences among children in their learning needs. Some children may already be proficient in the target skill while others have little knowledge or skill. Some children learn new materials at a quick pace while others need more support and practice. Therefore, uniform or one-size-fits-all instruction targeting average students in the class would fail to reach many students in the class.

To meet varying learning needs of children and to teach children at the right level, the starting point of effective instruction is gathering information about students' skills in target areas (i.e., assessment). Assessments that are designed to elicit student performance to inform instructional decisions are called formative assessments. Instruction guided by formative assessments, when implemented well, improves student learning.[26] Research in the last four decades has revealed which core skills need to be assessed in literacy and when these core skills need to be assessed (see following section on the Essentials for Reading Success). In addition, efforts in the last decade resulted in several formative assessment tools that are available in international contexts, particularly in the domain of reading. See further details about formative assessments in *Assessment to Inform Instruction: Formative Assessment*.[27]

Assessment-based differentiated instruction is particularly critical in large classes. For example, in the Teaching at the Right Level (TaRL) approach from Pratham, an NGO in India, teaching begins at the instructional level of the child regardless of age or grade. Simple assessments are administered in the classroom, and teachers use the data to group students by skill level (see *Assessment to Inform Instruction: Formative Assessment*).[28] When there

[26] Fuchs, Lynn S. and Douglas Fuchs "Effects of Systematic Formative Evaluation: A Meta-Analysis." *Exceptional Children,* 53, (1986): 199-208.

[27] Young-Suk Grace Kim and Marcia Davidson, *Assessment to Inform Instruction: Formative Assessment.* (Washington, DC: USAID, 2019).

[28] Pratham, the NGO implementing TaRL, designs the assessments; they are not created by each individual teacher.

is one teacher per classroom, the TaRL approach often arranges for remedial classes before or after school, or when feasible, contracted teachers or secondary level students can be trained to implement the program. TaRL has been validated through RCTs in India as well as other countries.[29,30] (For more on large class sizes, see the "Challenges" section of this paper.)

6. Fostering Social and Emotional Learning and Engagement

The best learning occurs when students are socially and emotionally engaged in their studies in the context of supportive relationships. And, in cases when schools, education authorities, and communities are able to purposefully build social and emotional skills as part of the formal curriculum, student outcomes are likely to consistently improve. Below, we discuss social and emotional engagement, and then teaching social and emotional skills. The USAID Social and Emotional Learning and Soft Skills Education Policy Brief is an additional resource for implementing this sixth principle of structured pedagogy.

Creating Supportive Learning Environments: Teaching and learning in schools are rooted in social contexts that are constructed through interactions between teachers and students, and between student peers.[31] Research has established that students learn better in classrooms with positive climate where there are pleasant conversations and excitement, and warm interactions between teachers and children; and in classrooms where teachers are aware of the child's needs, moods, interests, and abilities, and use this awareness to guide their interactions with the children.[32,33] The quality of teacher-child/student interactions and relations has been shown to influence student learning in multiple core skill areas, including oral language, reading, and math.[35,36,37] Classroom climate and teachers' emotional support for students are also known to influence students' social and

Positive Effects of Programs for Social and Emotional Learning

The short-term goals of SEL programs are to: (1) promote students' self-awareness, self-management, social-awareness, relationship, and responsible decision-making skills; and (2) improve student attitudes and beliefs about self, others, and school. These, in turn, provide a foundation for better adjustment and academic performance as reflected in more positive social behaviors and peer relationships, fewer conduct problems, less emotional distress, and improved grades and test scores.[34]

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[29] Abhijit Banerjee et al., *Mainstreaming an Effective Intervention: Evidence from Randomized Evaluations of "Teaching at the Right Level" in India,* (NBER Working Paper No. 22746, 2016)

[30] Abhijit Banerjee et al., *From Proof of Concept to Scalable Policies: Challenges and Solutions, with an Application,* (NBER Working Paper No. 22931, 2017).

[31] Joseph E. Zins et al., *Building Academic Success on Social and Emotional Learning: What Does the Research Say?* (New York: Teachers College Press, Eds. 2004).

[32] Bridget K. Hamre and Robert C. Pianta, "Can Instructional and Emotional Support in the First-Grade Classroom Make a Difference for Children at Risk of School Failure?" C*hild Development,* 76 (2005).

[33] National Institute of Child Health and Human Development Early Child Care Research Network, "The Relation of Global First Grade Classroom Environment to Structural Classroom Features and Teacher and Student Behaviors." *Elementary School Journal,* 102 (2002).

[34] Joseph A. Durlak et al., "The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions," *Child Development,* 82 (2011).

[35] Margaret Burchinal et al., "Threshold Analysis of Association Between Child Care Quality and Child Outcomes for Low-Income Children in Pre-Kindergarten Programs," *Early Childhood Research Quarterly,* 25 no.2 (2010).

[36] Jan N. Hughes et al., "Teacher-Student Support, Effortful Engagement, and Achievement: A 3-Year Longitudinal Study," *Journal of Educational Psychology,* 100, (2008).

[37] Mary Beth Schmitt, Jill M. Pentimonti, and Laura M. Justice, "Teacher-Child Relationships, Behavior Regulation, and Language Gain Among At-Risk Preschoolers," *Journal of School Psychology,* 50, no. 5 (2012).

task competencies, emotions, and their engagement in learning activities.[38] Recent research in neuroscience demonstrates that learning is not purely cognitive, but instead emotions influence cognitive processes such as attention and memory, and thus, facilitate or hinder learning.[39] In many contexts where USAID works, the average student may suffer from poverty, marginalization, displacement, violence, hunger, and/or other types of insecurity, and so the creation of safe and supportive learning environments is particularly important.

Teaching Social and Emotional Skills: Social and Emotional competencies include the ability to recognize and manage emotions, set and achieve positive goals, appreciate the perspectives of others, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations constructively. Research increasingly demonstrates that these social and emotional skills can, like other core skills, be explicitly taught, and that, when they are, students achieve better behavioral and academic outcomes.[40] According to the Collaborative for Academic, Social, and Emotional Learning, programs to teach social and emotional skills are usually developed by experts, and may include one or more of the following: a) explicit lesson plans that focus on "teaching skills that can be broadly applied to a variety of situations, (such as making friends, working cooperatively, or resolving interpersonal conflicts); b) integration with academic curriculum areas, where lessons are that cover core academic embed the teaching of social and emotional skills (i.e. a literature lesson that asks students to identify different perspectives from a given reading assignment), and/or c) a focus on instructional processes, pedagogies, and management approaches to promote a positive classroom climate.[41]

Creating Safe and Supportive Learning Environments

There are many practical tools and standards for creating safe learning environments. Here are three useful ones:

- Interagency Network for Education in Emergencies https://inee.org/
- Williford, A.P. and Wolcott, C.S. (2015). SEL and Student-Teacher Relationships. Handbook of Social and Emotional Learning. eds. Durlak, J.A., Domitrovich, C.E., Weissberg, R.P., & Gullotta, T.P.
- Safe learning environments toolkit from ECCN https://www.edu-links.org/resources/safer-learning-environments-sle-assessment-toolkit

The implications of these research findings for the use of structured pedagogy are two-fold. First, it is important to recognize that, no matter how explicit and systematic instruction is, and no matter how assiduously the teacher scaffolds teaching, maximizes time, or employs formative assessment, learning will not occur if students are not both cognitively and emotionally engaged. That is, without supporting students' social and emotional well-being, the fundamental "promise" of structured pedagogy - that it facilitates the efficient acquisition of essential core competencies and skills—may not be able to be fulfilled. Teachers, therefore, where training and support is available, have to develop their understanding of students' interests and social and emotional needs, and have to strive to create classrooms that are welcoming and safe. Second, ministries of education and curricular designers that aspire to introduce structured pedagogy into their primary school classrooms must also mobilize resources to create the programs, professional development, and coaching that will assist teachers to embed explicit instruction of social and emotional skills into their daily routines. Structured pedagogy for academic skills acquisition will best succeed when systematic instruction in social and emotional skills is also addressed.

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[38] Carollee Howes et al., "Ready to Learn? Children's Pre-Academic Achievement in Pre-Kindergarten Programs," *Early Childhood Research Quarterly,* 23 (2008).

[39] Chai M. Tyng et al., "The Influences of Emotion on Learning and Memory," *Frontiers in Psychology,* 8, (2017), 1454.

[40] Joseph A. Durlak et al., "The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions."

[41] http://casel.org/wp-content/uploads/2016/01/2013-casel-guide-1.pdf

The Case for Structured Pedagogy in the Reading Classroom

It is important to reiterate that structuring pedagogy is empirically useful for skill-building, whether that be in mathematics or in literacy.[42] The value of structure is not unique to the practice of the sub-skills of reading. Put simply, structured pedagogy is one of the most efficient and effective ways to help learners master new, foundational skills, in any subject. That said, it bears repeating that structured pedagogy is particularly important for the study of reading for the complexity involved in reading development. Therefore, structured pedagogy is not one of many viable options; it's an essential component for efficient reading instruction.

Learning to read and write involves complex processes and draws on many language and cognitive skills. In a simple term, these complex processes can be largely classified as those involving word reading and those involving language comprehension[43,44]—that is, lack of either skill results in poor reading comprehension. Some children will not develop successful reading comprehension skill because of weak word reading skills, others due to weak oral language skills, and many others due to weaknesses in word reading and oral language.

However, this seemingly simple process is highly complex when we consider what takes to develop each of the two skills, word reading and oral language comprehension.[44,45] One's word reading ability requires an understanding of the sound structure of a language (i.e., phonological awareness), morphological skills, (i.e. word forms and parts), and an understanding of how sounds are represented by orthographic symbols (e.g., alphabet letters). Because word reading ability requires an understanding both of sounds and symbols, an instructional approach that explicitly and systematically teaches phonological awareness and letter-sound relations, widely known as phonics, has been proven not only to be beneficial, but fundamentally necessary for students' reading mastery.[46,47] Beyond the ability to read words accurately, children also need to build reading fluency, the ability to recognize the pronunciations and meanings of written words instantaneously without great effort.

The ability to read words alone does not ensure successful reading comprehension. One also needs to have language comprehension skills. Comprehension processes are even more complex than those for word reading, and involve numerous skills such as vocabulary, syntax, higher order thinking skills such as connecting, inferring, and reasoning ideas, understanding multiple perspectives, and monitoring one's

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[42] World Bank. *Facing Forward: Schooling for Learning in Africa.* Washington, DC: World Bank, 2018.

[43] Wesley Hoover and Philip B. Gough, "The Simple View of Reading," *Reading and Writing: An Interdisciplinary Journal,* 2 (1990).

[44] Young-Suk Grace Kim, "Why the Simple View of Reading is not Simplistic: Unpacking the Simple View of Reading Using a Direct and Indirect Effect Model of Reading (DIER)," *Scientific Studies of Reading,* 21 (2017).

[45] Kim, Young-Suk Grace, Helen N. Boyle, Stephanie S. Zuilkowski, and Pooja Nakamura. *The Landscape Report on Early Grade Literacy.* Washington, D.C.: United States Agency for International Development (USAID), 2016.

[46] Kim, Young-Suk Grace, Helen N. Boyle, Stephanie S. Zuilkowski, and Pooja Nakamura. *The Landscape Report on Early Grade Literacy.* Washington, D.C.: United States Agency for International Development (USAID), 2016.

[47] National Institute of Child Health and Human Development, *Report of the National Reading Panel. Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction,* (Washington, DC: National Reading Panel, 2000).

comprehension.[48,49,50,51,52] Therefore, instruction that explicitly teaches these skills using structured pedagogy is necessary to build students' comprehension skills.[52] Even in non-optimal contexts, with limited teacher skills, large classes, and limited resources, structured pedagogy is possible and should be employed to better ensure that students master the essential literacy skills.

Because both oral language and word reading are, in and of themselves, complex skill domains, employing structured pedagogy that follows the six principles described in this paper is particularly well-indicated for students' reading acquisition. This reality is context-agnostic; even in situations where teachers' skills are limited, where there are large classes, where resources are limited, or whether stressors such as crisis or conflict exist, the use of structured pedagogy and attention to the principles described in this paper will advance students' mastery of foundational literacy skills.[54] Although it may be impossible, in some contexts, to implement structured pedagogy for reading instruction perfectly, the goal should remain to work towards that objective, adjusting factors on the ground to the extent possible to come closer and closer to that reality. (The section below on "challenges" presents some ideas for a pro-active approach towards the introduction and integration of structured pedagogy in reading instruction.) The fact that there are so many advanced skills that must be mastered in order to achieve skilled reading comprehension is another argument in favor of using structured pedagogy for the practice of foundational skills; the sooner those can be acquired, the more quickly a teacher can progress to using most of the available classroom time to asking students to practice these additional, more advanced skill sets.

Figure 4 illustrates the essential skills necessary for successful reading development for hearing children, their developmental progression, and associated timeline for instruction and assessment on these skills.[55] Skills necessary for word reading development such as phonological awareness and knowledge of orthographic symbols (e.g., alphabet letters) should be taught intensively in the first year of reading instruction. Building on word reading, students continue to develop reading fluency. Skills involved in comprehension such as vocabulary, grammatical knowledge, inference making, perspective taking, and comprehension monitoring take a longer time to develop[56] and contribute to reading comprehension. Therefore, these skills must be addressed consistently and regularly throughout schooling, starting in Year 1.[57] Structured pedagogy is ideally suited for guiding students through this process.

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[48] Elena Florit, Maja M. Roch, and M. Chiara Levorato, "Listening Text Comprehension in Preschoolers: A Longitudinal Study on the Role of Semantic Components," *Reading and Writing: An Interdisciplinary Journal,* 27 (2014).

[49] Panaviota Kendeou, Catherine Bohn-Gettler, Mary Jane White, and Paul van den Broek, "Children's Inference Generation Across Different Media," *Journal of Research in Reading,* 31, (2008).

[50] Young-Suk Kim, "Language and Cognitive Predictors of Text Comprehension: Evidence from Multivariate Analysis," *Child Development,* 86 (2015).

[51] Young- Suk Kim, "Direct and Mediated Effects of Language and Cognitive Skills on Comprehension of Oral Narrative Texts (Listening Comprehension) for Children," *Journal of Experimental Child Psychology,* 141 (2016).

[52] Young-Suk Kim and Beth Phillips, "Cognitive Correlates of Listening Comprehension," *Reading Research Quarterly,* 49 (2014).

[53] Kim, Young-Suk Grace, Helen N. Boyle, Stephanie S. Zuilkowski, and Pooja Nakamura. *The Landscape Report on Early Grade Literacy.* Washington, D.C.: United States Agency for International Development (USAID), 2016.

[54] Kirsten Kainz and Lynne Vernon-Feagans, "The Ecology of Early Reading Development for Children in Poverty," *The Elementary School Journal* 107, no. 5 (May 2007): 407-427.

[55] Deaf children learn to read through strategies such as chaining that do not rely on the use of sound. Found in Padden and Ramsey, 2000.

[56] Catherine E. Snow and Young-Suk Kim, "Large Problem Spaces: The Challenge of Vocabulary for English Language Learners," in *Vocabulary Acquisition and its Implications for Reading Comprehension,* ed. Richard K. Wagner, Andrea E. Muse, and Kendra R. Tannenbaum (New York: Guilford Press, 2007), 123-139.

[57] Chall, Jeanne S. *Stages of Reading Development.* New York: McGraw-Hill, 1983.

Figure 4. Reading development and instruction

Explicit and Systematic Instruction		Year 1	Year 2	Year 3
Print Rich Environment	Phonological Awareness	Know that words are made of sounds. Can manipulate sounds (e.g. syllables, rimes, phonemes).		
	Phonics	Know letter names and sounds. Understand the organization and basic features of print.	Can decode and spell words with common orthographic patterns. Know and apply grade-level phonics and word analysis skills in decoding simple words.	Can decode and spell words with less common, complex, or inconsistent patterns.
	Fluency	Develop fluency with letter knowledge and phonological awareness.	Read simple texts orally with accurate, appropriate rate, and expression to support comprehension.	Read texts orally with accurate, appropriate rate, and expression to support comprehension
Language Rich Environment	Vocabulary	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level access	Use frequently occurring affixes and root words as a clue to meaning of a word	Use knowledge of the meaning of individual words to predict the meaning of compound words. Choose context as a clue to the meaning of a word or a phrase.
	Comprehension	Retell familiar stories, including key details. Answer questions about key details in a text.	Retell stories, including key details and central message; and ask and answer questions about central message, key details, and who, what, where, and when.	Describe main ideas and key details and their relations. Ask and answer such questions as why and how to demonstrate understanding of key details in a text.

Vocabulary and comprehension skills initially develop in the context of an oral language, and continue to develop in the context of reading

Challenges

In most **stable and fragile** contexts, and particularly in those where the use of structured pedagogy in reading instruction is unknown or has fallen out of favor, many challenges to the introduction or re-introduction of this framework for reading instruction may arise. Here we briefly touch on three frequently met challenges: teacher knowledge/ability, large class size, and absenteeism.

Teacher knowledge/ability: Teachers are the essential agents of instruction. Teacher knowledge on pedagogical principles reviewed in this paper is absolutely necessary for effective instruction—teachers cannot teach what they do not know. Teachers vary in their content knowledge (e.g., how reading develops) and pedagogical knowledge (how to teach reading). A recent review of studies indicated that teachers in developing countries do not have adequate training and have difficulties adopting new pedagogies even with training.[58,59,60] Evidence also clearly indicates that changing teacher beliefs and teaching styles takes a long time and requires a systematic and sustained support.[61] For training of teachers in crisis or conflict-affected contexts on the use of structured pedagogy, the INEE Teacher in Crisis and Conflict Training Pack may be of additional use.

Therefore, for teachers to sustain newly acquired pedagogies (i.e., structured pedagogy principles) in their teaching, systematic and sustained teacher professional development beyond a one-off workshop is necessary, including refresher training, in-person support visits and coaching, and mentoring systems.[62]

Large class size. One reality that is frequently and consistently faced in many developing countries is large classes. Although size varies across contexts, large class sizes are common. For instance, the primary level student-teacher ratios in Chad, Malawi, and Rwanda are 62:1, 70:1, and 58:1, respectively.[63] When the number of students in a class is large, teachers encounter large variation in students' knowledge and experience levels,

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[58] Kwame Akyeampong, John Pryor, Jo Westbrook, and Kattie Lussier, *Teacher Preparation and Continuing Professional Development in Africa: Learning to Teach Early Reading and Mathematics,* (Center for International Education, University of Sussex, 2011).

[59] Zachariah Falconer-Stout, Lyn Messner, and Vera Wedekind, *Time to Learn: Midline Impact Evaluation,* (Washington, DC: USAID, 2015).

[60] Robinah Kyeyune et al., "Learning to Teach Reading and Mathematics and its Influence on Practice in Uganda," *Teacher Preparation and Continuing Professional Development in Africa (TPA).* (Brighton: University of Sussex Centre for International Education, 2011).

[61] Young-Suk Grace Kim, Helen N. Boyle, Stephanie S. Zuilkowski, and Pooja Nakamura. *The Landscape Report on Early Grade Literacy.* Washington, D.C.: United States Agency for International Development (USAID), 2016.

[62] Young-Suk Grace Kim, Hansol Lee, and Stephanie S Zuilkowski, "Impact of Literacy Interventions on Reading Skills in Low- and Middle-Income Countries: A Meta-Analysis," *Child Development,* (2019).

[63] UNESCO, *Global Education Monitoring Report 2017/18: Accountability in Education,* (Paris: UNESCO, 2017).

[64] Archer, Ainta L. and Charles A. Hughes. *Explicit Instruction: Effective and Efficient Teaching.* New York: Guilford Press, 2011.

[65] Joseph A. Durlak et al., "The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions."

[66] Durlak, Joseph A., Roger P. Weissberg, Alison B. Dymnik, Rebecca D. Taylor, and Kriston B. Schellinger. "The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions." *Child Development,* 82 (2011): 405-432.

[67] National Institute of Child Health and Human Development Early Child Care Research Network, "The Relation of Global First Grade Classroom Environment to Structural Classroom Features and Teacher and Student Behaviors," *Elementary School Journal,* 102 (2002).

[68] Rosenshine, Barak. *Principles of Instruction.* Educational Practices Series-21. Plaats: Uitgeverij, 2010..

[69] Rosenshine, Barak. "Principles of Instruction. Research-Based Strategies that All Teachers Should Know." *American Educator,* 36, no. 1 (2012): 12-19.

[70] Tyng, Chai M., Hafeez U. Amin, Mohamad N. M. Saad, and Aamir S. Malik "The Influences of Emotion on Learning and Memory." *Frontiers in Psychology,* 8, (2017): 1454. doi: 10.3389/fpsyg.2017.01454

cognitive abilities, and social and emotional regulations.[64,65,66,67,68,69,70] Attention getting and checking for 6understanding are also more challenging in a large class. Teachers may also discover that they are unable to vary their communication or instructional strategies sufficiently to take into account the widely divergent individual skill levels of their many students. (TaRL may be worth exploring in this scenario; see section on principle #5, Assessment, for more information).

Of course, in the long run, issues related to large class sizes are best addressed at a systems level, with provision of more school space and more teachers over time. Depending on the context, however, this can take years, and meanwhile, as noted above, progress towards integrating the use of structured pedagogy in reading instruction will still be necessary. To achieve this, in large classes, establishing instructional routines (see principle #3) and reducing off-task time is even more important than in less crowded ones, in order to secure actual instructional time. By physically organizing the classroom for effective line of sight with students, teachers can be better assured that they are reaching all students. By using highly structured group strategies for learning, teachers can better manage guided skills development instruction. By organizing students into self-guided practice tasks that use repeated, well-understood routines for individual practice, teachers can free up attention and time for continuous assessment and differentiated instruction through regular small-group sessions. This may not result in the perfect employment of all of the principles of structured pedagogy we have described, but it will still improve students' chances of acquiring reading skills.

Teacher/student absenteeism: Learning requires time—both instructional time by teachers and learning time by students. As addressed above, the use of structured pedagogy requires maintaining a clear structure and approach for instruction. These things together best ensure that all students have equal opportunity to learn at high levels, and that learning takes place within an expected general timeline. When teachers are absent from school, the curricular scope can be disrupted, creating delays in instruction and acquisition, or even the "skipping" of instruction in order to meet an external demand for time-bound curriculum implementation. When students are absent from school, they can easily miss the critical building blocks necessary for learning, including reading. Like instructional time that is lost to inefficiencies, absenteeism can create a significant barrier to skills acquisition. By providing incentives and rewards for both teacher and student attendance (through non-monetary recognitions), schools can better ensure that curriculum implementation is on pace, and that students do not miss learning opportunities.

Recommendations for Promoting a Structured Pedagogical Approach in USAID Reading Programs

The following recommendations can help USAID teams, and the partners and education stakeholders with whom they work, ensure that structured pedagogical approaches are used in their country-specific reading programs.

1. Require that respondents to USAID solicitations include information in their proposals about how they will intentionally integrate a structured pedagogy approach in their program design.
2. Work with ministry partners and other key stakeholders to help them understand the concepts, components, and value of structured pedagogy as a core approach to early grades reading instruction.
3. Work with ministry partners, donors, and other stakeholders to promote the establishment of an enabling policy environment for the use of structured pedagogy for skills development.
4. Review all teacher and coach training processes and materials to ensure that structured pedagogy is at the core of the recommended instructional program.
5. Make regular visits to training events, coaching activities, and classrooms to evaluate the extent to which structured pedagogy is a core part of training, supported for implementation through coaching, and present in the classroom.

A Case Example of Effective Implementation of Structured Pedagogy

Ms. Mwanza, a first grade teacher, arrives at school before the beginning of the school day so that she can review and prepare lessons. Because the reading period of 45 minutes is the first subject of the day, she reviews the reading lesson in the teacher guide and bookmarks the lesson so that she can easily refer to it while she teaches. Ms. Mwanza has learned the importance of becoming familiar with the skills she will teach each day before the 45 first grade students arrive in the morning. She knows that she must gain their attention right away and establish a lively pace of teaching that is engaging and motivating for students. In this way she is ***optimizing her instructional time***.

The first section of the reading lesson is ***review*** of letter sounds and names. She alerts students by saying, "Listen, students! We will review some of the skills we learned yesterday. I will say some letter sounds and will ask you to tell me the name of the letter that makes each sound. I will first ask these 2 rows to answer. The first one to answer will get a point for their row. Ready? Let's begin!" Ms. Mwanza has a list of review sounds/letters in her guide under the review section and spends 2 minutes on this game with 2 rows, providing ***guided practice*** in conducting a brief review for students by implementing a game format that students are now familiar with. Then she moves to 2 new rows and plays the same game with other letter names/sounds learned. After 5 minutes, she stops and provides a transition to a new skill to be taught. Ms. Mwanza introduces the skill and ***models*** for students by saying: "Students, we will learn a new letter sound today. Listen! This letter makes the first sound in the word 'man.' The sound is /m/. Everyone listens again. /m/ is the first sound you hear in the word 'man.' Again, /m/ is the first sound in 'man.'" Next, Ms. Mwanza provides guided practice by asking students to respond with her. "Everyone! What is the first sound you hear in the word 'man'?" (The class responds.) Ms. Mwanza hears someone say /b/ so she says, "Listen again. /mmm/ is the first sound in 'm-a-n.' /mmm/." She stands next to the student who said /b/ and says, "The first sound in 'man' is /m/. Your turn. What is the first sound you hear in 'man?'" The student repeats the correct answer. "Everyone say /mmm/." The class responds and all are correct. Ms. Mwanza corrects students by modeling the correct answer and then asking the student to respond again. The model provided by the teacher ensures that the student will respond correctly when asked again. This approach sets up clear ***instructional routines*** for learning.

Ms. Mwanza continues by asking the class to respond in pairs. Now, she is transitioning to ***independent practice*** for students. She walks among students to listen as they say the /m/ sound. "Class, tell your partners another word that begins with /m/. Partners, let your partner know if he/she is correct!" She again walks among students to listen to them. Ms. Mwanza checks for student responses, and she quietly stops next to several students and corrects their responses by asking each student the question, providing a correct response emphasizing the sound /m/, then asking the same student to tell her another word that begins with the sound /m/. She watches the time and after 8 minutes, she moves on to a phonics lesson.

The lesson continues with Ms. Mwanza reviewing letter names with an activity/game and then teaching a new letter name and having students practice writing the letter. The students have learned several letters and sounds, including vowels and consonants, so that they can now read a few words. Ms. Mwanza models how she sounds out a word on the chalkboard, then asks students to write the word in their composition book. The students systematically practice sounding out the word until they are able to read the word automatically. Soon, the students will read short decodable stories that contain only words they have learned to sound out. They need to understand the purpose of learning letter names and sounds in order to stay excited about learning to read. They will each have a small, stapled paper decodable story that they can take home and read to family members. In this way, Ms. Mwanza is using her instructional routines to provide ***systematic and explicit instruction***.

When it is time for oral language and vocabulary, Ms. Mwanza walks over to a large poster drawing with many separate activities. The scenes in the drawing represent many of the local village activities and places. She points to a section where 2 children are fishing and begins a discussion on how they fish, what kind of fish they might catch, who cooks the fish, how the fish are cooked, and how the family might feel if each child brought home 3 fish for dinner. Each exercise in the teacher guide includes a set of questions that the teacher asks that encourages children to provide elaborate responses. She uses a ***think aloud*** approach to new scenes by describing what she is thinking about out loud as she looks at the scene. When a student struggles with a response, Ms. Mwanza steps in to model and think aloud and then asks the student again to respond. She then asks others new questions and even asks some questions that are not included in the teacher guide. This exercise includes teaching the meaning of new vocabulary words with examples/non-examples and other strategies. These are words that students do not yet know the meanings of, but will need to learn as they progress through school. For example, academic words used in other subjects are important sources for teaching new vocabulary. This approach of I Do (teacher modeling), We Do (guided practice), You Do (independent practice) provides the necessary ***scaffolding*** to support eventual independent practice of new skills.

Today, Ms. Mwanza is teaching the meaning of "larger." She states the word, writes it on the board (although most students cannot yet read the word, it is still useful to see it), and states the word again, asking students to repeat the word 3 times so they are able to pronounce it correctly. Since the word "larger" can be taught using comparisons and examples, Ms. Mwanza points to two rocks she has placed on her desk. One is large and the other is small. She says that one rock is larger than the other rock. That means the rock is very big and the other rock is not as big. The big rock is larger than the small rock. She repeats this and then asks the class to put thumbs up when she picks up the larger rock. She then picks up a large and small book and asks students which one is larger. Students put thumbs up when she holds the large book high and thumbs down when she holds the small book high. Next, Ms. Mwanza uses 'larger' for counting numbers. She continues with examples, and when students respond incorrectly, she quickly corrects each incorrect response and asks the student to try again. All students were successful after the teacher's positive corrections. This process demonstrates Ms. Mwanza's use of the "teachable moment," when she recognizes students are struggling, through continuous ***assessment***, and responds with reframed instruction until students have overcome difficulties.

Ms. Mwanza has 10 minutes left in the daily lesson. Students have not yet learned to read enough words for an independent reading time, so she reads a story aloud to students and asks the same kind of questions that she

asked during the poster visualization exercise. This is another example of how Ms. Mwanza uses her instructional time to provide necessary support for learning (including oral language skills), and ***assess*** student skills and understanding.

Ms. Mwanza understands the importance of daily review of skills learned, modeling new skills before asking students to respond, and checking for understanding throughout the lesson. She keeps pace by noting how many minutes she has for each section, and knows how to set up the activities and games to keep students engaged and excited about learning. She is moving among students to listen to their partner responses and makes a note when she hears student responses that reflect confusion. Daily review occurs for each lesson component, including phonological skills, decoding, fluency, vocabulary, and comprehension. Daily review is a type of formative assessment to gauge whether any skills taught need to be retaught due to student confusion or misunderstanding. In this manner, Ms. Mwanza can keep track of student progress. Ms. Mwanza uses several types of formative assessment in her classroom that help guide her instructional decisions. In addition, Ms. Mwanza's efforts to provide highly engaging activities, and to check on and respond to individual students, create a nurturing classroom environment which can be one component of a strategy for supporting students' social and emotional well-being.

Ms. Mwanza attends PTA meetings sometimes to let parents know how important it is for them to listen to their children practice letter names and sounds and to alert them that their children will be bringing books home to read to them. Parents and community members see how much children are learning and they monitor student attendance. As a result, student absences have been significantly reduced over time.

For new students and struggling students, there is a "catch-up" program based upon TaRL (Teaching at the Right Level). Catch-up classes are held before school each day, and volunteer teachers have been trained to teach students core beginning reading skills so that they can rejoin classmates having acquired the skills they need to keep up with their peers. These students continue to attend the regular classroom instruction, but the teacher provides adapted independent work at their level. The principal and other teachers are supportive of the program, and learning at this school is improving dramatically. Teachers administer monthly classroom assessments in reading and record student performance in order to identify those needing extra help and to celebrate student progress. These data provide important school-level accountability for learning and guide instructional decisions at the classroom level.

Research Needs

While much research exists to support the value of a structured pedagogical approach, additional research could further inform the field about how to best integrate a structured pedagogical approach into successful reading programs.

One prominent question for further research is about teacher training and support so that teachers can successfully implement structured pedagogy in their classroom. Studies in low- and middle-income countries have shown that sustained teacher support is necessary,[71] but our understanding is still limited about teacher training and support approaches that are cost-effective, scalable, and sustainable.[72] This is particularly critical given limited pre-service and in-service teacher training in low- and middle-income countries.

Another related broad question is how to implement structured pedagogy in resource-lean environments where designated classroom instruction time, leadership support for integration of new practices, and instructional resources to support the approach are often limited and class sizes are large. This can include questions, issues, and challenges at the system level as well as in the classrooms. For example, successful implementation of structural pedagogy involves addressing curriculum, lessons within curriculum, availability of instructional materials, information about developmental progression of skills for students of all skill levels (e.g., those with special needs), and available materials for formative assessments (see Principle #5). All these are necessary for effective implementation for all students or inclusive education.

In addition, research to address any of the questions included in USAID's education-related learning agendas could provide additional insight into the application of structured pedagogy in USAID-funded or other international development programs. This could, in turn, enrich the evidence base on the most effective ways to integrate this essential type of instruction into global efforts to improve reading and literacy skills.

[71] Kim, Young-Suk Grace, Hansol Lee, and Stephanie S Zuilkowski. "Impact of Literacy Interventions on Reading Skills in Low- and Middle-Income Countries: A Meta-Analysis." *Child Development.* (2019) doi: 10.1111/cdev.13204

[72] Kim, Young-Suk Grace, Helen N. Boyle, Stephanie S. Zuilkowski, and Pooja Nakamura. *The Landscape Report on Early Grade Literacy.* Washington, D.C.: United States Agency for International Development (USAID), 2016.

Conclusion

In this paper, we examined each of the six principles of structured pedagogy: 1) maximizing instructional time, 2) practicing systematic and explicit instruction, 3) establishing instructional routines, 4) providing scaffolding, 5) making assessment-informed decisions, and 6) Fostering Social and Emotional Learning and Engagement. We also reviewed evidence-based pedagogical principles with a focus on useable and practical aspects in teaching literacy skills. Although the paper is contextualized in literacy development and instruction, the elements reviewed here would also be applicable in other subjects and domains such as math because the scientific evidence on pedagogical principles is based on cognitive and developmental science on learning and teaching across domains.[73]

Effective instruction is characterized by pedagogies,, and therefore, adequate teacher training and support are imperative. Research in the last decades has revealed challenges and opportunities as well as important factors and ingredients for successful teacher training in developing country contexts. However, critically missing and warranted in future work are cost-effective approaches to systemic changes in teacher training that make a sustainable, real difference in the classroom.

[72] Rosenshine, Barak. *Principles of Instruction.* Educational Practices Series-21. Plaats: Uitgeverij, 2010.

Development of the Brief

The authors reviewed relevant literature and evidence in multiple fields such as cognition, developmental psychology, and education to gather information related to evidence-based pedagogical principles and their implementation in classroom settings. These materials were then developed into a detailed outline for which external feedback was obtained. The authors then were involved in an iterative process of writing drafts, seeking and incorporating feedback between the authors and the facilitator. This was followed by feedback from external reviewers and incorporation of the feedback before finalizing the paper.

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