Explicit Instruction

Effective Classroom Practices Report

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# Explicit Instruction

## Introduction

The teaching practice of explicit instruction has been available to educators since the late 1960s. Explicit instruction, also known as direct instruction, has been shown to be efficacious in learning and teaching the major components of academic skills instruction (National Institute of Child Health and Human Development, 2000). Substantial research has been conducted on its components and the complete instructional “package.” As with many teaching practices, there are varying degrees of adaptation and acceptance. However, the great majority favor the outcomes for students taught using explicit instruction. Research on effective teaching practices has identified most—if not all—of the components of explicit instruction as essential for positive student outcomes (e.g., Rosenshine & Stevens, 1986; Ellis & Worthington, 1995). Explicit instruction embodies the entire instructional/assessment cycle including planning and design, delivery and management, and evaluation/assessment. As noted by Archer and Hughes (2011), instruction that is designed to be explicit is characterized by three essential stages: (a) clear *delivery* with models and demonstrations, followed by (b) *guided practice* supported by the teacher with corrective feedback delivered in a timely manner, and finally (c) gradual withdrawal of teacher supports during practice to move students toward *independent performance*. Objectives that students are to learn often require differing degrees of directness and structure, and explicit instructional strategies are dynamic and interactive in a relationship that mandates flexible and responsive instruction (Villaume & Brabham, 2003).

## Definition

Explicit instruction is a systematic instructional approach that includes set of delivery and design procedures derived from effective schools research merged with behavior analysis. There are two essential components to well-designed explicit instruction: (a) visible *delivery* features consisting of group instruction with a high level of teacher and student interactions and (b) the less observable *instructional design principles* and assumptions that make up the content and strategies to be taught.

Explicit instruction practices bring together highly recognized and recommended components of effective instruction and of schema theory. These include providing step-by-step explanations, modeling, engaging in guided practice; practicing the skill or element independently in a variety of applications; support in making connections of new to previous learning; teacher explanations as to the importance, usefulness, and relationships of a new skill or cognitive strategy; and consistently eliciting student interest (Rupley, Blair, & Nichols, 2009).

The “direct [explicit] instruction model is a comprehensive system of instruction that integrates effective teaching practices with sophisticated curriculum design, classroom organization and management, and careful monitoring of student progress, as well as extensive staff development” (Stein, Carnine, & Dixon, 1998). The primary goal of direct instruction is to increase not only the amount of student learning but also the quality of that learning by systematically developing important background knowledge and explicitly applying it and linking it to new knowledge.

### Identifying Components

Explicit instruction consists of essential—

**Design Components and Delivery Components
**

**Standard Instructional Design Components**

**Essential to All Explicit Instructional Episodes**

Instructional Design Components include:
Big Ideas
Conspicuous Strategies
Mediated Scaffolding
Strategic Integration
Judicious Review
Primed Background Knowledge

#### Big Ideas

Big ideas function as the keys that unlock content for a range of diverse learners. Those concepts, principles, or heuristics facilitate the most efficient and broadest acquisition of knowledge. Teaching using big ideas is one promising means of striking a reasonable balance between unending objectives and no objectives at all.

#### Conspicuous Strategies

People accomplished at complex tasks apply strategies to solve problems. Empirical evidence suggests that all students in general, and diverse learners in particular, benefit from having good strategies made conspicuous for them. This, paired with great care taken to ensure that the strategies are well-designed, result in widely transferable knowledge of their application.

#### Mediated Scaffolding

This temporary support/guidance is provided to students in the form of steps, tasks, materials, and personal support during initial learning that reduces task complexity by structuring it into manageable chunks to increase successful task completion. The degree of scaffolding changes with the abilities of the learner, the goals of instruction, and the complexities of the task. Gradual and planned removal of the scaffolds occurs as the learner becomes more successful and independent at task completion. Thus, the purpose of scaffolding is to allow all students to become successful in independent activities. There are at least two distinct methods to scaffold instruction; teacher assistance and design of the examples used in teaching.

#### Strategic Integration

The instructional design component of strategic integration combines essential information in ways that result in new and more complex knowledge. Characteristics of strategic instruction include a) curriculum design that offers the learner an opportunity to successfully integrate several big ideas, b) content to be learned must be applicable to multiple contexts, and c) potentially confusing concepts and facts should be integrated once mastered. The strategic integration of content in the curriculum can help students learn when to use specific knowledge beyond classroom application.

#### Judicious Review

Effective review promotes transfer of learning by requiring application of content at different times and in different contexts. Educators cannot assume that once a skill is presented and “in” the learner’s repertoire that the skill or knowledge will be maintained. Intentional review is essential to ensure that students maintain conceptual and procedural “grasp” of important skills and knowledge (big ideas). Judicious review requires that the teacher select information that is useful and essential. Additionally, review should be distributed, cumulative, and varied. Requirements for review will vary from learner to learner. To ensure sufficient judicious review for all learners, teachers must regularly monitor progress of the students to inform continued instruction and needed review activities. Review that is distributed over time, as opposed to massed in one learning event, contributes to long-term retention and problem solving.

#### Primed Background Knowledge

Acquisition of new skills and knowledge depends largely upon a) the knowledge the learner brings to the task, b) the accuracy of that information, and c) the degree to which the learner can access and use that information. Priming background knowledge is designed to strategically cultivate success by addressing the memory and strategy deficits learners may bring to the new task. The functions of priming background knowledge are to increase the likelihood that students will be successful on new tasks by making critical features explicit and to motivate learners to access knowledge they have in place.

**Standard Instructional Delivery Components**

**Essential to All Explicit Instructional Episodes**

Instructional Delivery Components include:
Frequent Student Responses
Appropriate Pacing
Adequate Processing Time
Monitor Responses
Provide Feedback

#### Require frequent student responses

When students actively participate in their learning, they achieve greater success. The teacher must elicit student responses several times per minute: for example, ask students to say, write, or do something. Highly interactive instructional procedures keep students actively engaged, provide students with adequate practice, and help them achieve greater success.

#### Appropriate instructional pacing

Pacing is the rate of instructional presentations and response solicitations. The pace of instruction is influenced by many variables such as task complexity or difficulty, relative newness of the task, and individual student differences. When tasks are presented at a brisk pace, three benefits to instruction are accomplished: (a) students are provided with more information, (b) students are engaged in the instructional activity, and (c) behavior problems are minimized (students stay on-task when instruction is appropriately paced).

#### Provide adequate processing time

Thinking time (adequate processing time) is the amount of time between the moment a task is presented and when the learner is asked to respond. Time to pause and think should *vary* based on the difficulty of the task relative to the student(s). If a task is relatively new, the amount of time allocated to think and formulate a response should be greater than that of a task that is familiar and in the learners’ repertoire.

#### Monitor responses

This is an essential teacher skill to ensure that all learners are mastering the skills the teacher is presenting. Watching and listening to student responses provides the teacher with key instructional information. Adjustments may be made *during* instruction. Teachers should be constantly scanning the classroom as students respond in any mode.

#### Provide feedback for correct and incorrect responses

Students should receive immediate feedback to both correct and incorrect responses. Corrective feedback needs to be instructional and not accommodating. Feedback to reinforce correct responses should be specific. Feedback should not interfere with the timing of the next question/response interaction of the teacher and student. Feedback that does not meet these criteria can interrupt the instructional episode and disrupt the learner’s ability to recall.

## Implications for Access to the General Curriculum

“Declarative, procedural and conditional knowledge are necessary ingredients for strategic behavior. Students can learn about these features of reading through direct instruction as well as by practice. Part of a teacher’s job is to explicate strategies for reading so that students will perceive them as useful and sensible” (Paris, l986).

Programs using explicit instruction have been researched extensively across classrooms by grade (pre-school through adult) and by ability (special and general education settings) since the mid-1960s. General education classrooms in these studies were most often typical settings, with diverse students, including students at-risk for academic failure, economically disadvantaged students, and students with disabilities. Additionally, applications of explicit instruction incorporate the range of school content areas including reading (decoding and comprehension), mathematics, language arts, history/social studies, science, health, art, and music education.

One of the most visible implementations of direct instruction in public schools is Wesley Elementary in Houston, TX. When the school began implementation of instruction using direct instruction, fifth grade students were almost two years below grade level. After four years of implementation, the third, fourth, and fifth grade students were performing 1 to 1.5 years *above* grade level. All students scored above the 80th percentile in both reading and mathematics on the district evaluation. Wesley School continues these effective practices school-wide and continues to have exemplary scores on district, state, and national assessments.

It has been thought that teaching using explicit instruction is most beneficial for low-performing students and students in special education. However, the results from extensive research repeatedly indicate that *all* students benefit from well-designed and explicitly taught skills.

## Evidence of Effectiveness

A meta-analysis conducted by G. Adams (1996) yielded over 350 publications (articles, books, chapters, convention presentations, ERIC documents, theses, dissertations, and unpublished documents) on various forms of studies conducted on explicit instruction. Criterion for inclusion limited the analysis to 37 research publications that met four groupings: (a) regular education, (b) special education, (c) the National Follow-Through Project, and (d) follow-up studies. Some example findings include—

* In his meta-analysis, Adams found that the mean effect size per study using explicit instruction is more than .75 (effects of .75 and above in education are extraordinary). Accordingly, this confirms that overall effect of explicit instructional practices is substantial. Thirty-two of the 34 studies analyzed had statistically significant positive effect sizes. The authors found the consistent attainment of research with substantial effect sizes is further evidence that explicit instruction is an effective instructional practice for all students. The authors concluded that although direct instruction is often described as a program for students in special education, the effect sizes calculated in this meta-analysis are nearly the same, thus indicating the teaching strategy is effective for students in general education as well as those identified with disabilities.
* National Follow-Through Project: Students receiving explicit instruction in reading, mathematics, language, and spelling achieved well in these basic skills; as well as reading comprehension, problem solving, and math concepts.
* National Follow-Through Project: Student scores were above other treatment conditions in the affective domain as well as the academic. This suggests that competence in school-related skills enhances self-esteem. “Critics of the model have predicted that the emphasis on tightly controlled instruction might discourage children from freely expressing themselves and thus inhibit the development of self-esteem. In fact, this is not the case” (Abt IVB, p. 73).
* Review of the research on beginning reading using explicit instruction strategies reported that students considered disadvantaged and students with diverse needs, like other students, benefit most from early and explicit teaching of word recognition skills, including phonics.
* Carnine and colleagues empirically evaluated effective delivery components essential to explicit instruction to validate each in relation to student outcomes for a range of students by ability and by age.

## An Introduction to Universal Design for Learning Applications

Universal Design for Learning (UDL) is a theoretical framework developed by CAST (the Center for Applied Special Technology) to guide the design and development of learning environments that represent materials in flexible ways and offers a variety of options for learners to comprehend information, demonstrate their knowledge and skills, and be motivated to learn (Meyer, Rose, & Gordon, 2014; Hall, Meyer, & Rose, 2012; CAST, 2011; Rose, Meyer, & Hitchcock, 2006; Pisha & Coyne, 2001; Rose, 2001; Rose & Dolan, 2000; Rose & Meyer, 2000a, 2000b, 2002; Rose, Sethuraman, & Meo, 2000). The concept of UDL was inspired by the universal design movement in architecture. This movement calls for the design of structures that anticipate the needs of individuals with disabilities and accommodate these needs from the outset. Universally designed structures are indeed more usable by individuals with disabilities, but in addition they offer unforeseen benefits for *all* users. Curb cuts, for example, serve their intended use of facilitating the travel of those in wheelchairs, but they are also beneficial to people pushing strollers, young children, and even the average walker. And so, the process of designing for individuals with disabilities has led to improved usability for everyone.

The universal design movement changed how architects think about designing buildings. Similarly, UDL calls for a shift in how educators think about designing learning environments. Traditional curricula in printed text and new curricula that incorporate inaccessible digital technology present a host of barriers that limit learners’ access to information, ability to express knowledge, and ability to be engaged in learning. With printed text, learners without a well-developed ability to see, decode, attend to, or comprehend printed text are compelled to adapt to its ubiquity as best they can. Similarly, if new curricula in a digital medium are not fully accessible from the start, not all learners will be able to navigate, interact, comprehend, or express their knowledge.

What is even more detrimental to learning is that fixed, one-size-fits-all curricula are designed and developed to address the needs of mainstream learners and, consequently, disregard the diversity in skills, needs, and interest that individuals bring to learning. In contrast, a UDL curriculum is designed and developed to take full advantage of the inherent variability in individual learners. As a result, a UDL curriculum is innately flexible, enriched with multiple media so that many paths are provided to develop the talents of all learners. In doing so, a UDL curriculum reduces barriers as well as optimizes the level of challenges and supports to meet the needs of learners from the start.

The UDL framework is based on neuroscience research evidence that individual learners differ in the ways in which they are motivated (affective network), how they comprehend information (recognition network), and how they express what they know (strategic network). Whether the differences facilitate learning or become a detriment to learning depends largely on the educational context. If a learning environment is flexible and can be adjusted to match an individual’s strengths, then a characteristic that is a deficit in one learning context becomes an asset in another. The characteristics of a learner and the curriculum are not fixed entities, but continuously evolve together as the learner grows and progresses. As Meyers, Rose, and Gordon explain, “Success occurs when the learner and the curriculum interact in ways that help them both improve at the same time” (2014).

To guide educators in creating lessons, curricula, and learning systems that are engaging, maximize flexibility, and optimize learning, the three primary brain networks are translated into three UDL principles of design: 1) provide multiple means of engagement, 2) provide multiple means of representation, and 3) provide multiple means of action and expression (see Figure 1) (Rose, Meyer, & Gordon, 2014).

Figure 1. The three primary brain networks and their relation to UDL.

Affective networks: THE WHY OF LEARNING
Graphic of the human brain with the affective network highlighted in green.
How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.
Green arrow points to: Stimulate interest and motivation for learning. 

Recognition networks: THE WHAT OF LEARNING
Graphic of the human brain with the recognition network highlighted in purple
How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author’s style are recognition tasks.
Purple arrow points to: Present information and content in different ways.

Strategic networks: THE HOW OF LEARNING
Graphic of the human brain with the strategic network highlighted in blue
Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.
Blue arrow points to: Differentiate the ways that students can express what they know.


The three UDL principles call for flexibility in relation to three essential facets of learning, each one orchestrated by a primary brain network. Each UDL principle is then expanded into UDL guidelines and checkpoints. The depth and comprehensiveness of the UDL guidelines can guide educators to build flexibility into all components of a curriculum—goals, methods, materials, and assessment—so that all students are supported in their access, participation, engagement, and ongoing monitoring of progress across all facets of learning.

Although the three primary brain networks that facilitate learning are described separately, they are in fact highly interconnected and continuously work in concert. Similarly, the components of a curriculum—goals, assessment, methods, and materials—are most effective when they are aligned. The flexibility that is at the core of a UDL curriculum is the result of crafting goal statements that avoid prescribing a particular way to achieve them. Learning goals that separate the means from the end provide educators the flexibility to include a variety of teaching methods and materials that can be adjusted to match student needs and strengths. For example, if the learning goal is for students to understand a specific content piece then multiple options can be built into the curriculum for students to interact with that content (recognition network), for them to demonstrate their understanding of it (strategic network), and to engage and sustain their motivation in learning (affective network). Additionally, to make appropriate adjustments during the course of instruction requires assessments that are ongoing, measure student progress, and capture student interactions with the curriculum. In a UDL curriculum, formative assessment, which is employed during instruction to monitor student progress and inform instructional decisions, is more valuable than summative assessments that measure student performance after the completion of instruction. Likewise, digital curricula that log student actions and then generate visual reports of students’ paths through a curriculum overtime is more valuable than traditional curricula that don’t capture student interaction with the curricula. *Designing curriculum that adheres to the UDL principles insures that the goals, methods, materials, and assessments work seamlessly together to optimize learning.*

One of the most essential ingredients of an effective curriculum is engaging students in learning. In a UDL curriculum, involving students in the process of setting a learning goal is as critical to its achievement as the goal statement itself. Having students re-state goals in their own words, asking students for feedback about goals, and supporting students in setting goals for themselves are all critical to developing their self-efficacy and engagement in learning. Providing a rich array of materials and multiple paths to reach a goal not only recruits student interest and motivates them to learn but also provides opportunities for them to explore and develop their own interests. It is invaluable for educators to have immediate access to assessment information that they can use to inform instructional decisions as they are teaching. Similarly, involving students in monitoring their own progress by sharing information about their own learning behaviors and performances is empowering. When students view their own information, they ask and find answers to questions about themselves. What I am I doing? What is working? What can I improve? Thus assessment that is often a source of anxiety and stress becomes an opportunity to practice self-regulation skills and develop self-efficacy, key factors of motivation in learning.

Figure 2. Three primary principles guide UDL—and provide structure for the Guidelines.

I. Provide Multiple Means of Representation
Perception
Language, expression, and symbols
Comprehension

II. Provide Multiple Means of Action and Expression
Physical action
Expression and communication
Executive function

III. Provide Multiple Means of Engagement
Recruiting interest
Sustaining effort and persistence
Self-regulation

To help teachers support learners’ diverse recognition, strategic, and affective networks CAST has developed three sets of UDL teaching methods. These teaching methods can be used to make curricula more flexible and broadly supportive.

## Explicit Instruction and the Three Universal Design for Learning Principles

“Explicit instruction is systematic, direct, engaging, and success oriented—and has been shown to promote achievement for all students” (Archer & Hughes, 2014). There are many compatible aspects of explicit instruction practices and the principles of universal design for learning. This section addresses the foundational principles of universal design for learning—engagement, action and expression, and representation—in order to address the ways in which explicit instruction is compatible with and complementary to UDL principles.

Certain instructional techniques have been found to be very effective in supporting skills learning; as noted above, explicit instruction, like UDL, has a central focus on the learner and meeting the needs of all learners in an instructional episode.

### Affective Networks

Differentiated instruction and UDL share a very important point of convergence: recognition of the importance of *engaging* learners in instructional tasks. The UDL guidelines call for motivating and sustaining learner engagement through flexible instruction, an objective that differentiated instruction supports very effectively. Explicit instruction includes learner engagement at its core in instructional delivery with the implication that to be engaged the design of instruction must be of interest and gain and maintain engagement throughout the learning episode.

Explicit instruction focuses directly on student affect in the component delivery area. Teaching skills essential to effective explicit instruction include appropriate pacing and thinking time (the rate of instructional task delivery paired with appropriate time to process), student involvement (assuring all students have the opportunity to respond in an appropriate manner for that individual), and feedback at the group and individual level that is instructional and immediate.

### Strategic Networks

The UDL principle *provide multiple means of action and expression* recommends that educators offer multiple, flexible options for physical action, expression, and communication and executive functions. Students have different strengths and weaknesses in these areas. Instructional design and delivery based on explicit instructional strategies can be used to instruct and support students to act skillfully and develop until they are using strategies effectively in their learning.

### Recognition networks

The UDL principle that focuses on representation and the importance of providing multiple, flexible methods of presentation when teaching indicates that no single teaching methodology for representing information will be satisfactory for every learner. Explicit instruction too recognizes the importance of individual needs and providing instruction that is appropriate and flexible to meet individual learner needs. The pedagogical elements for explicit instruction incorporate components for design and delivery of instruction that can help teachers to support critical elements of recognition learning in a flexible way and promote every student’s success.

When analyzing the identifying components of explicit instruction, its design aspects currently do not directly address issues of representation. However, the second component area of instruction supports the UDL principle *provide multiple means of representation*—specifically, the clarification and supports for understanding language and symbols. Designers and teachers implementing explicit instruction strategies support the understanding of symbols and language used in an instructional episode by assuring, in advance of use, that students have a clear understanding and are provided with opportunities for practice, also with alternative media, to clarify meaning.

The explicit instruction components of design activating background knowledge also relate directly to the representation principle of UDL. *Providing and activating background knowledge* during instruction is fundamental to the structure of both UDL and explicit instruction. By activating background knowledge, the learner has a better framework from which to relate new information and knowledge during the instructional episode, thus increasing the likelihood of building that skill or element of knowledge into their repertoire.

### Learn About Universal Design for Learning

The first and most basic step toward successfully implementing UDL is self-education. Although UDL has been more than 25 years in the making, it is an approach that challenges many traditional educational perspectives and practices. Before teachers can implement UDL effectively, they may need to learn a new perspective on students and the materials that they use in the classroom. CAST has been working to disseminate UDL widely, and, consistent with the framework itself, have developed multiple avenues (direct and indirect; self-driven and trainer-taught; through text, speech, and interactive activities) through which individuals can learn about UDL and develop the skills necessary to put it into practice.

* *Visit the* [*National Center on Universal Design for Learning*](http://www.udlcenter.org)*.* Here visitors will find an articulation of UDL, discussions of its core concepts, descriptions of UDL research projects, a listing of tools and resources that support UDL, and ideas and examples for implementing UDL.
* *Read CAST publications.* The web-based version of the book, [*Universal Design for Learning: Theory and Practice*](http://udltheorypractice.cast.org/login) provides an evolving set of resources and classroom examples, including interactive activities and an online community where visitors can ask questions and engage in discussion about UDL. Additional publications on UDL are listed in the reference section of this document.
* *Enroll in an institute or online course.* [CAST Professional Learning](http://castprofessionallearning.org/) offers many opportunities for educators, teachers, administrators, and organizations to enhance their professional understanding of [Universal Design for Learning (UDL)](http://castprofessionallearning.org/about-udl/) and the challenges of improving access to and progress and participation in the general education curriculum and how to make the curriculum accessible for all learners.
* *Talk to others.* The UDL Center web site includes [UDL Connect](http://community.udlcenter.org/), an online community where educators can communicate, collaborate, and obtain support from other educators who are exploring and teaching with UDL.
* *Integrate Technology in Education.* The National Education Technology Plan (NETP) guides the use of information and communication technologies in transforming American education. UDL is referred to throughout the Plan to ensure that technology be used to optimize the diversity of learners. In an effort to model UDL practices, an excerpt of the NETP has been created using pages 14 through 18 of the report to demonstrate many UDL features.

### Inventory and build technology support

Technology, in particular digital media, makes UDL implementation practical and achievable in a diverse classroom. Digital materials make it possible for the same material to be flexibly presented and accessed—even adapted on a student-to-student basis.

Although we recommend that teachers try to build a library of digital materials, it is important to point out that UDL implementation can proceed successfully across a range of technology availability. The amount of technology available to teachers varies extensively—limited by district and school resources, both monetary and otherwise. Fortunately, a fairly simple step such as digitizing print materials can greatly ease UDL implementation. The 1996 United States copyright addition (Chapter 1 of Title 17 Section 121 of the United States Code), the Chafee Amendment, gives authorized entities the freedom to digitize otherwise proprietary materials for individuals that have disabilities that impede access to the printed version. An authorized entity is a nonprofit organization or governmental agency that has a primary mission to provide specialized services relating to training, education, or adaptive reading or information access to meet the needs of blind or other persons with disabilities. This provision makes special education teachers eligible to digitize printed text materials: a step that can help to diversify the presentation of materials for students with disabilities.

Another inexpensive but instrumental option for supplying a classroom with digital materials is the World Wide Web—a tremendous source of free digital material. And much of this material is in a multimedia format which can greatly improve access to students.

Having more digital media unquestionably enables teachers to implement UDL in a more extensive way. Teachers who have greater financial resources and district support can supplement their materials with innovative products such as multimedia composition tools (e.g., HyperStudio5, Kid Pix Deluxe 3X, PowerPoint), graphic organizer software (e.g., Inspiration, Kidspiration), text-to-speech and text-to-image programs (e.g., Universal Reader, Read&Write GOLD, Kurzweil3000, JAWS, Intellitools Classroom Suite), CD-ROM storybooks (e.g., Reader Rabbit’s Reading Development Library), and learning applications (e.g., funbrain.com, Edmark’s various learning games).

Whether teachers are able to invest in the purchase of a lot of technology or not, UDL can proceed effectively. But taking inventory is an important step toward setting a realistic course of action. By inventorying the resources they have available to them, teachers can determine the level of UDL implementation appropriate to their classroom. For example, survey your classroom and your school media center for a clear idea of computer and projection systems and other technology hardware available to teachers and students. Check into scheduling issues around shared equipment. Additionally, test out web accessibility in your school computer lab(s) and media center(s) as appropriate. If the web is a tool you may use and ask students to access, how available is it? Ask for or take an inventory of your school or district software; find out what’s available and if there are available licenses for computers in your classroom.

Effectively working with and managing technology can be a challenging process, so it is important as well to assess available technology support. This may come in the form of a school or district help desk, a computer teacher, computer resource specialist, technology integration teacher, etc., or one’s own technology training. Find out what policies your school or district may have regarding the tools you may adopt for use in your planning and teaching. Installation of software and hardware on computers may be time consuming; plan for issues of timing in your implementation and installation of software and hardware. When you are ready to teach a lesson using technologies new to you or your students, consider notifying your technology support person to be at hand to help problem-solve any unforeseen challenges with implementation.

### Curriculum planning and delivery

Another important step in implementation of UDL in instruction is curriculum planning and delivery. To begin, we recommend that teachers have a basic understanding of UDL and a commitment to make the curriculum and learning accessible for all learners. While keeping in mind the three principles of UDL, based on the three *recognition*, *strategic*, and *affective* networks, we have found the following process useful in designing lessons. The process includes four steps based upon the principles and concepts of UDL, proven professional development strategies, and effective teaching practices: (a) set goals, (b) analyze status, (c) apply UDL, and (d) teach the UDL lesson.

Set Goals: Establish Content to Align to standards; Analyze Status: Identify methods, materials, and assessment, Identify barriers; Apply UDL: Identify UDL materials and methods, Write UDL plan, Collect and organize materials; Teach UDL Lesson: Teach lesson, Evaluate success, Revise Lesson/Unit.



In the s*et goals* stage of curriculum planning, we recommend that teachers establish the context for instruction. Context is usually driven by or based on state standards, followed by the design of goals for the instructional episode. We recommend that all teachers closely evaluate these to assure alignment and to assure that the means for attaining the goals are separated from the goals and standards.

Next, when designing a UDL lesson, teachers should *analyze the current status* of the instructional episode. What are the current methodologies, assessments, and materials used to teach the lesson? Analyze these teaching procedures in relation to potential barriers of learners in the classroom. Do all students have access to the materials? Are students able to express themselves with the current methods and materials? There are a number of resources and tools available from CAST to analyze, build, and share resources, lessons, and collections in [UDL Exchange](http://udlexchange.cast.org) to support instruction guided by UDL principles.

The third recommended step of the planning process is to a*pply UDL to the lesson or unit.* This includes the goals, methods, assessments, and materials used to implement the lesson. Create a UDL lesson plan grounded in the learning goals, classroom profile, methods and assessment, and materials and tools. Then, collect and organize materials that support the UDL lesson.

In the final step, *teach the UDL lesson or unit,* minimize barriers and realize the strengths and challenges each student brings to learning, rely on effective teaching practices, and apply challenges appropriate for each learner. In this way, instructors can engage more students and help all students progress. When teaching and evaluating students work, also evaluate and revise the lesson or unit to assure student access and success. You may obtain additional information about designing UDL methods, assessments, and materials in [*Universal Design for Learning: Theory and Practice*](http://udltheorypractice.cast.org/), Chapter 6.

### Secure administrative support

School districts and administrations can be powerful sources of support—financial and otherwise. Administrative commitment to UDL can strengthen a teacher’s sense of mission and self-satisfaction and lead to important funding. A case in point is the town of Gloucester, Massachusetts. The principal for the school system was so convinced of the importance of digitized materials that he has set a mandate that teachers use only those textbooks that have a digitized version. Teachers will use a text-to-speech reader to further improve the accessibility of the text. Clearly, this kind of change would have happened much more slowly in the absence of such tremendous administrator-level support.

Administrator support can also help to facilitate funding, which although not a prerequisite for UDL, can create important opportunities. Funding might enable professional development, the purchase of equipment, and the launching of new UDL teaching projects. Districts vary widely concerning the types and level of funding that they offer teachers, but teachers who can convince their administrators of the value of UDL may be able to secure district-level grants, professional development awards, and sabbaticals. For example, in a North Shore Massachusetts school district, the Technology Program Manager and Special Education Director teamed with two teachers using UDL and were awarded a state-level technology grant to implement UDL. This is just one example of how support at the administrative level can facilitate the acquisition of materials that support UDL efforts in the classroom.

### Parent education and involvement

Parents are another valuable resource for teachers building a UDL curriculum. There are at least two important ways that parents can be a resource: as advocates and as volunteers.

By educating parents about the UDL-based activities going on in the classroom, teachers can develop a support system of informed individuals who can assist with and advocate for UDL instruction. Teachers should think about ways to inform parents about classroom activities. Notes sent home, parent night presentations, and IEP meetings are all excellent opportunities to engage in this kind of communication. Once parents are educated about UDL they may wish to become involved themselves. There are many ways that parents can do this, including volunteering in the classroom and lending support at home. A few possibilities are helping to prepare materials, monitoring kids during UDL lessons, helping with technology, donating equipment, and supporting homework assignments.

## Conclusion

As more and more teachers begin to explore UDL in their classrooms, they will begin to augment books and lectures with new technologies. UDL is clearly a framework that can support the implementation of explicit instruction. UDL can help teachers succeed at implementing instruction and developing curricula that make information and learning more accessible. Although all teachers will undoubtedly encounter challenges, models and resources continue to build—and along with them builds the opportunity to realize the potential of the combination of explicit instructional design and delivery with UDL in the classroom.

## Links to Learn More About Explicit Instruction

[**The Baltimore Curriculum Project**](http://www.baltimorecp.org/)The Baltimore Curriculum Project is a nonprofit organization that operates a network of neighborhood charter schools in East Baltimore: City Springs Elementary/Middle School, Hampstead Hill Academy, and Wolfe Street Academy. The mission of this not-for-profit group is to **“**develop, implement, and advocate for an innovative, sustainable, and replicable education model that improves student outcomes. In so doing, the Baltimore Curriculum Project will help to raise educational standards and opportunities for disadvantaged youth and Baltimore City schools” (*from the web site*).

[**How Phonics Instruction Teaches Critical Thinking Skills**](http://projectpro.com/ICR/Phonics/CriticalThinking.htm)This site provides information on how to effectively teach using phonics and the benefits associated with it. Data from the study resulting from the Follow-Through Project is provided, and the site authors illustrate how explicit instruction supports the use of comprehensive, systematic phonics in teaching young children to read.

[**National Institute for Direct Instruction (NIFDI)**](http://www.nifdi.org/)The National Institute for Direct Instruction (NIFDI) is the world’s foremost direct instruction (DI) support provider. NIFDI’s web site provides information and resources for administrators, teachers, and parents to help them maximize student achievement through DI. The web site also contains information on DI’s extensive and broad research base, including a searchable database of more than two hundred article summaries.

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